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COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

**FACTORS AFFECTING THE PERFORMANCE OF INSURANCE COMPANIES
IN ETHIOPIA**

A THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF SCIENCE IN
ACCOUNTING AND FINANCE

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Statement of Declaration

At this moment, I declare that the thesis titled “Factors Affecting the Performance of Insurance Companies in Ethiopia” is my original work and is being submitted as a partial fulfillment of the requirement for the Master of Science in Accounting and Finance degree. I received close guidance and support from my advisor, Dr. Habtamu Berhanu, throughout the research process. I confirm this thesis has not been presented for the award in any other university. Furthermore, I have duly acknowledged all the sources of materials used in this thesis.

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Abstract

This study aimed to identify the factors that impact the performance of insurance companies in Ethiopia. The researchers employed a causal research design using a mixed research approach, as quantitative data was required for the report's preparation. The study's target population was 18 general insurance companies in Ethiopia, but the researchers selected 10 experienced composite insurance companies with 10 years' worth of audited financial statements from 2014 to 2023. The secondary data was collected by closely reviewing financial statements and other published materials. The study utilized the Ordinary Least Square model to analyze the data through Stata version 14.2. The results demonstrated that explanatory variables incorporated in the model - such as retention ratio, combined ratio, company size, the tangibility of assets, inflation rate, GDP, and awareness of the society - affected Ethiopia's insurance companies' performance. However, premium growth and Leadership quality had no significant effect on the performance of insurance companies in Ethiopia. The study's findings provide insights into the performance of insurance companies in Ethiopia. Insurers must prioritize innovation and develop new products and services to meet evolving customer needs. This includes creating tailored insurance products for underserved demographic segments. Insurance companies should operate in a competitive environment, avoid price-cutting and risky investments, and implement robust underwriting and risk management practices to foster industry growth and economic development in Ethiopia.

Key Terms: - Insurers, Performance, Return on Asset

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

A financial system is an economic arrangement that enables financial institutions to facilitate the transfer of funds and assets between borrowers, lenders, and investors. Financial institutions such as banks, insurance companies, and micro-finance institutions constitute critical components of any country's financial system and play a vital role in fostering economic growth (Mesele, 2019). Insurance companies have a significant impact on the economy of these institutions by spreading risk over several insured individuals, sharing losses based on the probability of risk, and providing security against losses. Insurance companies also contribute to economic progress by improving efficiency and providing certainty (Kassahun, 2020).

The financial performance of each sector is crucial to the growth and development of any country. Among these sectors, the insurance industry holds a special place as it provides proficient financial aid, channels funds, optimizes resource utilization and supports investors. The insurance sector is essential in regulating funds to different industries, contributing significantly to economic and financial growth. A well-established insurance sector can help calm any financial crisis in the economy and thus strengthen the country's economic system (Andries & Capraru, 2014).

The insurance industry is an indispensable pillar of the modern economy and society. It provides various crucial functions that are essential for financial security, economic activities, innovation, and sustainable economic growth. Insurers assume risks from companies, allowing them to take bold steps forward and drive economic expansion. Meanwhile, private households benefit significantly from insurers' ability to provide financial security. Overall, the insurance industry is among the most important industries in the economy, as it lays the foundation for a robust and thriving economy. This view is supported by (Theis, 2015) who highlights the significant contributions of the insurance sector to the economy.

The main idea of insurance is to protect the insured from risks by providing assurance, and preventing damage (Aytekin and Karamaşa, 2017). Insurance as a concept can be defined as a financial service providing a benefit in favor of an individual, association, or business in exchange for collected premiums or contributions in case a risk occurs (Berteji and Hammami, 2016). Both individuals and organizations are exposed to various risks throughout their existence, which can affect their operations and livelihoods.

These risks can be categorized as either job-related or catastrophic, demanding a proactive approach to risk management. Failure to take the necessary steps to mitigate risks can lead to severe consequences. Thus, identifying potential risks and developing effective risk management strategies are essential for individuals and organizations to ensure long-term success (Koc, 2016).

Insurance companies indemnify losses to businesses and individuals and return them in the same condition as before the loss occurred. Thus, the importance of the insurance industry is an integral part of the economy of any country (Mazviona et al., 2017). The insurance industry generally plays an important role in global and national economies. Insurance accounts for a very large portion of the financial sector and has a considerable impact on the stability of the financial market. Insurance companies market activities ensure risk transfer and financial intermediation (Kim and Park, , 2019). In dealing with risks, the insurance company should identify, understand, and manage the risks, both common (market, operational, legal, and organizational risks) and specific (underwriting risks and risks related to the evaluation of technical provisions), that it faces via its insured through effective and intelligent risk management systems to designate potential risks as early as possible (Najjar, 2012).

Given the numerous benefits of insurance to individuals and national economies as a whole, measures must be put in place to ensure insurance companies' survival in the financial market and to monitor their financial health to prevent insolvencies on the one hand and protect policyholders in today's increasingly competitive markets on the other side (Benedicta, 2015) and cited in (Habtamu and Teferi, 2020). Having the above, insurance companies play a vital role in the service-based economy, and their services are now being incorporated into the wider financial industry. Insurance companies consist of organizations that provide non-life insurance and life insurance. The main aim of all insurance companies is maximizing their wealth because one goal of financial management is to maximize the owner's wealth. And growth is a very important determinant of performance, in the work of (Nguyen, 2006) and (Hailu, 2007) and cited in (Mingizem, 2017). Then, investment in the insurance business is now the most important function in the performance of financial services, which eventually leads to the overall accomplishment of the economy.

The financial performance of insurance companies is vital for their survival in the industry. However, there have been inconsistencies in the performance of insurance firms in Ethiopia over time. It has been suggested that certain specific factors could be responsible for influencing the performance of these firms. Unfortunately, there has been limited empirical research on the impact of these factors on the performance of insurance companies in Ethiopia. Factors such as firm size, leverage, liquidity, premium growth, loss

ratio, capital size, and age are critical in determining the performance of insurance firms. However, only a few studies have been conducted to investigate these aspects. Therefore, further research is necessary to improve the understanding of the relationship between these factors and the performance of insurance companies in Ethiopia.

The insurance industry is a crucial component of the financial system, and insurance companies contribute significantly to economic growth and stability. They are essential for policymakers, academics, practitioners, institutional supervisors, and investors. The literature highlights the critical role played by insurance companies in modern economies. Insurance companies must maintain financial strength and protect policyholders and also the economy. This is crucial for their sustainability and reliability.

1.2 GENERAL OVERVIEW OF THE INSURANCE INDUSTRY IN ETHIOPIA

The concept of insurance dates back to the earliest human civilizations when people shared risks to help each other during times of loss or hardship. It is a process of risk transfer that protects individuals from uncertain losses and provides financial assistance for human life and properties (Ari & Showket, 2019).

The practice of risk management originated in the Babylonian period of 2250 BC, with the development of loan insurance for maritime business. This concept spread to the Greeks, Romans, and Italy. In the late fourteenth century, finance and insurance components were separated, leading to the modern form of insurance (Buckham & et al., 2010).

According to Axco (2017), modern insurance began in Ethiopia in 1905, when the Bank of Abyssinia, owned by the Bank of Egypt, started transacting insurance as an agent of a foreign insurance company. This later expanded to include foreign companies operating in the country on an agency basis. During the Italian occupation from 1936 to 1941, only Italian insurance companies operated in Ethiopia, but companies from other European countries resumed operations after the Italians left.

As per the survey conducted by (Ministry of Commerce and Industry, 1954), Insurance activities were being taken out by 18 foreign insurance companies' branches or agents and one domestic insurance company called Imperial Insurance established in 1951. The insurance market was governed like any commercial goods and service by the Civil Code of 1960 from the year 1950s up to the 1960s insurance companies increased to 33. The number of local companies was established, reaching a total of 13 in number, and another study was conducted by the Addis Ababa Chamber of Commerce in 1967. The study found that there were 30 foreign insurance branches and agents and 10 domestic companies in Ethiopia

(Belay, 2001). Like any business undertaking, the insurance business was classified as a trade and was administered by the provisions of the commercial code. This was the only legislation in force regarding insurance except for the maritime code of Ethiopia that was issued to govern the operations of maritime business and related marine insurance. The law required an insurer to be a domestic company whose share capital is not less than Birr 400,000 for a general insurance business and, Birr 600,000 for a long-term insurance business, and Birr one million for both long-term & general insurance business.

In 1970, the Ethiopian government took a significant step towards regulating the insurance industry by introducing Proclamation No. 281/1970. The main objective of this proclamation was to control and regulate the insurance business in the country. It created an insurance council and an insurance controller's office to ensure compliance with the regulation. The introduction of this regulation had a positive impact on the sector, as it helped create a conducive and transparent environment for the insurance market.

Subsequently, in 1971, the Ministry of Commerce, Trade, and Tourism issued regulation number 383/1971 to provide detailed guidelines on the conduct of insurance business in the country. This regulation helped to create a more robust and efficient insurance market. It covered matters such as licensing requirements, capital adequacy, investment policies, and the conduct of insurance agents.

The introduction of Proclamation No. 281/1970 and Regulation Number 383/1971 marked a crucial turning point in the Ethiopian insurance industry. It created a more regulated and competitive market, benefiting consumers and insurance providers. The continued growth of the insurance market in Ethiopia highlights the importance of well-crafted insurance regulations in promoting financial stability and economic growth.

The proclamation defined 'domestic company' as a share company having its head office in Ethiopia, and in the case of a company transacting a general insurance business, at least 51% and in the case of a company transacting a life insurance business, at least 30% of the paid-up capital must be held by Ethiopian nationals or national companies. Four years after the enactment of the proclamation, the military government that came to power in 1974 ended all private entrepreneurship.

Then, all insurance companies operating were nationalized, and from January 1, 1975, the government took over the ownership and control of these companies, and Ethiopia Insurance Corporation became the sole operator and monopoly of the sector by the government.

The command economic system in Ethiopia had a negative impact on the insurance sector. It led to stagnant growth, lack of innovation, and heavy reliance on a few types of insurance. The nationalization

of private insurance companies and government restrictions further hindered the industry's development. However, a new era began in 1991 when the political environment changed. The enactment of the proclamation for the licensing and supervising insurance business No. 86/1994 led to the flourishing of private insurance companies. It's clear that the development of the insurance industry in Ethiopia is closely linked to changes in politics, technology, law, economy, and society.

The recent legal basis for the insurance industry in Ethiopia is Proclamation number 746/2012, which was issued on 22 August 2012; related to this proclamation, the National Bank of Ethiopia issued the new directive SIB/34/2013 to set up a minimum paid up requirement and come in to force effective from 15 April 2013. Hence, the minimum paid-up capital requirement becomes 60 million for non-life, 15 million for life, and 75 million for both Life and Nonlife for insurers. Local re-insurers are required with a minimum subscribed capital requirement of birr 2 billion of which 50% of the subscribed is paid-up capital. The local Reinsurance establishment directive no SIB/44/2016 was issued by the National Bank of Ethiopia. The most recent directive of SIB/57/2022 issued by the National Bank of Ethiopia was issued on 15 September 2022; any insurance company is required to be a domestic company whose share capital is not less than Ethiopian Birr 400m for a general insurance business and Ethiopian Birr 100m in the case of long term (life) insurance business and Ethiopian Birr 500m to do both long term & general insurance business by the end of June 30, 2027. As a result, the country currently has one government, seventeen private insurance companies, and one reinsurance company operating in the country (NBE, annual report, 2023).

1.3 STATEMENT OF THE PROBLEM

The insurance sector plays a vibrant role in the financial service industry, contributing significantly to the economic growth of both developing and developed countries by facilitating the spread of losses and efficient allocation of resources while reducing transaction costs (Meher & Zewudu, December 17, 2020). Insurance companies provide a means of mitigating the risks and uncertainties prevalent in the world of risk characterization (Suheyli, 2015). In general, any industry contributes to the growth of market value and the overall success of the economy. In particular, the insurance industry sets synergy on other economic units by giving peace of mind, and successful operation is critical for the development of all other industries (Getahun, 2014). Insurance companies contribute significantly to the financial intermediation of the economy. Their success means the success of the economy; their failure means failure of the economy (Ansah and Abor , 2012); Insurance companies can remedy socioeconomic crashes stemming from the

failure of enterprises due to economic disasters in addition to securing funds and reinvesting in the national economy (Gulsun & Umit, 2010)

One of the primary goals of any business is to maximize wealth, which is essential for enhancing the company's competitiveness. In the case of an insurance company, performance plays a crucial role in attracting potential investors and improving solvency, liquidity, profitability, and retention capacity. In addition, increasing shareholders' satisfaction by paying the highest earnings per share (EPS) is essential. Thus, performance is a key objective for insurance companies. To operate successfully, they need to constantly seek new opportunities and expansion. This can be achieved through various means, such as increasing their customer base, offering new products and services, and expanding into new markets mentioned in the work (Chen & Wong, 2014) and, (Harrington & Wilson , 1989). Therefore, performance is a means of expanding a company's operations and increasing its financial stability, attracting investors, and creating value for its stakeholders.

Despite Ethiopia's long history of civilization and its financial sector in general, the insurance sector has not developed. It is among the lowest in the world and African countries in terms of the three indicators, namely: insurance premium market share, market penetration rate, and insurance density (insurance premium per capita) (Mohammed & et.al, 2019)

According to a study (Gemachis.D's, 2017), the financial sector in Ethiopia is not well-developed, particularly regarding insurance companies. This has resulted in the insurance industry being uncompetitive on a global scale, less profitable, and less able to grow within Ethiopia's economy. The underperformance of the Ethiopian insurance industry has sparked further research into identifying the factors that are hindering its performance. Previous studies have primarily focused on internal or industry-specific factors, overlooking the broader influences on the industry's performance. Additionally, prior research has concentrated on specific segments of the insurance business, such as general or life insurance, rather than considering the industry as a whole.

According to (Kahase, 2018), after the market liberalization in Ethiopia, the number of insurance companies in related terms has been growing in number and the nonlife insurance segment of the market is also growing. However, the insurance sector contributes to the Ethiopian economy, and insurance consumption per capita is very low. This low level of insurance penetration is caused partly because of the insurance sector itself and may also be caused due to the lack of understanding by the policymakers, low

level of insurance awareness, and low level of insurance product development and investments, which are among the most critical factors that have affected the market penetration of the insurance market.

Insurance in developing countries is not regarded as a main driver for economic growth as compared to other sectors, such as infrastructure development and technology. However, insurance contributes to the national economies of many countries in a lot of ways, such as employment creation, tax payment, investment, savings, and risk stabilization, amongst others. Insurance further alleviates government efforts in the provision of some amenities such as pensions, improving the lives of people, economic diversification, mitigating risks, and attracting Foreign Direct Investment (FDI) through risk stabilization. The rate of insurance penetration in Africa is directly related to a particular country's development and economic growth. (Insurance Penetration in Africa - A Systematic Literature Review by (Malila, 2023).

Insurance companies' financial analyses are important in deciding their operational results and investment activities. Their financial performance is also relevant within the macroeconomic context since the insurance industry is one of the components of the financial system that raises economic growth and stability. Therefore, the determinants of an insurance company's performance have attracted the interest of academicians, practitioners, managers, regulatory bodies, and policymakers.

Previous research has extensively explored the internal factors that impact the performance of insurance companies in Ethiopia. These in-depth analyses primarily focused on the influence of underwriting risk, reinsurance dependence, solvency ratio, technical provision risk, liquidity, and premium growth on insurance company profitability. However, these studies predominantly emphasized industry-specific factors while overlooking macroeconomic aspects such as inflation rate and GDP growth. Additionally, the regression coefficient analysis regrettably omitted non-financial determinants like leadership quality and societal awareness. Furthermore, the studies were considered inadequately investigated due to the limited sample size and the focus on only one segment of the insurance business for their analyses.

This research study seeks to offer a comprehensive insight into the various factors that impede the performance of insurance companies in Ethiopia. It will delve into the internal and external drivers, as well as the financial and non-financial aspects that have an impact on the performance of insurance companies operating in Ethiopia.

1.4 RESEARCH OBJECTIVE

This study aims to determine the factors that influence the performance of insurance companies in Ethiopia, the extent to which they constrain or promote performance, and how these factors can be eliminated, mitigated, or improved. It also examines the problems and challenges faced by the insurance industry in Ethiopia.

1.4.1 General Objective of the Study

The general objective of this study was to investigate factors that affect the performance of insurance companies in Ethiopia.

1.4.2 Specific Objectives

1. Evaluate firm-specific financial factors affecting insurance companies' performance in Ethiopia.
2. Investigate non-financial firm-specific factors that affect the performance of insurance companies in Ethiopia.
3. Assess the financial, macroeconomic factors that affect the performance of insurance companies in Ethiopia?
3. Examine non-financial macroeconomic factors that affect the performance of insurance companies in Ethiopia.

1.5 Research Questions

❖ The study has developed the following research questions.

1. What financial firm-specific factors affect the performance of insurance companies in Ethiopia?
2. To what extent do non-financial firm-specific factors affect the performance of insurance companies in Ethiopia?
3. What external or macroeconomic factors affect the performance of insurance companies in Ethiopia?
4. What non-financial macroeconomic factors affect the performance of insurance companies in Ethiopia?

1.6 Research Hypothesis

Hypotheses are predictions about the outcome of the results that can be tested by scientific methods that relate independent variables to dependent variables. Thus, to achieve the study's objective, the hypotheses were developed regarding the determinants of the performance of insurance companies in Ethiopia based on different empirical research and theoretical reviews researchers. The empirical evidence and theoretical bases used to develop the hypothesis and how this hypothesis is developed are discussed in chapter three of this study paper in variable definition parts. Since the bases for the hypothesis are presented in chapter three the following part only presents the study's hypothesis.

- H1.** Premium growth has a positive and significant impact on the performance of insurance companies.
- H2.** The retention ratio has a positive relationship and significant effect on the performance of insurance companies.
- H3.** Combined ratio (claims & expense ratio) negatively and significantly affects the performance of insurance companies
- H4.** The tangibility of assets has a positive and significant impact on the performance of insurance companies.
- H5.** There is a positive and significant relationship between the size and the performance of Insurance Companies.
- H6.** Leadership Quality has a positive and significant effect on the performance of insurance companies.
- H7.** Inflation has a negative and significant effect on the performance of insurance companies.
- H8.** GDP growth rate significantly and positively affects the performance of insurance companies
- H9.** Awareness of society has a significant and positive effect on the performance of insurance companies,

1.7 Significance of the Study

The findings of this study will be of great importance to policymakers, insurers, investors, controllers, and researchers. The study's importance will develop from the fact that the insurance sector plays a significant role in protecting the country's economy and will provide critical services for people in Ethiopia; the current

study will empirically implement a comprehensive analytical framework of performance in the case of the Ethiopian insurance sector.

This study will also attempt to assess the determinants of insurance companies in Ethiopia and provide evidence on the effect of firm-specific and macroeconomic factors on insurance company performance in Ethiopia. Analyzing and understanding the impact of different factors on insurance performance in Ethiopia is a major step toward enlightening what must be done to achieve the target.

Previously, some research was conducted on the factors that affected the profitability of the insurance business in Ethiopia. So, I use those research in the empirical literature review parts as the inputs for this research and will investigate the determinants of Ethiopian insurance companies' performance. Therefore, the current study will be a base for other studies in the same field, and it will help add value to the subject.

1.8 Scope and limitation of the study

The study is limited to explaining factors affecting Ethiopia's insurance industry's performance. However, the insurance industry's contribution to the economy and other factors, such as socio-economic factors, political instability, and other related issues, are not included in the scope of this research.

The study aimed to analyze the internal and external factors influencing the performance of insurance companies registered by the NBE with at least ten years of composite insurer data, spanning from 2014 to 2023. The chosen ten-year period is in line with the recommended length of data used in most finance literature, which is five years and above. Out of the 18 insurance companies registered in Ethiopia, five have recently begun offering life insurance coverage, and three have not yet started providing such coverage, so their data was excluded from this study. Thus, the study focused on 10 insurance companies: (UNITED, NIB, AWASH, NILE, NYALA, ABAY, ETHIOLIFE, OROMIA, AFRICA, and EIC).

1.9 Organization of the Study

The study was organized into five chapters. Chapter one is an introduction, where the background of the study, statement of the problem, research question, objectives of the study, significance of the study, scope/limitation of the study, and organization of the study are discussed. Chapter two focused on a review of literature in which theories, empirical evidence, and conceptual framework were framed. Chapter three elaborated on a statement of the research methodology employed in the study. Chapter Four focuses on findings and discussions in which the findings and results were interpreted. Finally, Chapter Five deals with a summary, a conclusion, and possible recommendations for the study's outcome.

CHAPTER TWO

2. LITERATURE REVIEW

This section introduces the concept of insurance companies and their performance, as well as performance-related theories and studies on the factors that determine their performance. The first part of this chapter focuses on theoretical reviews of insurance concepts. The second part reviews the empirical literature on the determinants of insurance company performance and presents the study's conceptual framework.

2.1 Conceptual and Theoretical Framework

2.1.1 Concept of Insurance Business

The financial performance of any sector serves as the backbone of the country's economic growth and industrialization. The insurance sector is important because it is responsible for providing proficient financial aid, channel funds, utilization of resources in an optimal manner, and investor treatment. Under the umbrella of the financial system, the insurance sector plays an essential role in regulating funds for different industries, contributing major inflows towards economic and financial performance (Andries & Capraru, 2014). The insurance sector is considered well-established if it can calm any financial crisis in the economy, hence strengthening the country's economic system.

Regarding describing the concepts of insurance business, different authorities/scholars have attempted to define the concept of insurance based on their opinions. According to the Commission of Terminology of American Risk and Insurance Associations, Insurance is a contract in which the insured transfers risk to potential loss to the insurer, who promises to compensate the former upon suffering loss. The insurance premium is the monetary consideration paid by the insured for the cover granted by the insurance policy. Insurance refers to two important thoughts: Risk transfer mechanism and low or large numbers. According to risk transfer thought, “insurance is a device for the reduction of uncertainty of one party through the transfer of particular risks to another party called the insured, who offers a restoration at least in part of economic losses suffered by the insured (Boadi & Lartey, 2013). According to the law of large number /pooling thought/ “the essence of insurance lies in the elimination of uncertainty or risk of loss for the individual through the combination of large number of similarly exposed individuals (Chen & Wong, 2004), Insurance operates on the principle of pooling risks where the people contribute to a common fund in form of premiums and where the fortunate ones who do not suffer loss help the unfortunate ones who suffer loss during a defined insurance period (Kripa, 2016)

Insurance provides economic and social benefits in society such as mitigating the impact of losses, reducing fear and uncertainty as well as employment creation (Mazviona et al., 2017). Lack of insurance coverage can leave individuals and families vulnerable to the uncertainties of everyday life and disasters. According to (Charumathi, 2012), a well-developed insurance market paves the way for efficient resource allocation by transferring risk and mobilizing savings.

Insurance contributes substantially to the national economy by using capital gathered through premiums for investment (Gulsun & Umit, 2010). In addition to that, Insurers are the biggest group of institutional investors, and their focus on long-term investments makes them an anchor of stability in the financial markets. Risks and insecurity are an integral part of our daily lives. Managing these risks in the best possible way is one of the major challenges for each individual, business, and society. Therefore, Insurance is the prerequisite for sustainable economic growth and prosperity.

(Theis, 2015), the insurance industry is one of the most important industries in the economy. It fulfills various functions which are indispensable for the modern economy and society. Insurers contribute significantly to the financial security of private households and take on risks from companies, laying the foundation for economic activities, innovation, and sustainable economic growth. In case of major losses, such as natural disasters, the insurance industry quickly provides the affected insured with financial means, thereby contributing to macroeconomic stability.

According to (Sambasivam & Gashaw, 2013) the role of financial institutions in a country's economy and insurance companies, in particular, means their efficient and effective financial system through savings mobilization, risk transfer, and intermediation. Therefore, financial institutions channel funds and transfer risks from one economic unit to another economic unit to facilitate trade and resource arrangement, particularly the insurance sector contributes to economic growth, reduction of transaction costs, creation of liquidity, facilitation of economies of scale in investment, spread of financial loss and efficient resources allocation provides indemnification against risks, strengthens the linkage between other sectors of the economy in encouraging growth and stability and by creating a substantial impact on the national income of a country by improving the efficiency of the financial system. Insurance companies share the function of banks and other financial institutions besides the role of risk-minimizing by pooling similar risk exposures and helping individuals and organizations to minimize the impact of risk results on their property and lives (Wondwossen, 2016).

There are many factors to consider when looking at insurance companies. More than anything, consumers and investors should be concerned about the financial strength of the insurer and its ability to meet its

ongoing obligations to holders of insurance policies. (Abdelkader, 2014), and (Mirie and Jane, 2015), describe that Insurance companies provide unique financial services to the growth and development of every economy. Such specialized financial services range from the underwriting of risks inherent in economic entities to the mobilization of large amounts of funds through premiums for long-term investments. The risk absorption role of insurers promotes financial stability in the financial markets and provides a sense of peace to economic entities; on top of this, the insurance companies' ability to cover risk in the economy hinges on their capacity to create profit or value for their shareholders.

In the Ethiopian market, the major categories of insurance businesses are classified into two major groups: Life insurance business and Non-life /general/ insurance business. Life insurance can be classified into the following main business classes: Whole life, term insurance, endowment life insurance, and Annuities. Non-life/general insurance business/is also majorly classified into the following portfolios: Property insurance, Liability insurance, and Surety insurance. (Kahase, 2018)

In life business, Whole life types of products provide coverage against death of a lifetime, the sum of the policy to the beneficiary of the life assured and Endowment life assurance; this comprises both term life and saving elements, which comprise non-profit endowment called term and with profit- Endowment. Endowment insurance has a large savings element in that it guarantees if the insured survives the term to pay the benefits at the end of the selected term of years and, at the same time, makes the benefits available for his dependents if the insured dies. The Term life insurance product provides insurance coverage against death within the specified period, the sum amount specified in the policy to the beneficiary, and nothing is paid in case of survival. An annuity is a contract whereby the assured receives a guaranteed income, usually for the remainder of his life after retirement from his job. The main purpose of a life annuity is to provide a lifetime income that cannot be outlived by an individual.

In Non-life insurance business practice in Ethiopia, it became in our mind firstly Motor vehicle insurance: This policy has developed into an important form of contract arising from its compulsory nature and increasing public demand for coverage it provides indemnity against loss of, or damage to or arising out of or in connection with the use of the motor vehicle including third party risks. Other types of general insurance business are Marine and aviation insurance products this type of insurance difference is transport on sea and air, similar risks are faced both for aviation transport and by marine transport. Therefore insurance product is developed to provide coverage for marine and aviation hull, container, and cargo against loss or damage due to risks such as loss of ships, collision, and fire due to internal and external perils specified in the specific policy. Another bid contract or product in general insurance is Engineering

policy under engineering insurance, which includes property or business income protection against physical damage by all risks of loss except, for those specifically excluded, cover for contractors' plant and equipment cover are contractors risk, Erection of all risk and machinery break down and Boilers& pressure plant. Engineering policies can also cover industrial risks, such as a multiline package policy, including fire, marine, and liability.

Bond policy: The main object of a contract of guarantee is to enable a person to obtain employment, a loan, or some goods or services on credit. The contract of guarantee is to perform the promise or discharge the liability of a third person in case of default. Bond insurance is mainly given to cover weaker contractual agreements made between two or more parties. In surety, there are three parties: the 'surety or guarantor' is the insurer, the 'creditor' is the contractor to whom the guarantee is given, and the 'principal debtor' is the principal who will be entitled to be compensated in case of the default of the performance of the project and Liability insurance also another product in general insurance business this types of coverage for bodily injury or property damage arising out of the insured's ownership, maintenance, or use of the insured himself. There are different types of liability insurance, depending on the nature of the business. For example, product liability provides coverage for any loss of a third party or purchaser of the product due to the inherent risk of the product. Professional liability insurance products can be covered if any loss arises due to professional negligence. Public liability insurance covers any damage or injury from the insured property defect.

Fire insurance policy is designed to indemnify the insured's buildings and their contents (household goods and personal effects) within these buildings against loss or damage due to fire, lighting, thieves, escape of water from tanks or pipes, oil leakages from fixed heating systems, storm, flood, riot, or malicious acts, explosion, impact by aircraft or vehicles or animals, falling trees, subsidence, and earthquake.

2.2 Determinant of Insurance Companies Performance

The primary goal of any business is to perform well. For an insurance company, this means attracting potential investors, improving solvency, liquidity, and retention capacity, increasing shareholder satisfaction by paying the highest EPS, creating new job opportunities, and strengthening policyholder confidence. The performance of insurance companies refers to the actions they take to achieve their objectives and targets while operating in a country (Aakhtar et al, 2012).

(Wellalage et al, 2012) Showed that performance is the result of the fulfillment of the tasks assigned. A company's performance describes how individuals in the company try to achieve a goal. Financial

performance refers to a firm's profitability, that is, how large the revenues exceed the costs incurred in generating them. There are several ways that financial performance is measured, including return on assets, return on equity, and gross margin rate. The financial performance of general insurance underwriters attempts to measure how well the firm is attaining the objective of its establishment (Almajali, Alamro, and Al-Soub, 2012).

Financial performance emphasizes variables related directly to the financial report. Before investing their funds, investors should know about the company's performance (Tita & Lionel, 2015). Financial performance indicates a measure of an organization's earnings, profits, and appreciations in value as evidenced by the rise in the entity's share price. In insurance, performance is normally expressed in net premiums earned, profitability from underwriting activities, annual turnover, return on investment, and return on equity (Chen & Wong, 2014); & (Asimakopoulou, Samitas, and Papadogonas, 2009).

(Burca & Batrinca, 2014). Insurance companies' financial performance can be analyzed in micro and macroeconomics. It is determined by internal factors represented by specific company characteristics and external factors regarding connected institutions and the macroeconomic environment. Identifying the factors contributing to insurance companies' growth is useful for investors, researchers, financial analysts, and supervisory authorities.

(Asrat and Tesfahun, 2016). The study analyzes the determinants of the profitability of private insurance companies in Ethiopia over the period from 2005 to 2015 by using a nonprobability judgment sampling design of eight private insurance companies for the econometric analysis of multiple regressions of fixed effect approach of panel data. The constituent of firm-specific and macro variables (Underwriting risk, Reinsurance Dependence, Solvency Ratio, Premium growth, Company Size, and macro factor Growth rate of GDP, Inflation, and Interest Rate) analysis was made to investigate the determinants of private insurance company profitability. The panel data model regression analysis shows that private insurers' profitability is statistically significantly affected by firm-specific factors, which are underwriting risk negatively, company size positively, premium growth positively, and solvency ratio negatively, and reinsurance dependency does not influence profitability and is statistically insignificant. The macroeconomic variable economic growth rate has a significant influence on profitability and inflation has an insignificant influence on insurers' profitability whereas interest rate which is measured by time deposit weighted average was an insignificant variable

(Abdelkader, 2014). His study examined the impact of firm-specific characteristics like (size, leverage, tangibility, risk, growth, liquidity, and age) on the performance of eight insurance companies in Tunisia

over 8 years (2005-2012). The analysis of the results from a regression on panel data indicates that the variables age and premium growth are the most important determinants of the performance of insurance companies measured by ROA ratio (Return on Asset). Then, the performance of insurance companies is not statistically significant with leverage, tangibility, liquidity, and risk. The results show that three variables, size, age, and growth, are the most important determinants of the insurance sector's performance in Tunisia from 2005 until 2012. Thus, the two variables, age, and growth, positively impact performance, while size affects performance level. Then, the other variables (Leverage, Flexibility, and liquidity risk) are insignificant to the performance.

(Yuvaraj and Abate, 2013) Examined the effects of firm-specific factors (age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets) on profitability proxies by Return on Assets (ROA). This study's sample includes nine listed insurance companies for nine years (2003- 2011). Secondary data obtained from the financial statements (Balance sheet and Profit/Loss account) of insurance companies and financial publications of the National Bank of Ethiopia are analyzed. Descriptive statistics and multiple regression analysis were performed to describe important determinant factors of the profitability of insurance companies. The regression results show that growth, leverage, capital volume, size, and liquidity are the most important determinant factors of profitability. In contrast, the tangibility of companies' age and assets is not significantly related to profitability.

(Luçi and Ajasllari, 2016). Assess in their research the impact of 6 internal factors: company size, volume of capital, fixed assets, liquidity, liabilities, and growth rate, which affect the profitability of insurance companies in Albania represented by (ROA). They used multiple regression analysis, for 7 companies operating in the Albanian insurance market from 2008- 2013. The results of the multiple regression indicated that there was a statistically significant relationship between growth rate, liquidity, liabilities, and fixed assets to the profitability of insurers. At the same time, the impact of factors of company size and the volume of capital was not statistically significant. Fixed assets had a negative correlation with the ROA of insurance companies. Despite that statistically insignificant, variables such as company size and the volume of capital had a positive impact on the profitability of insurer companies in Albania,

(Jerene, 2016). Analyzed the effects of firm-specific factors (age of company, size of company, and volume of capital, leverage ratio, and loss ratio) on profitability proxies by ROA defined as the before-tax profit divided by total assets (TA). Data was primarily collected from secondary sources, retrieved from the financial statements of the insurance companies in India from their respective websites. Therefore, using a quantitative research survey, the researcher used an econometric model to identify and measure insurance

companies' profitability determinants. According to the results, size in terms of total assets, loss ratio, liquidity, age, and GDP positively correlate with ROA. In contrast, capital adequacy, premium growth, and inflation negatively correlate with ROA. Regarding macroeconomic factors, inflation has a negative significant relation, while GDP positively affects ROA but is insignificant.

(Lee, 2014). He investigates the relationship between firm-specific factors and macroeconomics on profitability in the Taiwanese property-liability insurance industry using panel data from 1999 through 2009. Operating ratio and return on assets (ROA) are used as the two kinds of profitability indicators to measure insurers' profitability. The results show that underwriting risk, reinsurance usage, input cost, return on investment (ROI), and financial holding group significantly influence profitability in both operating ratio and ROA models. The results find that underwriting risk, reinsurance usage, input cost, ROI, and financial holding group significantly influence profitability in both operating ratio and ROA models. Still, in macroeconomic variables, only the economic growth rate significantly influences profitability in the operating model. In addition, the model's significantly positive coefficients on the ROI variable support the idea that insurers with higher investment returns have better profitability.

(Shala, Vlora, Yllka and Skender, 2014). Their research examines the determinants of profit insurance companies represented by ROA for the period 2009-2012 for 11 insurance companies in Kosovo. Variables tested in this study are the life expectancy of the company, size and volume of capital leverage, growth of the company, tangible assets, and liquidity. The research found that ROA is positively affected by capital volume, liquidity ratio, and the company's growth and negatively affected by size and fixed assets. The volume of capital is also significantly and positively related to profitability.

(Ramesh, 2017). His research examined developing an empirical model (regression, 2011- 15) of general insurance companies in Mauritius to monitor their financial performance and assess the impact of firm-level Company Size, Underwriting Profit, Leverage, Sales Profitability Ratio, Net Operating Expenses, Investment income, Investment performance, Premium Growth, Liquidity, Net Operating Expenses, and Growth Rate over the past five years. The most significant predictors of an insurer's return on assets are reinsurance, sales Profitability, operating margin, premium growth, and Company Age also contribute to explaining performance in return on assets.

(Almajali, 2012) Surveyed 25 insurance companies in Jordan during the period 2002-2007 by using several basic statistical techniques such as T-test and Multiple- regression. The results showed that leverage, liquidity, Size, and management competence index have a positive statistical effect on the financial performance of Jordanian Insurance Companies and a high consideration of increasing the company assets

will lead to a good financial performance and there is a significant need to have highly qualified employees in the top managerial staff.

(Naveed, Zulfqar and Ishfaq, 2010). Their research examined the determinants of the capital structure of life insurance companies in Pakistan over seven years from 2001 to 2007. For this purpose, leverage is taken as a dependent variable while profitability, size, growth, age, risk, tangibility of assets, and liquidity are selected as independent variables. The results indicate that size, profitability, liquidity, and risk are important determinants of the capital structure of life insurance companies in Pakistan. In addition, life insurance companies follow the Pecking Order pattern in terms of profitability, liquidity, and age as leverage has a negative relationship with profitability, liquidity, and age while a positive relationship between leverage and size shows consistency with the Trade-off theory. The results also indicate that leverage has a statistically insignificant relationship with the growth and tangibility of assets.

(Emine's, 2015), study investigates the firm-specific factors affecting the profitability of nonlife insurance companies operating in Turkey. For this purpose, data from 24 non-life insurance companies operating in Turkey from the period 2006–2013 were brought together using the data drawn from publicly available corporate financial reports. In this study, profitability is measured by two different variables: technical profitability ratio and sales profitability ratio. According to the empirical results, the firm-specific factors affecting the profitability of Turkish non-life insurance companies are the size of the company, age of the company, loss ratio, current ratio, and premium growth rate. However, the results obtained for the size of the company variable demonstrate that large non-life insurance companies have higher profitability than small non-life insurance companies. On the other hand, the loss ratio variable indicates that low underwriting risk has higher profitability than high underwriting.

(Pervan, 2014) investigated in his research, how insurance companies in Macedonia performed regarding the determinants of profitability, based on the findings of panel analysis it was revealed that expense ratio, claim ratio, Size of the insurer, economic growth (GDP), and inflation have statistically significant influence on insurers' performance. Expense as well as Claims ratios (CR) have a negative and statistically significant influence on insurers' profitability while size has a positive influence on the insurers' profitability. GDP growth positively affects insurers' profitability i.e. growth of overall economic activity encourages demand for insurers' services and indirectly results in higher insurers' income while Inflation on profitability is statistically significant and negative, suggesting that higher levels of inflation cause higher interest rates and lower bond prices which in turn reduce portfolio returns.

(Michael's, 2012), research paper examined the short and long-run relationships between economic growth and insurance sector development in the Nigerian economy. The fixed-effect model was adopted, and relevant data between 1985 and 2009 were collated and analyzed using co-integration analysis. Gross domestic product (GDP) was adopted as a proxy for the level of economic growth, while numbers of insurance companies, premiums of life insurance, premiums of non-life insurance, total insurance investment, and inflation rate were used in measuring insurance sector growth. The findings revealed that insurance sector performance and development positively and significantly affect economic growth using the ordinary least square (OLS) of regression estimate at the first stage, the result conforms with our expectation as all the variables, except the inflation rate positively related to Gross domestic product (GDP). The above different empirical studies confirmed that Insurers' profitability is influenced by both internal and external factors. Whereas internal factors focus on an insurer's specific characteristics, the external factors concern both industry features and macroeconomic variables in addition (Lee, 2014), (Tesfahun, 2016) elaborate more, the insurer's specific factors represented which is totally under the hand of the corporate management system, and external factors regarding connected industry and macroeconomic environment in general which also not under the hand of the corporate management but identifying and knowing its directions and magnitude was helps to develop the strategy to get the opportunity.

2.3 Empirical Literature Review

The performance of financial institutions is of utmost importance in influencing economic growth. Conversely, the insolvency of these institutions can lead to systemic crises that have far-reaching adverse effects on the overall economy (Kahase, 2018). Therefore, it is imperative to engage in empirical research to identify and understand the key factors that impact the performance of insurance companies. By conducting such research, relevant stakeholders can direct their attention to factors that are substantiated by empirical evidence. These factors encompass premium growth, retention ratio, combined ratio, tangibility of assets, company size, leadership quality, inflation, GDP, and societal awareness. Understanding these factors can provide valuable insights into the performance of insurance companies and contribute to informed decision-making by stakeholders.

Premium growth: Premium revenue is the primary source of revenue for all insurers, and it is generally determined more by other income sources. Therefore, premium growth should help predict future revenue and earnings growth. Premium growth also measures the market penetration rate (Jimma, 2018). Different findings indicate that premium growth has a positive and significant impact on the performance of insurance firms (Tekletsadik, 2020; Hailegebreal, 2016; Ayele & Yuvaraj 2013). In insurance companies, there are two sources of Premium growth, i.e., exposure growth (an increase in the number of policyholders) and rate-level growth (an increase in the average price per exposure). These two sources of growth have different determination and risk implications. Exposure growth is valuable if the products are properly priced, but in a competitive market, significant exposure growth may indicate underpricing.

Retention ratio: the percentage of the underwritten business that is not transferred to reinsurers. A more efficient insurance company in underwriting decisions accompanied by higher retention should have higher profitability (Charumathi, 2012). Insurance companies reinsure a certain amount of the risk underwritten to reduce bankruptcy risk in the case of high losses. Although reinsurance improves the insurance company's stability through risk dispersion, achievement of solvency requirements, risk profile equilibration, and growth of the underwriting capacity, it involves a certain cost. As a result, determining an appropriate retention level is important for insurance companies, and they have to try to strike a balance between decreasing insolvency risk and reducing potential profitability. Although it increases operational stability, increasing reinsurance dependence lowers the retention level and reduces the potential profitability. Therefore, it can be conjectured that the relationship between growth and the retention ratio would be negative. A higher retention ratio with a lower claims ratio is likely to positively impact insurers' performance. The retained risk ratio is computed as the ratio of net written premiums to gross written premiums and reflects the proportion of the underwritten risk retained by the insurer, the difference being ceded in reinsurance. This variable is expected to positively influence performance, as reinsurance involves a certain cost (Burca & Batrinca, 2014) and (Mirie and Jane, 2015).

Combined ratio (Loss ratio & Expense ratio): the ratio of annual claims paid by an insurance company to the Net earned Premium and annual administration expenses to the Net earned premium. Insurers establish premium rates based on an anticipated loss ratio that supports claim payments, administrative costs, profit requirements, and an appropriate risk margin for adverse experiences (Ahmed, 2008). Organizations that engage in risky activities are likely to have more volatile cash flows than entities whose management is more averse to risk-taking (Fama & Jensen, 1983). As a consequence, insurers that underwrite risky business (e.g. catastrophe coverage) will need to ensure that good management standards

are applied to mitigate their exposure to underwriting losses and maximize returns on invested assets. For this reason, likely, managers in insurance and reinsurance companies that are engaged in risky lines of insurance will likely be given more discretion to respond to market events than their counterparts in companies that are engaged in less risky business activities (Oppenheimer & Schlarbaum, 1983). Such decision-making discretion could improve annual financial performance by encouraging managers to increase cash flows through risk-taking. The study (Nahusenay, 2016) found that there is a negative and statistically insignificant relationship between the loss ratio and the financial performance of insurance companies in Ethiopia. Excessive risk-taking could adversely affect the annual performance of insurers and reinsurance companies. For example, unanticipated market forces, such as enhanced competition and a sharp fall in share prices, could limit management's ability to increase annual premiums and investment income to compensate for losses arising from poorly priced risks. Furthermore, high annual insurance losses will tend to increase the level of corporate management expenses (e.g. claims investigation and loss adjustment costs) that could further aggravate a decline in reported financial performance. In contrast, insurers and reinsurance companies with lower-than-expected annual losses are likely to exhibit better financial performance because they do not incur such high monitoring and claims handling costs (Adams & Buklle, 2003). Studies by (Ahmed, 2008), (Malik, 2011), and (Pervan et al, 2012) indicated that the loss ratio showed a negative relationship and a significant effect on performance.

Tangibility of assets ratio: measures the share of fixed assets from total assets; this allows the firm to get borrowing access easily, and it is due to serving as collateral to get a sufficient loan. (Asnakew, 2011) Tangible assets are likely to impact a firm's borrowing decisions because they are less subject to informational asymmetries and usually have a greater value than intangible assets in case of bankruptcy. Therefore, it is considered that the availability of such borrowing capacity will impact the profitability of the insurance companies, and study by (Naveed, Zulfqar and Ishfaq, 2010) investigates the impact of firm-level characteristics on the performance of the life insurance sector of Pakistan over seven years. For this purpose, size, profitability, age, risk, growth, and tangibility are selected as explanatory variables, while ROA is taken as the dependent variable. The results of OLS regression analysis revealed that leverage, size, and risk are the most important determinants of the performance of the life insurance sector, whereas ROA has statistically more of an insignificant relationship with the tangibility of assets. However, (Malik, 2011) found that there exists a positive and significant relationship between the tangibility of assets and the profitability of insurance companies and argued that the higher the level of fixed assets formation, the

older and larger the insurance companies. In contrast to this, (Li, 2021) in the UK found no significant relationship between the tangibility of assets and the profitability of insurance companies.

Company size: Literature supports there is a positive relation between operational performance and insurance company size According to (Ramesh, 2017) large corporate size also enables insurers to effectively diversify their assumed risks and respond more quickly to changes in market conditions. It has been suggested that company size is positively related to financial performance. The main reason is that large insurance companies normally have a greater capacity for dealing with adverse market fluctuations than small insurance companies. In addition, large insurance companies can relatively easily recruit competent employees with professional knowledge compared to small ones. Furthermore, large insurance companies have economies of scale in terms of labor cost, which is the most significant production factor for delivering insurance services. There is expected to be a positive linkage between company size and performance because large insurers are likely to perform better than small insurers as they can achieve operating cost efficiencies through increasing output and saving on the unit cost of innovations in products and process development.

Leadership Quality: According to (Boyatzis, 1982) defines competence as “an underlying characteristic of a person”, stating it could be a “motive, trait, and skill, aspect of one’s self-image or social role, or a body of knowledge which he or she uses. (Hamel and Prahalad, 1994) Define competence as a bundle of skills and technologies that enable the company to provide benefits for customers rather than a single skill or technology. Wilson (1994) argues that managerial competencies include the unique capability of the organization’s strategic leaders to articulate a strategic vision, communicate the vision throughout the organization, and empower organizational members to realize that vision. According to Pavett and Lau (1983), the competence of an effective manager includes the ability to enhance one’s position, build a power base and establish the right connections, the mental ability to coordinate all of the organization’s interests and activities, the ability to work with, understand and motivate other people, both individually and in groups. Therefore, good management competence is used to increase the performance and also the overall operation of the firm. There are different methods of measuring the competency of management. (Marikas, Merikas, and Skandlis , 2006) Measure management competency by dividing profit by the total number of professionals. This way of measuring the management competency index shows, how the managers are important in generating revenue for the organizations and another way of measuring options to see managerial efficiency, which is defined as the ratio of operating expenses to total sales revenue, provides information on variations in operating costs and it used as a proxy to measure the management

quality of insurance. Managerial efficiency is also an influential factor in the profitability of insurance companies. Besides this, the study of Almajali (2012) cited in (Birhan, 2020) is expected to investigate the factors that mostly affect the financial performance of Jordanian Insurance Companies. The results showed that the Management Competence Index has a positive statistical effect on the financial performance of Jordanian Insurance Companies. So, in this research, the management competency index is measured by the log of profit ratio to the total number of top/executive/ management. Few studies have been conducted on the relationship between the management competency index and the financial performance of insurance companies. (Wangugu, 2012) Found a positive and significant relationship between financial performance and the management competency index. From this result, the researcher expects a positive and significant relationship between the management competence index and the financial performance of insurance companies. As indicated above, based on the majority of the literature results the researcher assumes there is a positive and significant relationship between the Management competency index and the financial performance of insurance companies.

Inflation rate: According to (Pervan and Kramaric, 2012), the influence of inflation on a company's profitability is unclear. There are two possible scenarios. According to the first one, inflationary periods reduce the profitability of firms. In terms of insurance companies, the most important reason for this lies in the fact that an insurance company has to pay a higher amount of indemnity in periods of higher inflation than in periods of lower inflation. The difference between these two situations undermines the profitability of an insurance company. Contrary to this, and according to the second scenario, a high inflation rate may lead to irrational pricing and consequently high levels of earned premium. They also found that inflation has a significant and negative influence on a firm's performance. Inflation certainly plays a role in insurance and hurts many aspects of insurance operations such as claims, expenses, and technical provisions (Daykin, Pentikainen & Pesonen, 1993). If inflation is significantly greater than that expected, it could cause insurance companies financial difficulty. For instance, unexpected inflation makes real returns on fixed-rate bonds lower than expected. As a result, the profit margins of insurance companies are compressed, and financial performance is accordingly impaired (Browne, Carson, & Hoyt, 1999). Additionally, unexpected inflation could also hurt equity returns. Inflation could affect insurance companies' profitability influencing both their liabilities and assets. A study conducted by (Redwan, 2017) shows that inflation has a negative but significant relation with profitability.

GDP growth rate: is measured by the real annual GDP growth rate, and is expected to impress insurance profitability positively. Economic growth can enhance the insurance companies' profitability by increasing

the income of the individuals, GDP per capita income, and then households. An increase in income of individuals, households, and businesses will increase the demand for security (the need to be secured against risk in the case of life, businesses, and other properties in general). Fear of risk or uncertainty initiates buying an insurance policy by paying premiums according to their desire for life, non-life, and health insurance to be insured. Therefore, a premium increase will lead to an increase in profits for insurance companies assuming that the claims are to be paid in normal conditions. However, during weak economic conditions, all this becomes reversed. (Kozack, 2011, Volume 14, Issue 1) and (Tadesse, 2013) in their study identified that increases in GDP growth (one period GDP lag) positively impact the profitability of insurance companies. The investigation of Bashir (2003) showed that favorable macroeconomic conditions impact performance measures positively. (Pervan and Kramaric, 2012) (Abera, 2012) Concluded that GDP per capita has a positive and significant impact on performance. (Srairi, 2009) Investigated all macroeconomic determinants except the inflation rate is positively significant in explaining insurance performance.

Awareness of the society: - Insurance awareness among the people is quite low due to the lack of initiatives taken by regulatory bodies and insurance companies in this industry. Insurance companies typically use the 'agent method' to reach out to potential policy buyers directly to sell their products. However, this method has not successfully created awareness amongst the general population in Bangladesh (Nazrul, 2022). Despite Ethiopia's long history of civilization and its financial sector in general, the insurance sector, particularly life assurance, has not seen significant development. It ranks among the lowest in the world and in African countries in terms of three indicators: insurance premium market share, market penetration rate, and insurance density (Mohammed & et.al, 2019) While insurance is not regarded as a major driver for economic growth in developing countries compared to other sectors like infrastructure development and technology, it still contributes to the national economies of many countries in various ways such as employment creation, tax payment, investment, savings, and risk stabilization. Insurance also helps governments provide amenities such as pensions, improve people's lives, diversify the economy, mitigate risks, and attract foreign direct investment through risk stabilization. The rate of insurance penetration in Africa is directly linked to the economic growth and development of a particular country (Malila, Insurance Penetration in Africa , 2023). A study conducted by Malila (2023) shows that Awareness has a positive and significant relationship with insurance company performance.

2.4 Summary of literature review

"Performance is a critical factor for the long-term viability of insurance firms operating in the industry. Analysis of financial statements from insurance companies in Ethiopia over a period of time has shown noticeable fluctuations in their performance. This indicates that a range of specific factors may have exerted a significant impact on their performance dynamics."

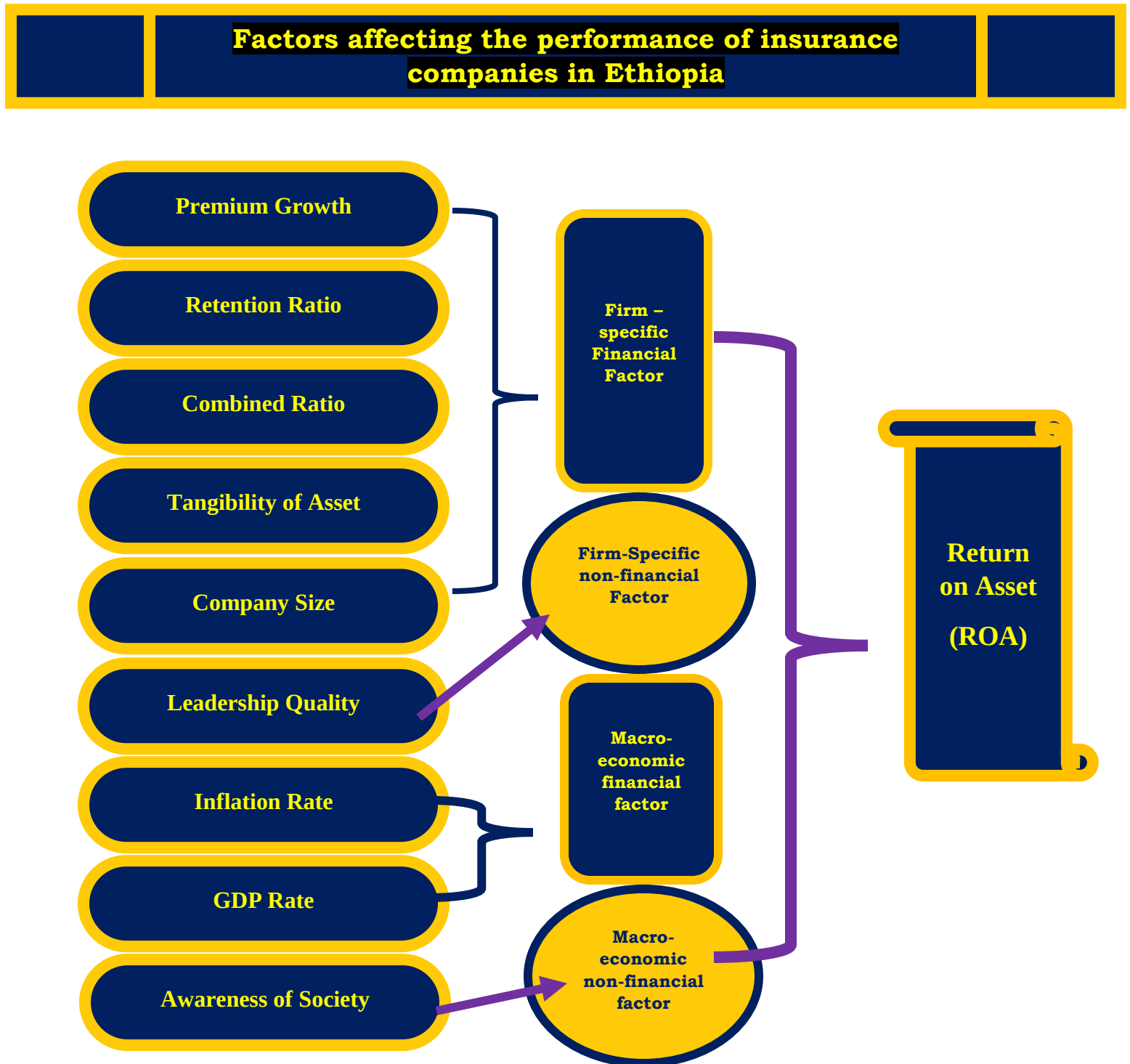
The insurance sector's performance has attracted the interest of policymakers, academicians, practitioners, institutional supervisors, and investors. Hence there are important issues to be investigated to support the insurance sectors in achieving excellence and most literatures focus on factors affecting the profitability of banks rather than insurance companies. Therefore, there is less literature concerning insurance companies than banks. The existing literature concerning insurance companies could be classified into two categories: determinants of financial performance of general and life insurance companies. Empirical evidence regarding insurance company factor determinants focused on internal and industry-specific factors. The results found by the researchers mentioned above empirically revealed inconsistencies according to the country in which the research is conducted regarding some variables.

This study expands on previous research by incorporating additional critical variables in determining the insurance industry's performance. These variables encompass industry-specific and macroeconomic factors and financial and non-financial aspects such as GDP, inflation rate, societal awareness, premium growth, retention ratio, combined ratio, asset tangibility, company size, and leadership quality. The study addresses the existing gap in empirical research and presents a conceptual model for data analysis.

2.5 Conceptual Model of the Study

After thoroughly reviewing the literature, a conceptual model has been developed to illustrate the impact of insurance industry performance variables and present a diagram of the factors influencing the performance of insurance companies in Ethiopia. This study considered both financial and non-financial, as well as macroeconomic and internal determinants of insurance performance. For instance, it analyzed GDP and inflation rate from the aspects of macro-economic financial factors, and societal awareness as non-financial macroeconomic aspects, and financial factors such as premium growth, retention ratio, combined ratio, asset tangibility, and company size as industry-specific and internal factors. Additionally, the study examined non-financial internal factors such as leadership quality, and assessed how these variables collectively determine the performance of insurance companies in Ethiopia.

Figure 2.5.1: The conceptual framework or model of the study



Source: - Compiled by researcher from observed review

CHAPTER THREE

METHODOLOGY

3. Research Design and Methodology

This chapter clarifies the research design, data type and source, research approaches, data analysis techniques, and variable definitions, including the choice of dependent and independent variables and model specification.

3.1 Research Methodology

This section discusses the research methodology that was applied to the study. When conducting research, there are different ways of approaching the problem. According to Creswell (2009), there are three approaches to research; quantitative, qualitative, and mixed. The following discussions briefly present the basic features of these research approaches. The first approach is Quantitative research is a means for testing objective theories by examining the relationship among variables. The second approach is the qualitative research approach is a means for exploring and understanding the meaning individuals or groups assign to a social or human problem with the intent of developing a theory or pattern inductively. The third approach is mixed methods approach is an approach in which the researchers emphasize the research problem and use the qualitative and quantitative approaches offered to understand the problem.

Therefore, the methodology of this research is constructed based on the objectives of the study. In line with the objective of the study, the researcher used a quantitative research approach. However, to have better insight and gain a richer understanding of the research problem, the quantitative method is supplemented by the qualitative method of inquiry. That is, to get the benefits of a mixed methods approach and mitigate the bias in adopting only a quantitative or qualitative approach. Therefore, employing a mixed approach is used to counterbalance the biases (limitations) of applying any of a single approach and a means to offset the weaknesses inherent within the method with the strengths of the other method. Quantitative research is a means for testing objectives theories by examining the relationship among variables (Creswell, 2009). According to (Kothari, 2004), quantitative research is based on the measurement of quantity or amount. It applies the phenomena that can be expressed in terms of quantity and also the researcher adopted explanatory approaches. According to (Bhattacharjee, 2012), the explanatory research approach attempts to identify the cause factors and the outcomes of the target phenomenon.

3.2 Research Design

A research design is a leading plan that specifies the methods and procedures for collecting, measuring, and analyzing the needed information. According to the nature of the research problem and the research perspective, a research design and method might be used quantitative and qualitative or a combination of these two approaches, a mixed method approach (Creswell, 2009) For this study, the researcher used a mixed method by using an explanatory research design.

3.3 Sources and Types of Data

Information will be gathered from proper sources to carry out any research activity. According to (Yugi, 2006), secondary data will have its advantages compared to primary data, secondary data will give higher quality data, the feasibility to conduct longitudinal studies, and the permanence of data which means secondary data generally provides a source of data that is both permanent and available in a form that may be checked relatively easily by others.

According to Koul (2006), using appropriate data-gathering instruments will help researchers combine the strengths and amend some of the inadequacies of any source of data to minimize the risk of irrelevant conclusions. Koul (2006) also further states that consistent and reliable research indicates that research conducted by using appropriate data collection instruments increases the credibility and value of the research findings.

Given this concept, Secondary sources are the most reliable data, as these financial statements are already audited by independent auditors and accepted by the users of the information. Therefore the researcher employed a quantitative approach by using secondary data from the selected insurance companies from the period 2014 to 2023, and to support the finding of the research, primary data were used to some extent from the executive members of insurance companies through an unstructured questionnaire. Hence, the researcher used ten years of data to conduct this study, and other macro-level data were also obtained from the National Bank of Ethiopia annual reports, MOFEC, and other well-known published documents.

3.4 Population and Sampling Techniques

The target population of the study is ten composite insurance companies registered by NBE and under operation in Ethiopia. Currently, eighteen insurance companies are working in Ethiopia. As they are already few and to minimize a sampling risk there is no need to sample from the eighteen insurance companies, The study was focused on the examination of the internal and external factors affecting insurers performance of insurance companies registered by the NBE that have at least ten years of data i.e., 2014-

2023. Ten years will be assumed to be relevant because five years and above is the recommended length of data to use in most finance literature.

Out of the 18 insurance companies registered in Ethiopia, the researcher focused on composite insurers. Thus, five insurance companies have started providing life insurance coverage very recently, and three insurance companies have not yet started providing life insurance, so we did not use their data for this study. Therefore, the number of insurance companies we used for this study is 10 insurance companies. (UNITED, NIB, AWASH, NILE, NYALA, ABAY, ETHIOLIFE, OROMIA, AFRICA AND EIC).

3.5 Method of Data Analysis and Model Specification

After collecting the required data, the next step was to analyze it based on the study's objective. STATA 14.2 was used to analyze the data, and the researcher carried out panel data regression using the ordinary least square (OLS) regression method. Descriptive statistics such as standard deviation, mean, minimum, and maximum were used to interpret the data to check for significant variation between the dependent and independent variables. To determine the direction and magnitude of the association between different variables, the researchers utilized correlation coefficient analysis. However, this was not enough to ensure the validity of the model, so inferential statistics were used to test the proposed hypotheses and draw a general conclusion. Additionally, several assumption tests were performed to ensure that the errors have a zero mean, there is no autocorrelation between the errors, there is no perfect multi-collinearity between independent variables, there is no heteroscedasticity problem, and the variables are normally distributed.

In Econometrics modeling, we often encounter situations where we have data that includes both time-series and cross-sectional elements. Panel data is the preferred method to handle such data as it enables us to address a wider range of issues and tackle more complex problems than would be possible with pure time series or pure cross-sectional data alone (Brook, 2008). Therefore, for this study, the panel data technique, which consists of both cross-sectional and time-series elements, was used. The cross-sectional element is represented by the data from 10 Ethiopian composite insurance companies, while the time-series element is reflected by the study period from 2014 to 2023. The collected panel data was analyzed using correlation to determine the relationships between the independent variables and dependent variables, and regression analysis was used to determine the contribution or predictability of the independent variables to the dependent variable. In statistical analysis, OLS multiple linear regression models are commonly used when there is a correlation between independent variables and the dependent variable, as well as between the

independent variables themselves. By using this method, it is possible to determine the best prediction of the dependent variable based on several independent variables (Birhan, 2017).

In the study conducted by the researcher, the relationship between the performance of insurance companies and various independent variables was examined using multiple linear regression. The independent variables included Premium growth, Retention ratio, combined ratio, Tangibility of assets, size of the company, leadership quality, Inflation, GDP growth rate, and awareness of the society. The operational model used to determine the statistical factors that affect the growth of insurance companies was carefully designed to achieve the best results. The main aim of the analysis was to identify the most significant and influential variables that affect the performance of insurance companies in Ethiopia and the use of OLS multiple linear regression models in statistical analysis has proven to be very effective in predicting dependent variables based on independent variables. In the case of the composite insurance companies in Ethiopia, the results of the study will provide valuable insights for policymakers, Executive members of insurance companies, shareholders, and stakeholders in the industry.

In this model, all independent variables are included in the regression equation simultaneously to assess the relationship between the entire set of predictors and dependent variables. The objective of this analysis is to identify the independent variables that significantly impact the company's performance. The regression equation is estimated as follows:

$$\diamond \text{ ROA}_{i,t} = \alpha + \beta_1 \text{PG}_{i,t} + \beta_2 \text{RR}_{i,t} + \beta_3 \text{CR}_{i,t} + \beta_4 \text{TA}_{i,t} + \beta_5 \text{CS}_{i,t} + \beta_6 \text{LQ}_{i,t} + \beta_7 \text{IR} + \beta_8 \text{GD} + \beta_9 \text{AS} + \epsilon_{i,t}$$

Table 1 Variable Descriptions

Where,		
SN.	Sign	Description
1	ROA	Return on Asset
2	i	Insurance company
3	t	Time/Year
4	€	Error term
5	α	Constant term
6	PG	Premium growth rate
7	RR	Retention Ratio
8	CR	Combined Ratio
9	TA	Tangibility of Asset
10	CS	Company size
11	LQ	Leadership quality
12	IR	Inflation Rate
13	GD	GDP growth rate
14	AS	Awareness of the society

Source: compiled by researcher from the model

3.6 Variable definition

This section elaborates on the variables used in this study and their respective definitions and measurements. Specifically, the dependent and independent variables (explanatory variables) are discussed in detail. The dependent variables are being studied and analyzed to examine their relationship with the independent variables. On the other hand, independent variables impact the dependent variables. By providing a comprehensive description of both types of variables, this section aims to help ease understanding of the study's methodology and variables.

3.6.1 Dependent Variable /Explained variable/

Return on assets (ROA) is a common financial performance metric insurance company's use. It is calculated by dividing the company's before-tax profit by its total assets. This ratio indicates the ability of insurance management to generate profits from the company's assets. DuPont developed the return on total assets ratio in 1919 and is still widely used today. This metric emphasizes the company's ability to use its

assets efficiently, which is crucial for long-term financial success (Ciomas Cristina & Chis Diana-Maria, 2014).

$$\diamond \text{ ROA} = \text{Net profit before tax} / \text{Total Assets}$$

3.6.2. Independent Variables /Explanatory Variables/

Upon conducting an extensive review of relevant and related literature, it has been hypothesized that certain factors have the potential to influence the growth of firms, as measured by Return on Assets (ROA). These factors include the premium growth ratio, retention ratio, combined ratio, tangibility of assets, and size of the company, leadership quality, inflation rate, GDP growth rate, and awareness of society. In light of this hypothesis, the current study has formulated the following hypotheses to investigate the impact of these factors on firms' growth.

- 1) **Premium growth rate:** - Premium growth rate is defined as the percentage increase in gross written premiums year over year and market penetration rate over the year. It can be calculated using the formula $\text{PG} = \frac{\text{GWP (t)} - \text{GWP (t-1)}}{\text{GWP (t-1)}}$. Insurance companies have two sources of premium growth: exposure growth (an increase in the number of policyholders) and rate-level growth (an increase in the average price per exposure). Several studies have suggested that premium growth has a positive and significant impact on the performance of insurance firms. For instance, Tekletsadik (2020), Hailegebreal (2016), Ayele and Yuvaraj (2013), and Suheyali (2015) have reported similar findings.
- 2) **Retention Ratio:** - The retention ratio is the percentage of underwritten business that an insurance company keeps and does not transfer to reinsurers. When an insurance company makes efficient underwriting decisions and retains a higher percentage of underwritten business, it is more likely to be profitable, according to (Charumathi, 2012). The retained risk ratio is calculated as the ratio of **net written premiums to gross written premiums**. It reflects the proportion of underwritten risk the insurer keeps, while the remaining risk is ceded in reinsurance. This variable is expected to have a positive impact on growth, as reinsurance involves certain costs, as noted by (Burca & Batrinca, 2014) and (Ciomas Cristina & Chis Diana-Maria, 2014).
- 3) **Combined Ratio:** - Insurance companies use a financial metric called the combined ratio to evaluate their financial stability. **The ratio is computed by adding the claims incurred and annual administrative expenses by dividing the net earned premium income.** Insurers determine premium rates by anticipating a loss ratio that covers claim payments, administrative

costs, profit requirements, and appropriate risk margins for adverse events (Ahmed, 2008). Organizations that take risks tend to have more unstable cash flows than those that have risk-averse management (Fama & Jensen, 1983). A study conducted by (Nahusenay, 2016) found that there is a negative and statistically insignificant correlation between the loss ratio and the financial performance of insurance companies in Ethiopia.

- 4) **Tangibility of Asset:** - Measuring **fixed assets as a percentage of total assets** is significant for firms to access borrowing easily. This is due to the fixed assets serving as collateral for obtaining loans. (Asnakew, 2011) Notes that insurance companies with higher levels of fixed assets tend to be older and larger, which leads to a positive and significant relationship between the tangibility of assets and profitability. However, (Yugi, 2006) found no significant relationship between the tangibility of assets and the profitability of insurance companies in the UK.
- 5) **Company size:** - It has been suggested that there is a positive correlation between the size of an insurance company and its financial performance. This is because larger insurance companies can deal with market fluctuations more than smaller ones. Literature also supports the idea that there is a positive relation between the operational performance of an insurance company and its size, as stated by Ramesh in 2017. Additionally, a larger company size enables insurers to diversify their assumed risks effectively and respond more quickly to changes in market conditions. To measure the size of a company in econometric analysis, **the natural logarithmic form of the company's total assets is used.**
- 6) **Leadership quality:** - Competence is a critical underlying characteristic of any successful person, as defined by Boyatzi (1982). This characteristic encompasses a wide range of skills, motives, and knowledge, which can be used to achieve success. According to Hamel and Prahalad (1994) which **is defined as the ratio of operating expenses to total sales revenue**, provides information on variations in operating costs and is used as a proxy to measure the management quality of insurance. Managerial efficiency is also an influential factor in the profitability of insurance companies. Besides this, the study of Almajali (2012) cited in (Birhan, 2020) is expected to investigate the factors that mostly affect the financial performance of insurance companies. The results showed that the Management Competence Index has a positive statistical effect on the financial performance of Insurance Companies.
- 7) **Inflation Rate:** - According to (Pervan et al, 2012), the influence of inflation on a company's profitability is unclear. There are two possible scenarios. According to the first one, inflationary

periods reduce the profitability of firms. In terms of insurance companies, the most important reason for this is that an insurance company has to pay a higher amount of indemnity in periods of higher inflation than in periods of lower inflation. The difference between these two situations undermines the profitability of an insurance company. Contrary to this, and according to the second scenario, a high inflation rate may lead to irrational pricing and, consequently, high levels of earned premiums. Inflation is the general increase in the economy's overall price level of goods and services (Hadush, 2015). Therefore, Inflation has a negative relationship between Ethiopian insurance companies and profitability (Suheyli, 2015; Gebremariyam, 2014; Pervan et al., 2014)

- 8) **GDP growth rate:** - GDP refers to the monetary value of goods and services produced within a nation in a fiscal year. The performance of general insurance companies is directly linked to the level of economic activity in the given economy, as most of their business opportunities arise from it. Studies conducted by Kazimierz (2016) and (Asrat and Tesfahun, 2016) have shown that GDP positively impacts the firm's profitability. This means that as GDP increases, the profitability of insurance companies is also expected to increase, leading to a positive and significant relationship between GDP and insurers' performance.
- 9) **Awareness of the Society:** - Insurance awareness among the people is quite low due to the lack of initiatives taken by regulatory bodies and insurance companies in this industry. According to (Nazrul, 2022), Insurance penetration is low in penetration rate due to the ineffective agent method used by insurance companies in Bangladesh. Ethiopia's insurance sector, particularly life assurance, is underdeveloped, ranking among the lowest in the world (Mohammed & et.al, 2019). However, Insurance contributes to national economies through employment, tax payment, investment, savings, and risk stabilization. Insurance also helps governments provide pensions, improve people's lives, diversify the economy, mitigate risks, and attract foreign direct investment. In Africa, insurance penetration is linked to a country's economic growth and development. In 2023 studied by Malila shows a positive and significant relationship between awareness of the society and growth.

3.7 Variable Indicators lists

The following table presents a comprehensive summary of variable with the expected signs for the relationship between the explanatory variables, also known as independent variables, and insurance performance, which is the dependent variable. By analyzing the relationship between these variables, we can better understand how changes in the independent variables might impact the performance of insurance.

The table provides a detailed breakdown of the expected signs for each independent variable, guiding us in our data analysis and helping us draw meaningful conclusions about the relationship between the variables.

Table 2 Independent Variables Indicator Lists

Variables Name		Sign	Measurement	Expected Sign
Dependent Variable	Return on Asset	ROA	Net Profit before tax/Total assets	NA
Independent Variable	Premium growth rate	PG	GWP (t) – GWP (t-1) / GWP (t-1)	Positive (+)
	Retention Ratio	RR	Net written premiums / Gross written premiums	Positive (+)
	Combined Ratio	CR	(Claims Incurred + Admin expense) / Net Earned Premium	Negative (-)
	Tangibility of Asset	TA	PPE/ Total Asset	Positive (+)
	Company size	CS	Natural logarithm of total assets	Positive (+)
	Leadership quality	LQ	Log Profit / No. of Executive Mgmt.	Positive (+)
	Inflation Rate	IR	Annual inflation rate - Ethiopia	Negative (-)
	GDP growth rate	GD	The GDP growth rate of Ethiopia	Positive (+)
	Awareness of the society	AS	The growth rate on the annual No. of insurance policies	Positive (+)

Source: self-developed

CHAPTER FOUR

4. Data Presentation and Empirical Analysis

The previous chapter provided a detailed explanation of the methodology and data sources used to undertake this study. This chapter will examine a panel data set and interpret its meaning by observing the cross-sectional and period variables.

This study covers 2014 to 2023, including 10 composite insurance companies operating in Ethiopia. The chapter is organized into four sections to provide a detailed understanding of the data and the analysis results.

In the first section, descriptive statistics of the variables. This section helps to understand the basic features of the data set, such as the mean, median, and standard deviation of each variable.

The second section discusses the correlation analysis, model specification, and the tests for the classical linear regression model assumptions. The econometric analysis provides a framework for understanding the relationship between the independent and dependent variables. Model specification involves selecting the most appropriate econometric model for the data set. Finally, the classical linear regression model assumptions are tested to ensure the validity of the results.

In the third section, the study's hypotheses are formulated based on the research questions and objectives. We test the hypotheses using appropriate statistical techniques to determine their validity.

Finally, in the fourth section, we provide an in-depth analysis of the results and their impact. We interpret the analysis results and provide insights into the study's key findings. This section also discusses the implications of the results for Ethiopia's insurance industry.

4.1 Descriptive Analysis and Interpretation

The researcher gives an overview of the dependent and independent variables' descriptive statistics in this part the insurance companies' growth, as determined by the return on assets, is the dependent variable. The explanatory variables are Premium growth, retention ratio, combined ratio, tangibility of asset, company size, leadership quality, inflation rate, GDP growth rate, and awareness of the society. Between 2014 and 2023, a total of 100 observations were gathered from 10 composite insurance companies for the dependent and independent variables. The mean, maximum, minimum, and standard deviation of each study variable

are included in the overall descriptive statistics calculated for the research. The accompanying tables provide a summary and representation of each descriptive statistics result.

Table 3 Summary of Descriptive Statistics of the Variables in the Model

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	100	0.070100	0.029794	0.005716	0.164065
PG	100	0.256942	0.140414	-0.360000	0.838000
RR	100	0.301769	0.058809	0.203589	0.487799
CR	100	0.941950	0.105666	0.661000	1.234050
TA	100	0.297777	0.096343	0.090004	0.464432
CZ	100	9.025624	0.678943	6.113507	10.107950
LQ	100	0.350004	0.024164	0.303072	0.413135
IR	100	0.382628	0.273742	0.106900	0.957000
GD	100	0.077700	0.019628	0.053000	0.104000
AS	100	0.106743	0.086626	-0.295864	0.279283

Source: - Stata 14.2 output

4.1.1 Return on asset

Return on Assets is a metric used to assess how financially successful insurance companies are relative to their overall asset base. The Return on Assets is used as a dependent variable against a set of independent variables, and it is measured by the ratio of net income after tax to total assets. A higher ROA means a company is more efficient and productive at managing its balance sheet to generate profits, while a lower ROA indicates room for improvement.

Table 4 Return on Asset Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
ROA	2014	0.094	0.0741	0.04125	0.04447	0.0601	0.0511	0.0422	0.035212	0.023984	0.09	0.06
	2015	0.101	0.0686	0.0442	0.04764	0.0644	0.0611	0.0452	0.037728	0.025697	0.12	0.06
	2016	0.106	0.0719	0.04628	0.04989	0.0675	0.0651	0.0473	0.039503	0.026907	0.11233	0.06
	2017	0.111	0.0829	0.04833	0.0521	0.0778	0.0711	0.0546	0.041972	0.028102	0.1323	0.07
	2018	0.093	0.083	0.059	0.057	0.079	0.081	0.059	0.081	0.033	0.153	0.08
	2019	0.070	0.085	0.064	0.080	0.073	0.077	0.053	0.078	0.032	0.164	0.08
	2020	0.076	0.084	0.073	0.072	0.079	0.073	0.039	0.053	0.029	0.121	0.07
	2021	0.080	0.076	0.076	0.078	0.070	0.064	0.032	0.067	0.027	0.131	0.07
	2022	0.084	0.069	0.080	0.076	0.074	0.071	0.050	0.078	0.006	0.141	0.07
	2023	0.099	0.086	0.089	0.083	0.072	0.078	0.048	0.088	0.025	0.156	0.08
Sum		0.915	0.781	0.621	0.640	0.717	0.692	0.471	0.599	0.255	1.320	0.701
Company mean		0.091	0.078	0.062	0.064	0.072	0.069	0.047	0.060	0.026	0.132	0.070
Sample mean		0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Mean result from S.mean		above	above	below	below	above	below	below	below	below	above	Equal

Source: - Stata 14.2 output

As indicated in Tables 5 and 6 above, the return on assets shows that the insurance companies achieved a positive return over the past 10 years within the range of 0.57 % to 16.41 %. The overall mean of return on assets was 7.01 % in the study period. Regarding the standard deviation of ROA which indicates 2.98 %, there was a variation from the mean 7.01%. As shown in Table 6 above, out of ten samples selected insurance companies, only four registered above the mean of return on asset (UNITED, NIB, NYALA, and EIC). The remaining six insurance companies registered below the average value of return on asset (AWASH, NILE, ABAY, E.LIFE, OROMIA and AFRICA) in the study period. As it is clearly shown in above Table 6, the return on assets of Africa Insurance Company is 2.6 % this means by far lower than from the industry average ratio. Whereas the return on asset ratio of Ethiopian Insurance Company is 13.2 % and above the industry average ratio of return on assets in the study period. The results also indicate that compared to the sampled insurance companies, Ethiopian insurance companies have better or more efficient asset utilization than the sampled insurance companies whereas Africa insurance company by far lower than the industry average as well as the next lower-scoring insurance company (Ethio Life). The

result implies that for one birr the insurance companies invested in their total asset tried to generate a maximum return amounting to 13.2 cents and 7.01 cents for the companies on an average basis in the years of study.

A return on asset of 5% or better is typically considered good, while 20% or better is considered great. In general, the higher the ROA, the more efficient the company is at generating profits. However, any one company's ROA must be considered in the context of its competitors in the same industry and sector. (Forbes Advisor)

4.1.2 Premium Growth Rate

Table 5 Premium Growth Rate Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Prem. Growth	2014	0.23	0.33	0.30	0.30	0.29	0.27	0.27	0.31	0.34	0.19	0.28
	2015	0.31	0.28	0.34	0.26	0.23	0.26	0.24	0.29	0.33	0.22	0.27
	2016	0.30	0.29	0.31	0.25	0.27	0.29	0.27	0.28	0.29	0.21	0.28
	2017	0.29	0.21	0.28	0.18	0.18	0.28	0.31	0.22	0.32	0.22	0.25
	2018	0.20	0.22	0.31	0.15	0.21	0.14	0.27	0.10	0.22	0.15	0.20
	2019	0.19	0.26	0.32	0.00	(0.36)	0.09	0.21	0.08	0.12	0.16	0.11
	2020	0.26	0.30	0.32	0.13	0.15	0.07	0.29	0.17	0.03	0.31	0.20
	2021	0.22	0.29	0.43	0.21	0.20	0.29	0.37	0.18	(0.06)	0.22	0.23
	2022	0.30	0.32	0.38	0.31	0.34	0.27	0.22	0.44	(0.03)	0.10	0.27
	2023	0.58	0.56	0.36	0.40	0.47	0.47	0.53	0.48	0.84	0.12	0.48
Sum		2.871	3.054	3.345	2.188	1.977	2.430	2.987	2.556	2.385	1.902	2.569
Company mean		0.287	0.305	0.335	0.219	0.198	0.243	0.299	0.256	0.238	0.190	0.257
Sample mean		0.257	0.257	0.257	0.257	0.257	0.257	0.257	0.257	0.257	0.257	0.257
Mean result from S.mean		above	above	above	below	below	below	above	below	below	below	Equal

Source: - Stata 14.2 output

In Tables 5 and 7 above, the premium growth shows that the insurance companies' average growth rate over the past 10 years is 25.69 percent within the range of -36 % to 83.8 %. Regarding the standard deviation of premium growth which indicates the result is 14.04 %, there was a variation from the mean value of 25.69%. As shown in Table 7 above, out of ten samples selected insurance companies, four registered above the mean of premium growth rate (UNITED, NIB, AWASH, and ETHIOLIFE). The remaining six insurance companies registered below the mean value of premium growth (NILE, NYALA, ABAY, OROMIA, EIC, and AFRICA) in the study period, as is clearly shown in Table 7, the maximum value of the premium growth rate in the study period in 2023. The main reason was due to the adjustment of the minimum motor rate set by the Insurers Association, while the minimum premium growth rate registered in the year 2019 was due to the COVID-19 pandemic problem that occurred during the period.

The annual premium growth percentage rate is set by NBE directives, and the acceptable growth limit is at (- 33 % and + 33%). Thus, as shown in Table 7, most insurance companies, in a negative sign or positive sign, deviate from the acceptable standard set by the National Bank of Ethiopia.

4.1.3 Retention rate

Table 6 Retention Rate Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Retention ratio	2014	0.26	0.29	0.30	0.32	0.30	0.30	0.28	0.28	0.32	0.28	0.29
	2015	0.29	0.29	0.27	0.30	0.32	0.27	0.26	0.28	0.26	0.31	0.29
	2016	0.29	0.29	0.26	0.24	0.31	0.29	0.24	0.29	0.27	0.33	0.28
	2017	0.27	0.27	0.26	0.24	0.34	0.28	0.25	0.26	0.27	0.33	0.28
	2018	0.30	0.28	0.23	0.28	0.45	0.27	0.27	0.28	0.27	0.39	0.30
	2019	0.23	0.29	0.23	0.28	0.35	0.27	0.30	0.23	0.27	0.43	0.29
	2020	0.24	0.29	0.27	0.30	0.38	0.30	0.28	0.25	0.27	0.45	0.30
	2021	0.27	0.29	0.37	0.30	0.44	0.38	0.32	0.24	0.26	0.49	0.34
	2022	0.29	0.34	0.36	0.23	0.43	0.36	0.31	0.30	0.29	0.46	0.34
	2023	0.26	0.31	0.30	0.20	0.45	0.30	0.27	0.31	0.28	0.48	0.32
Sum		2.698	2.934	2.851	2.684	3.765	3.001	2.793	2.729	2.777	3.946	3.018
Company mean		0.270	0.293	0.285	0.268	0.376	0.300	0.279	0.273	0.278	0.395	0.302
Sample mean		0.302	0.302	0.302	0.302	0.302	0.302	0.302	0.302	0.302	0.302	0.302
Mean result from S.mean		below	below	below	below	above	below	below	below	below	above	Equal

As revealed in Tables 5 and 8 above, the outputs of the descriptive statistics indicate that the mean of reinsurance dependency as represented by premium ceded to total assets was 30.18%. This means that, on average, 30.18 percent of the premium ceded to reinsurance from the total gross written premium. The maximum value of the premium ceded ratio was 48.78 % and the minimum value of 20.36 %. The minimum ratio of premium ceded indicates the lower reinsurance dependency. Regarding the standard deviation of the retention ratio which indicates 5.88 %, there was a variation from the mean of 30.18%. As shown in Table 8 above, out of ten samples selected insurance companies, only two were highly dependent on reinsurance arrangements (NYALA and EIC). While the remaining eight insurance companies were below the average mean of 30.18 % in the study period.

4.1.4 Combined Ratio

Table 7 Combined Ratio Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Combined Ratio	2014	0.738	1.002	0.929	1.036	0.897	0.722	0.922	0.942	1.172	0.777	0.91
	2015	0.807	0.964	0.978	1.091	0.944	0.785	0.971	0.992	1.234	0.818	0.96
	2016	0.884	0.932	0.934	1.043	0.910	0.854	0.939	1.010	1.169	0.770	0.94
	2017	0.930	0.940	0.950	1.060	0.920	0.899	0.947	1.063	1.230	0.791	0.97
	2018	0.920	0.908	0.910	0.900	0.940	0.931	0.930	0.946	1.170	0.661	0.92
	2019	0.920	0.910	0.920	0.860	0.910	0.962	0.850	1.000	1.150	0.798	0.93
	2020	1.020	0.960	0.980	0.880	0.970	0.930	1.070	1.090	1.075	0.829	0.98
	2021	0.930	0.940	0.950	0.880	0.980	0.953	0.910	0.990	1.090	0.800	0.94
	2022	0.950	0.990	1.000	0.917	0.900	0.897	0.980	0.930	1.150	0.840	0.96
	2023	0.800	0.850	1.020	0.887	0.930	0.860	0.950	0.800	1.060	0.865	0.90
Sum		8.898	9.396	9.571	9.554	9.301	8.793	9.469	9.764	11.501	7.949	9.420
Company mean		0.890	0.940	0.957	0.955	0.930	0.879	0.947	0.976	1.150	0.795	0.942
Sample mean		0.942	0.942	0.942	0.942	0.942	0.942	0.942	0.942	0.942	0.942	0.942
Mean result from S.mean		below	below	above	above	below	below	above	above	above	below	Equal

Source: - Stata 14.2 output

The mean of the combined ratio which is measured as the ratio of net claim incurred and Administration cost divided by the insurance company's net earned premium in such period is 94.2 %. This means that from the net premium collected over the study period, about 94.2 % was paid as a claim, and the total administration cost was used to earn the net earned premium during the study period. The maximum value of the combined ratio was 123.41 % and the minimum value of 66.10 %. According to the National Bank of Ethiopia, the maximum acceptable combined ratio is 105 %. With regards to the standard deviation of the combined ratio which indicates 10.57 %, there was a variation from the mean of 94.2%. As shown in Table 9 above, five of the ten samples selected insurance companies were below the mean value (UNITED, NIB, NYALA, ABAY, AND EIC). The remaining five insurance companies had slightly higher results, with a mean value of 94.2 percent. Except for Africa Insurance, all insurance companies have average loss ratio results during the study period below the acceptable standard set by NBE (105%).

4.1.5 Tangibility of Asset

Table 8 Tangibility of Asset Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Tangibility of asset	2014	0.309	0.110	0.313	0.250	0.181	0.139	0.090	0.108	0.174	0.408	0.21
	2015	0.343	0.148	0.336	0.268	0.194	0.171	0.107	0.189	0.179	0.417	0.24
	2016	0.371	0.163	0.351	0.280	0.203	0.193	0.125	0.191	0.183	0.428	0.25
	2017	0.387	0.183	0.367	0.293	0.213	0.215	0.145	0.226	0.287	0.438	0.28
	2018	0.409	0.190	0.343	0.297	0.248	0.275	0.176	0.249	0.329	0.446	0.30
	2019	0.407	0.215	0.354	0.316	0.272	0.294	0.215	0.268	0.349	0.448	0.31
	2020	0.420	0.278	0.369	0.327	0.288	0.313	0.231	0.276	0.341	0.457	0.33
	2021	0.435	0.281	0.381	0.323	0.285	0.328	0.254	0.294	0.347	0.464	0.34
	2022	0.449	0.317	0.432	0.329	0.293	0.329	0.299	0.312	0.365	0.443	0.36
	2023	0.460	0.320	0.462	0.333	0.314	0.347	0.328	0.327	0.414	0.434	0.37
Sum		3.991	2.205	3.709	3.014	2.492	2.605	1.971	2.441	2.967	4.383	2.978
Company mean		0.399	0.220	0.371	0.301	0.249	0.260	0.197	0.244	0.297	0.438	0.298
Sample mean		0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298
Mean result from S.mean		above	below	above	above	below	below	below	below	below	above	Equal

Source: - Stata 14.2 output

Tangibility is another Industry-specific explanatory variable employed in this study. It measures the share of Plant, property, and equipment (PPE) from Total Assets. $TA = \text{Fixed Assets} / \text{Total Assets}$. According to Table 5, the maximum, minimum, and mean values of tangibility across the selected sample of insurance companies in Ethiopia are 46.44%, 9%, and 29.78 % respectively. This implies that the maximum, average, and minimum values of tangibility per unit of total asset are 46.44 cents, 29.78 cents, and 9 cents. Considering the sample mean value as standard for each sample selected insurance companies, 40% of them have attained above their average value of tangibility of assets over 10 years, whereas the remaining 60% or six insurance companies have below the mean value of Tangibility of assets. Similarly, the Standard deviation value of the tangibility of assets across the selected sample size is 9.63% from the mean value of 9 percent, which shows a moderate deviation in the value of tangibility of assets within each company across the study years from the sample mean value. Therefore, there is a deviation in the value of tangibility of assets across the selected sample insurance companies of Ethiopia. However, NBE's investment directive No SIB/52/2020 limits investment for funds allocation which are investments in aggregated investments in Treasury Bills, and time deposit shall not be less than 60% of the total asset of the insurer, investment in company shares not exceeding 20% of the total asset in company shares and the remaining balance of the asset the companies Invest in tangible assets. So, the descriptive result of the mean of the tangibility of the asset is almost equal to the NBE directives.

4.1.6 Company Size

Table 9 Company Size Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Company Size	2014	8.874	8.846	6.114	8.740	8.937	8.504	8.335	8.659	8.664	9.487	8.52
	2015	8.999	8.971	6.238	8.865	9.062	8.629	8.460	8.784	8.789	9.612	8.64
	2016	9.050	9.021	6.289	8.916	9.113	8.680	8.511	8.835	8.839	9.662	8.69
	2017	9.077	9.067	6.316	8.943	9.158	8.707	8.556	8.905	8.866	9.708	8.73
	2018	9.126	9.123	9.337	9.048	9.312	8.798	8.602	8.952	8.882	9.795	9.10
	2019	9.182	9.193	9.397	9.141	9.305	8.865	8.693	9.049	8.927	9.839	9.16
	2020	9.211	9.239	9.457	9.191	9.337	8.935	8.778	9.145	9.035	9.976	9.23
	2021	9.258	9.292	9.551	9.295	9.389	9.021	8.854	9.281	9.096	10.026	9.31
	2022	9.334	9.348	9.622	9.417	9.472	9.169	8.876	9.407	9.142	10.047	9.38
	2023	9.517	9.454	9.757	9.555	9.582	9.195	9.011	9.578	9.249	10.108	9.50
Sum		91.627	91.553	82.079	91.113	92.667	88.504	86.675	90.595	89.489	98.260	90.256
Company mean		9.163	9.155	8.208	9.111	9.267	8.850	8.668	9.059	8.949	9.826	9.026
Sample mean		9.026	9.026	9.026	9.026	9.026	9.026	9.026	9.026	9.026	9.026	9.026
Mean result from S.mean		above	above	below	above	above	below	below	above	below	above	Equal

Source: - Stata 14.2 output

The other determinant of the growth of the Ethiopian insurance industry is company size. It is measured by the natural logarithm of total assets; Sizes of the sample insurance company are measured by the natural log of total assets, and as indicated in Table 5, the mean value of Size is 9.02, within the standard deviation of 0.67 with the minimum value 6.11 and the maximum value of 10.10 the period from 2014 to 2023. This implies that companies which have large in size to be in greater performance or growth. This is supported by (Flamini, McDonald, & Schumacher, 2015) The size of the company is considered as an influential factor because it shows that larger companies are better positioned in the market, operate with economies of scale, and thus enjoy higher benefits. As shown in Table 11 above, out of ten samples selected insurance companies six insurance companies registered above the mean of company size (UNITED, NIB, NILE, NYALA, OROMIA and EIC). The remaining four insurance companies were a little bit different from the mean value. (AWASH, ABAY, AFFRICA, ETHIOLIFE).

4.1.7 Leadership Quality

Table 10. Leadership Quality Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWAS H	NILE	NYAL A	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Leardersip Qual.	2018	0.221	0.261	0.242	0.201	0.164	0.214	0.081	0.301	0.205	0.242	2.133
	2019	0.257	0.296	0.268	0.248	0.281	0.234	0.314	0.302	0.203	0.268	2.671
	2020	0.296	0.312	0.284	0.255	0.292	0.262	0.339	0.289	0.223	0.284	2.837
	2021	0.250	0.260	0.224	0.244	0.278	0.255	0.278	0.285	0.236	0.224	2.532
	2022	0.231	0.245	0.220	0.206	0.245	0.254	0.253	0.264	0.241	0.220	2.378
	2023	0.201	0.196	0.226	0.190	0.203	0.226	0.216	0.266	0.163	0.226	2.112
Sum		1.456	1.570	1.464	1.344	1.462	1.445	1.482	1.707	1.270	1.464	14.663
Company mean		0.243	0.262	0.244	0.224	0.244	0.241	0.247	0.285	0.212	0.244	2.444
Sample mean		0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	2.444
Mean result from S.mean		below	above	below	below	below	below	above	above	below	below	above

Source: - Stata 14.2 output

An interesting form of performance of insurance companies is the analysis of leadership quality. Sound management shall be reflected in operating expenses and gross premiums, affecting the overall operating efficiency of the insurance industry. Efficient management is vital for the financial steadiness of insurance. However, getting any direct quantitative measure of management soundness is very difficult. The indicator of operational efficiency is likely to be associated with general management soundness. Hence, the key indicator of management soundness is the ratio of operating expenses to gross written premiums. Gross premiums are used because they manifest the overall volume of business activity. The analysis reflects the efficiency in operations, which ultimately indicates the leadership quality.

The above table 5 & 12 show the management soundness indicated for the last ten years of operating expense to gross premium ranging from 41.31 % to 30.31% during the study period. The highest ratio

which is 41.31 % indicates that the insurance companies spent 41.31 cents to generate 1 birr premium. Whereas, the lower average ratio of the industry which is 30.31% reveals that the insurance companies spent 30.31 cents to generate one birr premium. The mean value of the industry is 35 % with a standard deviation of 2.42%. As shown in Table 12 above, out of ten samples selected insurance companies, five showed below the mean value (UNITED, AWASH, ABAY, OROMIA, and EIC). The remaining five insurance companies registered equal and a tad above the mean value of (NIB, NILE, NYALA, ETHIOLIFE, and AFRICA) in the study period. This is a good indicator that the management of insurance companies is decreasing their operating expense over time and is good in proper utilization of companies' resources.

4.1.8 Awareness of Society

Table 11. Awareness of Society Descriptive Analysis

Var.	Year/s.	UNITED	NIB	AWASH	NILE	NYALA	ABAY	E.LIFE	OROM	AFRI	EIC	Mean Yealy
Awarness of the Socieity	2014	0.153	0.253	0.136	0.093	0.083	0.136	0.206	0.115	0.130	0.033	0.13
	2015	0.143	0.138	0.229	0.123	0.123	0.179	0.154	0.138	0.129	0.103	0.15
	2016	0.176	0.112	0.176	0.111	0.119	0.176	0.193	0.125	0.176	0.093	0.15
	2017	0.153	0.076	0.111	0.097	0.053	0.111	0.143	0.121	0.111	0.133	0.11
	2018	0.116	0.105	0.032	0.146	(0.039)	0.242	0.102	0.155	0.138	0.082	0.11
	2019	0.181	0.034	0.080	0.134	(0.160)	0.216	0.073	0.074	0.199	0.072	0.09
	2020	0.184	0.106	0.114	0.174	(0.077)	0.131	0.105	0.184	(0.296)	0.122	0.07
	2021	0.011	0.021	0.122	0.238	0.008	0.177	0.065	0.212	(0.139)	0.010	0.07
	2022	0.017	0.020	0.129	0.196	0.041	0.096	0.087	0.267	(0.030)	0.023	0.08
	2023	0.068	0.022	0.134	0.137	0.019	0.071	0.128	0.279	0.123	0.031	0.10
Sum		1.201	0.887	1.264	1.448	0.170	1.536	1.256	1.671	0.542	0.700	1.067
Company mean		0.120	0.089	0.126	0.145	0.017	0.154	0.126	0.167	0.054	0.070	0.107
Sample mean		0.107	0.107	0.107	0.107	0.107	0.107	0.107	0.107	0.107	0.107	0.107
Mean result from S.mean		above	below	above	above	below	above	above	above	below	below	Equal

Source: - Stata 14.2 output

Awareness of a society is one of the non-financial macroeconomic explanatory variables to study factors affecting the performance of insurance companies in Ethiopia and concerning explanatory variables arranged in Table 5 above Awareness of the society variable, as a proxy of the growth percentage of policyholder numbers. As indicated in Table 5, the mean value of awareness of the society is 10.67%, within the standard deviation of 8.66%, with a minimum value -of 29.59% and a maximum value of 27.93 % from 2014 to 2023. As shown in Table 13 above, out of ten samples selected insurance companies six insurance companies, or 60% registered above the mean and the remaining 40%, or 4 insurance companies registered below the mean value. This result shows that insurance companies must do a lot to create societal awareness.

4.1.9 Inflation Rate

Inflation is the rate at which the general level of prices for goods and services is rising and as a result, the purchasing power of money is decreased. This study measured inflation by the annual percentage changes in the consumer price index (CPI). In my research, it is expected that a high percentage change will cause depreciation of the country's money purchasing power. It is the same for the sectors or companies' money in purchasing a specific national and international product. According to Table 5, the maximum, minimum, and mean values of inflation within the country across the study years were 0.957, 0.1069, and 0.3826 respectively. This implies that the general level of prices for goods and services in the country across the study year registers a growth of 95.7% at maximum, 10.69% at minimum, and 38.26% at average or mean value. Similarly, the standard deviation of inflation is 27.37%, indicating that the price of goods and services within each year is moderately far from the mean value. The value of inflation across those samples selected insurance companies is the same.

4.1.10 GDP Rate

The term GDP refers to the monetary value of goods and services produced within a nation in a fiscal year. The performance of insurance companies is directly linked to the level of economic activity in the given economy, as most of their business opportunities arise from it. In this study, it is expected that a high percentage change in Real GDP is preferable because it indicates appreciation of the country as well as the sector. According to Table 5, the maximum, minimum, and mean GDP values across those study periods are 0.104, 0.053, and 0.077 respectively. This means that the value of all goods and services produced over the study year in Ethiopia was increased by 10.4%, 5.3%, and 7.77% at maximum, minimum, and average. Similarly, the standard deviation of GDP is 1.96%, implying no difference in the value of real GDP growth

across the study years. This implies that the growths in real GDP across the study years are almost the same, and the value of GDP growth rate across those samples of selected insurance companies is the same.

4.2 Correlation Analysis

Correlation analysis indicates the relationship between explanatory and explained variables, which ROA measures. During correlation analysis, the correlation coefficient shows the relationship's magnitude and direction, whether they have a strong, weak, positive, or negative relationship with the independent and dependent variables. The correlation coefficient's value is high and small, indicating a strong and weak relationship. Plus, the sign of the coefficients shows the direction of the relationship in the given variables Gujarati (2004).

Table 12. Correlation matrix

	ROA	PG	RR	CR	TA	CZ	LQ	IR	GD	AS
ROA	1.0000									
PG	-0.0846	1.0000								
RR	0.4998	-0.0610	1.0000							
CR	-0.7047	-0.0287	-0.2829	1.0000						
TA	0.5295	0.0287	0.2807	-0.2342	1.0000					
CZ	0.5282	-0.0397	0.3849	-0.2046	0.3450	1.0000				
LQ	-0.2601	-0.0288	-0.0318	0.1328	-0.1253	0.0618	1.0000			
IR	-0.1954	0.1787	-0.0927	-0.0117	-0.3574	-0.3039	0.0601	1.0000		
GD	-0.1792	-0.0844	-0.3012	0.0115	-0.5023	-0.4656	-0.1621	0.5913	1.0000	
AS	-0.0267	0.3389	-0.3301	-0.0357	-0.1858	-0.2521	-0.3814	0.2341	0.2518	1.0000

Source: - Stata 14.2 output

In correlation analysis, the correlation coefficient always has a value between positive one (1) and negative one (-1). It means that the correlation coefficient is one, and a negative one indicates that the independent and dependent variables have a perfect positive and negative relationship. On the other hand, the correlation coefficient is zero, indicating that there is no direct linear relationship between the given variables. On the other hand, if y and x are correlated, it means that y and x are being treated symmetrically. Thus, it is not implied that changes in x cause changes in y or indeed that changes in y cause changes in x rather, it is

stated that there is evidence for a direct relationship between the two variables and that movements in the two are on average related to an extent given by the correlation coefficient Brooks (2008). Observing the pattern of the correlation between the explained and explanatory variables. Table 14 shows the correlation between the dependent variable, which is Return on assets (ROA), and the independent variables, which are premium growth rate, retention ratio, combined ratio, Tangibility of assets, company size, leadership quality, inflation rate, GDP growth rate, and awareness of the society.

According to Table 14, the highly and positively associated independent variables with return on assets are company size with a correlation coefficient of 0.52, tangibility of asset with a correlation coefficient of 0.52, and secondly, retention ratio with a correlation coefficient of 0.49. While the combined ratio is a negatively associated variable with a correlation coefficient of -0.70. However, the highest positive correlation coefficient between independent variables is the correlation of GDP at a correlation coefficient of 0.59 and company size at 0.52. Meanwhile, the combined ratio was negatively correlated at -0.70. Therefore, we can conclude that the explanatory variables of company size, tangibility of assets, and retention ratio significantly correlate with ROA. Premium growth, combined ratio, inflation rate, GDP, and awareness of a society are not significantly correlated with ROA.

4.3 Tests for the Classical Linear Regression Model (CLRM) Assumptions

The diagnostic tests were undertaken to ensure that the assumptions of the classical linear regression model are concerned, the coefficient estimators of both α (constant term) and β (independent variables) that are determined by ordinary least square (OLS) will have several desirable properties, and usually known as Best Linear Unbiased Estimators (BLUE). Hence, the following sections discuss the results of the diagnostic tests (i.e., the error has zero mean, heteroscedasticity, autocorrelation, multi-collinearity, and normality) that were conducted to ensure whether the data fits the basic assumptions of the classical linear regression model or not

4.3.1 The Errors have zero mean ($E(u_t) = 0$)

According to Brooks (2008), if a constant term is included in the regression equation, this assumption will never be violated. Thus, since the regression model used in this study included a constant term, this assumption was not violated.

4.3.2 HOMOSCEDASTICITY TEST

This assumption requires that the variance of the errors be constant. If the errors do not have a constant variance, the assumption of homoscedasticity has been violated, and this violation is termed heteroscedasticity. In this study, the white test was used to test for the existence of heteroscedasticity across the range of explanatory variables.

Table 13. Heteroscedasticity Test: White,

White's	test for Ho:	homoskedasticity	
chi2(59)	65.69		
Prob > chi2	0.1322		
Source	chi2	df	p
Heteroskedasticity	65.69	54	0.1322
Skewness	17.47	9	0.0419
Kurtosis	1.37	1	0.2426
Total	84.53	64	0.3762

Source: - Stata 14.2 output

Table 14. Heteroscedasticity Test: Breusch-pagan,

hettest					
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity					
Ho: Constant variance					
Variables: fitted values of ROA					
chi2(1) = 1.25					
Prob > chi2 = 0.2628					

Source: - Stata 14.2 output

To test for homoscedasticity, used both methods (White test and Breusch-Pagan test) in this study, as shown in table 15 & 16 above, both tests of statistic concluded that there is no evidence for the presence of heteroscedasticity the p-values in both methods more than 0.05. The result indicates that the p-values of the white and Breusch-pagan tests are considerably greater than 0.1322 or 0.2628 respectively. The decision rule is to accept the null hypothesis if the “p” value is greater than the significance level; based on the statistical result, we fail to reject the null hypothesis, indicating that the model is homoscedastic.

Therefore, we can conclude that the variance of the disturbance term is constant, and there is no Heteroscedasticity problem.

4.3.3 Test for Autocorrelation

According to Gujarati (2004), autocorrelation is a correlation between members of a series of observations ordered in time as in time series data or space as in cross-sectional data. The classical linear regression model assumes that the disturbance term relating to any observation is not influenced by the disturbance term relating to any other observation. This means that the covariance between the disturbance terms over time is zero. In other words, it is assumed that the disturbances are uncorrelated. If the disturbances are not uncorrelated with one another, it would be stated that they are “auto-correlated” or that they are “serially correlated.” The Breush-Godfrey LM test for panel data was applied to test this assumption.

Table 15. Breusch-Godfrey Serial Correlation Test:

estat bgodfrey,lag(1)			
Durbin-Watson	d-statistic(10,100)	2.029110	
Breusch-Godfrey LM test for autocorrelation			
lags(p)	chi2	df	Prob > chi2
1	4.344	26	0.1371
Source: Stata 14.2			

The Durbin-Waston statistic value in above Table 18, is 2.029110, which is a result of 100 observations. There are 10 panel data and an intercept term in the model, hence the relevant critical values for the test of 100 observation and 10, then the result of the Durbin Watson test statistic is 2.029110. The Bgodyfrey test of autocorrelation for 100 observations panel data statistics from the table indicates a p value of 0.1371, which is greater than 0.05 of 5 percent. So, we fail to reject the null hypothesis; hence, the researcher concludes there is no autocorrelation problem in the model.

4.3.4 Multicollinearity Test

Another crucial premise of the traditional linear regression model is multicollinearity, which examines if there is multicollinearity between the explanatory variables. When two independent variables correlate with one another and the other with a linear combination of two or more independent variables, multicollinearity is present. Strong correlations between the independent variables will cause the standard errors to be artificially inflated. Multicollinearity in regression occurs when certain predictor variables are associated with others. Severe multicollinearity can lead regression coefficients to become unstable due to increased variance. To quantify multicollinearity, analyze the correlation between predictor variables and variance inflation factors (VIF).

According to Malhotra's (2007) suggestion, to find the multicollinearity problem, the correlations among the independent variables should be examined. The existence of a correlation of about 0.80 or larger indicates a problem of multicollinearity.

Table 16. Correlation between Independent Variables

	ROA	PG	RR	CR	TA	CZ	LQ	IR	GD	AS
ROA	1.0000									
PG	-0.0846	1.0000								
RR	0.4998	-0.0610	1.0000							
CR	-0.7047	-0.0287	-0.2829	1.0000						
TA	0.5295	0.0287	0.2807	-0.2342	1.0000					
CZ	0.5282	-0.0397	0.3849	-0.2046	0.3450	1.0000				
LQ	-0.2601	-0.0288	-0.0318	0.1328	-0.1253	0.0618	1.0000			
IR	-0.1954	0.1787	-0.0927	-0.0117	-0.3574	-0.3039	0.0601	1.0000		
GD	-0.1792	-0.0844	-0.3012	0.0115	-0.5023	-0.4656	-0.1621	0.5913	1.0000	
AS	-0.0267	0.3389	-0.3301	-0.0357	-0.1858	-0.2521	-0.3814	0.2341	0.2518	1.0000

Source: Stata 14.2

Table 19 above shows that there is no strong pair-wise correlation between the explanatory variables. In this study, the correlation coefficient is -0.70 between the combined ratio and the return on asset, and highly correlated with the positive sign between Inflation rate and GDP rate at the coefficient rate of 0.59. Thus, it can be concluded using the rule of both Gujarati (2004) and (Malhotra, 2007) that all variables have low

correlation power below 0.8, implying no multicollinearity problem in the explanatory variables of this study.

Table 17. Variance inflation factor result

Variable	VIF	1/VIF
GD	2.48	0.40307
IR	1.86	0.53814
AS	1.69	0.59071
TA	1.57	0.63785
RR	1.49	0.67335
CZ	1.46	0.68667
LQ	1.43	0.69703
PG	1.26	0.79067
CR	1.21	0.82926
Mean VIF	1.61	
Source: Stata 14.2		

Furthermore, multicollinearity is determined by calculating the Variance Inflation Factor (VIF), with a VIF coefficient greater than 10 indicating multicollinearity (Chatterjee & Price, 1977). The results in Table 20 show a mean VIF of 1.61, significantly lower than the limit 10. The VIFs for individual variables were also very low, indicating no multicollinearity concern.

4.3.5 Normality Test

The classical linear regression model (CLRM) assumes that the residuals follow a normal distribution with a mean of zero and a constant variance (Brooks, 2008). When the residuals are normally distributed, the histogram will display a bell-shaped curve, and the Bera-Jarque statistic will not be significant. This implies that the p-values displayed at the bottom of the normality test screen should be greater than 0.05 to fail to reject the null hypothesis of normality at the 5% significance level (Brooks, 2008).

Table 18. Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ROA	100	0.94839	4.261	3.216	0.1165
PG	100	0.90213	8.081	4.635	0.1878
RR	100	0.85096	12.305	5.568	0.1342
CR	100	0.96897	2.562	2.087	0.1185
TA	100	0.97126	2.373	1.917	0.0476
CZ	100	0.72866	22.403	6.897	0.2574
LQ	100	0.98393	1.327	0.627	0.0654
IR	100	0.85675	11.827	5.48	0.1257
GD	100	0.88871	9.188	4.92	0.1343
AS	100	0.90611	7.752	4.543	0.0536

Source Stata 14.2

4.4 Model Specification Test (Fixed effect Versus Random effect)

The most critical issues in panel data modeling concern the choice between fixed and random effect panel data models. Many economists and financial analysts use the following criterion to decide the most appropriate model. If the individual-specific dependent unobserved effect (u_i) is correlated with one or more of the other independent variables, then the appropriate model is the fixed-effect model. If the individual-specific dependent unobserved effect (u_i) is not correlated with one or more of the independent variables, and if they can be viewed as an outcome of a random variable, then the correct model is the random-effect model (Muhammed Usman, 2014). The study used the Hausmann Specification Test to identify whether a fixed effect or random effect model is appropriate.

Table 19. Result of model selection Test: Hausmann test

hausman fe re				
Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
PG	.0855998	-.019444	.1050438	.2430333
RR	.5698913	.1448941	.4249972	.1645813
CR	-.1605501	-.1242107	-.0363394	.0275685
TA	.1768063	.1391405	.0376657	.0337607
CZ	.0111592	.0120068	-.0008476	.0018529
LQ	.262457	-.0107603	.2732173	.1038584
IR	-.0114213	-.0163162	.0048949	.0139719
GD	-3.602611	.4406959	-4.043307	1.344291
b = consistent under Ho and Ha; obtained from xtreg				

B =	inconsistent under Ha, efficient under Ho; obtained from xtreg	
Test: Ho:	difference in coefficients not systematic	
	$\chi^2(8) = (b-B)'[(V_b - V_B)^{-1}](b-B)$	
	35.08	
	Prob>chi2 = 0.2179	
	(V_b - V_B is not positive definite)	

As shown in Table 21, in this study, the Hausman specification test yielded a p-value of 0.2179, which is greater than the conventional significance level of 0.05. This suggests that there is insufficient evidence to reject the null hypothesis. Therefore, we can conclude that the random effect model is appropriate for the given dataset in this study.

Table 20. Model selection Test: Breusch and Pagan Lagrangian multiplier test

hettest				
Breusch-Pagan / Cook-Weisberg test for heteroscedasticity				
Ho: Constant variance				
Variables: fitted values of ROA				
chi2(1) = 1.25				
Prob > chi2 = 0.2628				

Similarly, as shown above, in Table 22, the fixed effect likelihood ratio test also provides empirical evidence of a P-value of 26.28%. Hence, this result is insignificant at 1% test size the alternative hypothesis is rejected. Therefore, the random-effect model is the appropriate estimation model for this study

4.5 Regression Results and Discussion

This section presents the empirical findings from the econometric output results on determinants of insurance companies' growth in Ethiopia. Table 23 below reports regression results between the dependent

variable (ROA) and explanatory variables. Under the following regression outputs, the beta coefficient may be negative or positive; the beta coefficient indicates each variable's level of influence on the dependent variable. The P-value indicates the percentage or precession level of each significant variable. The R-squared value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008). The model's R-squared and overall R-squared statistics were 89.29% and 80.30%, respectively. The R^2 value of 89.29% indicates the total variability of the determinant of insurance companies' performance, which was explained by the variables in the model. Thus these variables collectively, are good explanatory variables to identify the determinants of insurance companies' performance in Ethiopia.

Table 21. Regression Results for determinants of Ethiopian insurance companies' performance

Random-effects GLS regression				Number of obs = 100	
Group variable: newvar				Number of groups = 10	
R-sq:				Obs per group:	
within = 0.8929				min =	1
between = 0.7926				avg =	1.1
overall = 0.8030				max =	4
ROA	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]
PG	-0.01944	0.011965	-1.63	0.1040	-0.0428949 0.0040069
RR	0.144894	0.0301516	4.81	0.0000	0.0857981 0.2039901
CR	-0.12421	0.0112349	-11.06	0.0010	-0.1462307 -0.1021907
TA	0.139141	0.0149579	9.3	0.0000	0.1098236 0.1684575
CZ	0.012007	0.0015439	7.78	0.0070	0.0089808 0.0150329
LQ	-0.01076	0.0565842	-0.19	0.1849	-0.1216633 0.1001427
IR	-0.01632	0.0059758	-2.73	0.0060	-0.0280286 -0.0046038
GD	0.440696	0.1173912	3.75	0.0003	0.2106134 0.6707785
AS	0.065915	0.0219392	3	0.0030	0.0229146 0.1089147
_cons	-0.03269	0.0339254	-0.96	0.3350	-0.0991844 0.0338006

Source: - Stata 14.2 output

4.4.1. Regression Result

As mentioned, various techniques have been employed to test assumptions, ensuring that the data used lacks issues. With this confidence, the researcher utilizes OLS multiple regression to forecast the magnitude and direction of each explanatory variable's influence on the dependent variable. The dependent variable in this regression analysis is ROA, and the independent variables include premium growth, retention ratio,

combined ratio, tangibility of assets, company size, leadership quality, inflation rate, GDP rate, and awareness of society.

As indicated by the random regression result above, of the seven independent variables, Retention ratio (RR), Combined Ratio (CR), Tangibility of the asset (TA), Company Size (CZ), Inflation rate (IR), gross domestic Product (GDP) and Awareness of the society (AS) have statistically significant relation with the performance of Insurance companies in Ethiopia, which is measured by Return on Asset (ROA) at 5% level of significance. On the other hand, the remaining two variables, Premium growth (PG) and leadership quality (LQ) independent variables, proved to have a statistically insignificant influence on the dependent variable at a 5% significance level.

$$ROA_{i,t} = \alpha + \beta_1 PG_{i,t} + \beta_2 RR_{i,t} + \beta_3 CR_{i,t} + \beta_4 TA_{i,t} + \beta_5 CS_{i,t} + \beta_6 LQ_{i,t} + \beta_7 IR + \beta_8 GD + \beta_9 AS + \epsilon_{i,t}$$

Where,

Bo/ α = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8,$ and β_9 = Coefficients of independent variables

I= Insurance company and $i = 1, 2, 3, \dots, 9$

T= the index of time periods and $t = 1, 2, 3, \dots, 10$

From Table 23 of the Random effect regression result, the regression equation can be developed as follows:

$$ROA_{i,t} = -0.03269 + 0.144894 - 0.12421 + 0.139141 + 0.012007 - 0.01632 + 0.440696 + 0.065915 + \epsilon_{i,t}$$

4.4.2 Interpretation of regression results based on random effect panel:

- ❖ **Retention Ratio:** - Insurance companies often purchase reinsurance coverage to stabilize earnings, increase underwriting capacity, and protect against catastrophic losses. However, this comes at a cost. In Ethiopia, there is a significant positive correlation between retention ratio and return on assets (ROA) in insurance companies. This correlation has a coefficient of 0.144894 and is statistically significant for determining factors in insurance company growth, with a (p-value of 0.0000). The regression coefficient is 0.144894, indicating that when the average retention ratio increases by 1%, ROA will increase by 14.4%. A higher retention and lower claims ratios will likely

impact insurer performance positively. The retained risk ratio is calculated by dividing net written premiums by gross written premiums and reflects the proportion of underwritten risk kept by the insurer, with the difference being ceded in reinsurance. This variable is expected to have a positive influence on performance since reinsurance involves a certain cost (Burca & Batrinca, 2014) and (Mirie & Cyrus, 2014).

- ❖ **Combined Ratio:** - Understanding the combined ratio coefficient is a crucial aspect of managing an insurance company. It is used to measure the total claims incurred and the annual administration expenses in relation to the net earned premium. This result demonstrates the impact of underwriting risk on the company's growth, which can be indicated by a negative and statistically significant coefficient (-0.12421) with a p-value of 0.010. Maintaining an effective loss ratio is essential to show the effectiveness of underwriting activity and the financial exposure resulting from selecting and approving risks to be insured. However, it is also necessary to be mindful of the risks associated with underpricing products, inadequate premium volume, improper underwriting controls, and new product development that is not appropriately priced, as these can lead to losses. Additionally, keeping administration costs in check is crucial, as they significantly impact insurance companies' performance. One noteworthy study by Nahusenay (2016) found a negative and statistically insignificant relationship between the loss ratio and the financial performance of insurance companies in Ethiopia. However, other studies by Ahmed (2008), Malik (2011), and Pervan et al. (2012) indicated that the loss ratio had a negative relationship and a statistically significant effect on growth.
- ❖ **Tangibility of assets:** - The regression analysis conducted on the tangibility of assets has provided a detailed understanding of its impact on the performance of insurance companies in Ethiopia. The coefficient of 0.139141 and the p-value of 0.000 suggest that the tangibility of assets positively impacts the performance of insurance companies in Ethiopia. This means that while asset investment is vital for insurance firms' performance, it is a significant factor contributing to their success. These investments should be economically viable and guarantee returns to do this effectively. Insurance firms can grow their businesses sustainably and achieve long-term success by making these investments.
- ❖ **Company size:** - The size of insurance companies in Ethiopia is calculated by taking the logarithm of their total assets. The study has found a positive and significant correlation between company size and the performance of insurance companies in Ethiopia. The regression coefficient was

0.012007, and the p-value was 0.0070, consistent with the hypothesis and correlation analysis. The standardized coefficient of size indicates that an increase in size by 100 results in a 1.2% average return on assets, assuming that all other factors remain constant. This means that larger insurance companies may be more efficient and have a comparative advantage in improving their performance. Literature supports there is a positive relationship between operational performance and insurance company size According to Ramesh (2017) large corporate size also enables insurers to effectively diversify their assumed risks and respond more quickly to changes in market conditions.

- ❖ **Inflation Rate:** - Inflation is the phenomenon of rising prices over a period of time. It typically refers to the overall price increase or the cost of living in a country. Inflation can impact insurance companies, affecting both their liabilities and assets. As inflation increases, claim payments and reserves required to anticipate higher claims also increase, reducing the technical result. According to the results of a random regression analysis, inflation has a negative and significant impact on the growth of Ethiopian insurance companies. This impact's beta coefficient and probability are - 0.01632 and 0.0060, respectively. Practically, this means that when inflation increases by 1%, sampled Ethiopian insurance companies' return on assets (ROA) would decrease by -1.63%. This finding is consistent with previous studies, which have shown that the profit margins of insurance companies are compressed, and their financial performance is impaired due to inflation. Furthermore, unexpected inflation can also negatively affect companies' growth and Performance. A study conducted by Redwan in 2017 found that inflation has a negative but significant relation with profitability.
- ❖ **GDP:** - Gross domestic product (GDP) measures the value of all finished goods and services produced within a country over a specified period, typically one year. It is a useful indicator of economic growth, recession, and an economy's monetary capacity to address externalities. The insurance industry is essential for economic progress, growth, and development. The GDP growth rate can affect the various factors related to the supply and demand for insurance products and services. If GDP increases, the likelihood of selling insurance policies also increases, and insurers are likely to benefit from this growth. The result of this study indicates a positive coefficient of 0.440696, which is statistically significant (P-value 0.0003). This result suggests that with a one percent increase in GDP, there will be an increase in ROA (return on assets) by 44%. The finding of this study is consistent with previous studies, including Pervan and Kramaric (2012) and Abera

(2012), who concluded that GDP per capita has a positive and significant impact on performance. Srairi (2009) investigated all macroeconomic determinants except the inflation rate and found that they positively explain insurance performance.

- ❖ **Awareness of the society:** - The insurance industry has struggled to increase awareness levels among people, which can be attributed to the lack of initiatives by regulatory bodies and insurance companies. In 2022, Nazrul conducted a study to measure the correlation between society's awareness and the performance of insurance companies. The study found that there is a positive correlation between the two variables. In this study shows the correlation is statistically significant, with the regression coefficient being 0.065915 and the p-value being 0.0030. And also in the, previous studies have shown that awareness has a positive and significant relationship with growth countries (Malila, Insurance Penetration in Africa , 2023)., it's crucial to note that increasing awareness levels among people is critical to the insurance industry's performance. Regulatory bodies and insurance companies must take concrete steps to educate people about the importance of insurance, as this will increase the number of policyholders. Therefore, regulatory bodies and insurance companies must work together to increase awareness levels among people and ensure the insurance industry's growth.

4.6 Interview results

During the interview, it was revealed that Ethiopian insurance companies are facing several challenges, including:

- ❖ In the current business landscape, companies face numerous challenges in attracting and retaining customers. One of the most significant challenges is the prevalence of price-based competition. Unfortunately, this has led to a situation where the provision of special services is no longer a priority for many companies, and the ability of businesses to attract customers through means other than pricing has significantly weakened. As a result, many customers have become increasingly price-sensitive and are no longer considering the potential benefits of service quality. This trend has ultimately created an environment where companies feel compelled to compete with one another by cutting prices, even at the risk of incurring losses. This has resulted in a race to the bottom, where businesses struggle to differentiate themselves from their competitors. The focus on providing exceptional customer service has been diminished in this intensely competitive environment. Instead, Companies focus on reducing costs and offering the lowest prices possible

to attract customers. This has led to a decline in service quality, further eroding customers' trust in businesses. Companies must focus on providing exceptional customer service to remain competitive in this challenging environment. This can help them differentiate themselves from their competitors and attract customers who value quality over price. By prioritizing service quality and building a strong reputation for customer satisfaction, companies can create a loyal customer base that will be willing to pay a premium for their products or services.

- ❖ The insurance industry in Ethiopia faces a significant challenge in terms of weak collaboration among insurance companies. They tend to view each other as competitors, which makes sharing information and knowledge difficult. This lack of cooperation negatively impacts their ability to influence the regulatory body when it comes to setting appropriate premium rates. The limited exchange of information among insurance companies in Ethiopia has resulted in a lack of transparency in the market. This, in turn, has led to customers being unable to compare the different insurance products available to them. The lack of competition in the industry has also prevented the development of innovative products and services. Additionally, the absence of a strong regulatory framework in the country's insurance sector has made it difficult for companies to operate effectively. The lack of clear guidelines and standards has led to inconsistencies in the way premiums are set by insurers. This has further reduced the trust of customers in the insurance industry. In summary, the lack of cooperation among insurance companies in Ethiopia has led to various issues, including lack of transparency, limited competition, and ineffective regulation.
- ❖ The industry is currently facing a significant challenge regarding manpower shortage. The scarcity of skilled personnel has become a serious concern for businesses operating in various sectors. Additionally, industry professionals lack the necessary skills and ethical values required for successful operations. This has decreased productivity, quality, and customer satisfaction, negatively impacting business performance. As a result, companies are finding it difficult to meet their operational goals and objectives, and this issue requires urgent attention to ensure the industry can operate effectively and efficiently.
- ❖ The insurance market in Ethiopia is facing a range of systemic issues that are making it challenging for companies to thrive. One of the most significant challenges is the prevalence of non-business relations, such as politics, religion, and ethnicity. These factors play an outsized role in determining who gets business, creating an unfair playing field for those without such connections. Furthermore, the Ethiopian Insurance Corporation (EIC) controls the market, having a monopoly over it. This

means that public and governmental projects exclusively buy insurance coverage from the Ethiopian Insurance Corporation (EIC) without allowing insurance companies to compete. This has made it difficult for smaller players in the market to grow and expand their businesses as they have a limited pool of potential clients. They cannot compete against established players, which further exacerbates the problem. As a result, the Ethiopian insurance market desperately needs significant reforms. Without changes to the current system, it will continue to be challenging for new players to enter the market and for smaller companies to compete against established players. The government needs to take the necessary steps to create a level playing field for all companies in the market, irrespective of their size or connections. This will help ensure that the Ethiopian insurance market can grow and contribute to the country's overall economic development.

- ❖ In Ethiopia, the insurance industry faces several challenges limiting its growth and impact. One of the most significant issues is the lack of accessibility in rural areas. Most insurance companies in the country focus on urban areas, resulting in a significant portion of the population having limited access to insurance. This has led to lower insurance density in Ethiopia than in other countries. Additionally, Ethiopian insurance companies offer identical products with no differentiation. This means customers have limited options and are not incentivized to shop around for policies that best suit their needs. Furthermore, the lack of product differentiation limits insurance companies' competitiveness in the market, hindering the industry's performance and resulting in a missed opportunity for companies to serve their clients better. In summary, the insurance industry in Ethiopia needs to address the accessibility challenges in rural areas and work towards developing new products or customizing existing ones to meet the diverse needs of its clients. These efforts could help increase insurance coverage and promote the industry's growth, benefiting individuals and businesses nationwide.

4.7 Summary of Findings

Table 22. Summary of independent variable test result with expected sign.

Hypothesis	Expected Sign		Actual sign with P-Value			Decision
	Sign	Significance level	Sign	P - Value (≤ 0.05)	Significance level	
Premium growth rate	Positive (+)	Significant	Negative (-)	0.10400	Insignificant	Rejected
Retention Ratio	Positive (+)	Significant	Positive (+)	0.00000	Significant	Accepted
Combined Ratio	Negative (-)	Significant	Negative (-)	0.00100	Significant	Accepted
Tangibility of Asset	Positive (+)	Significant	Positive (+)	0.00000	Significant	Accepted
Company size	Positive (+)	Significant	Positive (+)	0.00700	Significant	Accepted
Leadership quality	Positive (+)	Significant	Negative (-)	0.84900	Insignificant	Rejected
Inflation Rate	Negative (-)	Significant	Negative (-)	0.00600	Significant	Accepted
GDP growth rate	Positive (+)	Significant	Positive (+)	0.00030	Significant	Accepted
Awareness of the society	Positive (+)	Significant	Positive (+)	0.00300	Significant	Accepted

This chapter provides a comprehensive overview of the structured record reviews and in-depth interviews conducted and then discusses the analysis of these results in detail. The study focuses on the impact of various variables on Ethiopian insurers, and the findings reveal that most of the variables included in the study significantly impact insurers' performance, except premium growth and Leadership quality. The analysis shows that two variables, combined ratio and Inflation rate, have a statistically significant but negative relationship with insurers' performance. The remaining five independent variables, including Retention ratio, Tangibility of asset, Company size, GDP, and awareness of the society, are statistically significant and positively related to insurer company performance, aligning with expected outcomes. It is worth noting that variables such as combined ratio and Inflation rate have a negative sign but a statistically significant relationship with insurer company performance. Therefore, the researcher accepted the results and concluded that these variables significantly impact the performance of Ethiopian insurance companies. Overall, the study provides valuable insights into the factors that affect the performance of Ethiopian insurers and can help guide future decision-making in the industry.

CHAPTER FIVE

5. Conclusions and Recommendations

This Chapter is divided into two sections. The first section outlines the summary and conclusions based on the study's findings. This part provides a comprehensive overview of the key takeaways from the research, including any important trends or patterns that emerged throughout the study. The second section presents possible recommendations based on the findings outlined in the first section. These recommendations provide actionable insights and suggestions for improving or optimizing the research subject. They may include suggestions for future research, policy changes, or other courses of action designed to build on the insights and conclusions presented in the first section.

5.1. Summary and Conclusions:-

Insurance is a financial service that protects individuals and businesses against unexpected losses. It plays a vital role in any country's economic growth by offering financial security and stability to its citizens. In Ethiopia, the insurance industry is growing rapidly, and it is important to identify the factors that influence its performance to maintain its stability in the long run.

To achieve this objective, a comprehensive study was conducted to examine the main insurance-specific and macroeconomic, financial, and non-financial factors that affect the performance of Ethiopian insurance companies. The study utilized a mixed-method research approach, including a structured review of insurers' documents and interviews with company executives. The research focused on nine independent variables, including premium growth, retention ratio, combined ratio, tangibility of assets, company size, leadership quality, inflation rate, GDP, and awareness of society. The dependent variable was the return on assets. The study collected data from the financial statements of 10 composite insurance companies operating in Ethiopia from 2014-2023. The random effect model was used to estimate the regression equation.

The study found that retention ratio, combined ratio, tangibility of asset, company size, inflation rate, and GDP and awareness of the society have a statistically significant relationship with the performance of insurance companies in Ethiopia, as measured by return on assets at a 5% significance level. However, the premium growth, and Leadership quality were found to have a statistically insignificant influence on the dependent variable. The coefficient of determination (R^2) with 89%, and the overall (R^2) is 80%. This indicates that 89% of the total change in return on assets is due to the independent variables included in the study. The study's results provide useful insights into the factors affecting the performance of the insurance

industry in Ethiopia, which can help stakeholders make informed decisions and policy recommendations to maintain its stability. In addition to identifying the factors affecting the performance of insurance companies, the study also revealed some major challenges facing the insurance business in Ethiopia. These include less accessibility to urban-centered services, identical products without differentiation, price-based competition, scarce professional manpower, unfair playing, and weak cooperation among industry players. These challenges must be addressed to ensure the long-term sustainability of the insurance industry in Ethiopia.

5.2 Recommendations

This research aimed to investigate the various factors that influence the performance of insurance companies in Ethiopia. After conducting a thorough study of the insurance industry in Ethiopia, the following recommendations have been put forth:

- ❖ The findings from this study reveal a positive correlation between the retention ratio coefficient and the performance of the insurance industry in Ethiopia. This indicates that Ethiopian insurance companies are actively managing their risk exposure by transferring a portion of their underwritten results associated with higher risk to mitigate the risk of bankruptcy. This strategic risk management approach plays a pivotal role in stabilizing the overall performance of the insurance sector in Ethiopia, contributing to its sustainability and performance.
- ❖ According to observations made in Ethiopia, there is a positive and significant correlation between a company's size and the performance of insurance companies in Ethiopia. A company's size plays a pivotal role in its expansion of business operations and investment in capital markets and real assets, conferring a comparative advantage in various investments. This advantage, in turn, translates into higher returns for the company. Additionally, larger companies have a higher chance of working with world-class reinsurers. For this reason, Insurance companies operating in Ethiopia are also recommended to select and work with reputable reinsurers with a good capacity to perform their business. This will help the companies take advantage of better pricing and more comprehensive coverage options. Additionally, working with valued reinsurers will positively impact the company's reputation. In case of a significant loss, the company will be in safe hands, which will improve the confidence of the company's customers and stakeholders. The study shows that reinsurance dependence positively and significantly affects the performance of insurance companies in Ethiopia.

Therefore, insurance companies operating in Ethiopia must focus on the size and quality of their reinsurers to achieve sustainable performance.

- ❖ Based on the analysis, it has been observed that there exists a robust and positive correlation between the quality of tangible assets and the financial performance of insurance companies. This implies that insurance companies possessing a greater amount of tangible assets are anticipated to demonstrate improved performance. The findings underscore the vital role of asset investment in contributing to the overall success of insurance firms. It is crucial that these investments are economically feasible and offer guaranteed returns. By effectively managing these investments, insurance firms can foster sustainable performance and achieve enduring success in the long run.
- ❖ Gross Domestic Product (GDP) has a significant impact on the growth of insurance companies. Even though macroeconomic factors are not within the control of the management, companies should prepare themselves for changes in economic growth. One way to do this is by creating financial plans such as a cash flow, balance sheet, and income statement. Having these plans in place will enable insurance companies to adjust to the economic changes in the country more easily. Therefore, insurance company managers must stay informed about the country's economic growth movement to take advantage of favorable changes and protect the organization from unfavorable effects.
- ❖ Finally, various factors must be considered to drive performance in the Ethiopian insurance industry. Insurers should focus on developing new products and insurance services to meet the evolving needs of their customers. This could include innovative insurance products that cater to previously underserved segments of the population, such as micro-insurance products for low-income individuals. And a healthy competitive environment is essential for the performance of insurance companies. This can be achieved by creating a level playing field where all insurers have an equal opportunity to compete. Price-cutting and risky investments should be avoided, as these can lead to unsustainable business practices that negatively impact the industry's growth. The moral hazards can also adversely affect the industry's growth. Insurers should mitigate these risks by implementing effective underwriting practices and risk management strategies. This could involve partnering with other stakeholders, such as regulators and consumer groups, to ensure ethical practices are followed. Lastly, insurers should consider investing their significant cash reserves in profitable areas. This could include investing in the capital market or exploring other rewarding investment opportunities. By doing so, insurers can earn returns on their investments while contributing to Ethiopia's economic growth.

- ❖ Further research area,
 - ✓ The focus of this study is factors affecting the performance of insurance companies in Ethiopia from 2014 to 2023. However, some variables were not included due to time constraints and limitations of the literature. Further research shall be conducted to explore these variables and explain the factors that hinder the performance of insurance companies in Ethiopia, such as regulatory requirements, political instability, exchange rates, and other related issues.

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Appendixes:

Appendix 1. Summarize the average values of each variable value for each company over 10 years

Insu. Name	Year	ROA	PG	RR	CR	TA	CZ	LQ	IR	GD	AS
UNITED	2014	0.094	0.232	0.256	0.738	0.309	8.87	0.365	0.689	0.103	0.153
UNITED	2015	0.101	0.306	0.291	0.807	0.343	9.00	0.387	0.957	0.104	0.143
UNITED	2016	0.106	0.296	0.289	0.884	0.371	9.05	0.333	0.663	0.094	0.176
UNITED	2017	0.111	0.287	0.274	0.930	0.387	9.08	0.318	0.107	0.096	0.153
UNITED	2018	0.093	0.196	0.304	0.920	0.409	9.13	0.321	0.138	0.068	0.116
UNITED	2019	0.070	0.187	0.227	0.920	0.407	9.18	0.357	0.158	0.084	0.181
UNITED	2020	0.076	0.260	0.236	1.020	0.420	9.21	0.316	0.204	0.061	0.184
UNITED	2021	0.080	0.224	0.268	0.930	0.435	9.26	0.350	0.268	0.056	0.011
UNITED	2022	0.084	0.304	0.295	0.950	0.449	9.33	0.361	0.339	0.053	0.017
UNITED	2023	0.099	0.580	0.259	0.800	0.460	9.52	0.341	0.303	0.058	0.068
Sum		0.9149	2.8714	2.6983	8.8981	3.9914	91.6273	3.4484	3.8263	0.7770	1.2006
Company mean		0.0915	0.2871	0.2698	0.8898	0.3991	9.1627	0.3448	0.3826	0.0777	0.1201
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		above	above	below	below	above	above	below	Equal	Equal	above
NIB	2014	0.074	0.328	0.290	1.002	0.110	8.85	0.305	0.689	0.103	0.253
NIB	2015	0.069	0.276	0.287	0.964	0.148	8.97	0.349	0.957	0.104	0.138
NIB	2016	0.072	0.290	0.294	0.932	0.163	9.02	0.364	0.663	0.094	0.112
NIB	2017	0.083	0.210	0.270	0.940	0.183	9.07	0.335	0.107	0.096	0.076
NIB	2018	0.083	0.220	0.278	0.908	0.190	9.12	0.361	0.138	0.068	0.105
NIB	2019	0.085	0.264	0.286	0.910	0.215	9.19	0.396	0.158	0.084	0.034
NIB	2020	0.084	0.296	0.293	0.960	0.278	9.24	0.312	0.204	0.061	0.106
NIB	2021	0.076	0.293	0.288	0.940	0.281	9.29	0.360	0.268	0.056	0.021
NIB	2022	0.069	0.319	0.337	0.990	0.317	9.35	0.345	0.339	0.053	0.020
NIB	2023	0.086	0.558	0.311	0.850	0.320	9.45	0.376	0.303	0.058	0.022
Sum		0.7810	3.0535	2.9343	9.3956	2.2048	91.5526	3.5025	3.8263	0.7770	0.8867
Company mean		0.0781	0.3054	0.2934	0.9396	0.2205	9.1553	0.3502	0.3826	0.0777	0.0887
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		above	above	below	below	below	above	above	Equal	Equal	below
AWASH	2014	0.041	0.298	0.301	0.929	0.313	6.11	0.361	0.689	0.103	0.136
AWASH	2015	0.044	0.336	0.275	0.978	0.336	6.24	0.322	0.957	0.104	0.229
AWASH	2016	0.046	0.310	0.262	0.934	0.351	6.29	0.323	0.663	0.094	0.176
AWASH	2017	0.048	0.280	0.257	0.950	0.367	6.32	0.328	0.107	0.096	0.111
AWASH	2018	0.059	0.310	0.228	0.910	0.343	9.34	0.342	0.138	0.068	0.032
AWASH	2019	0.064	0.320	0.235	0.920	0.354	9.40	0.368	0.158	0.084	0.080
AWASH	2020	0.073	0.320	0.268	0.980	0.369	9.46	0.344	0.204	0.061	0.114
AWASH	2021	0.076	0.427	0.367	0.950	0.381	9.55	0.324	0.268	0.056	0.122
AWASH	2022	0.080	0.383	0.363	1.000	0.432	9.62	0.320	0.339	0.053	0.129
AWASH	2023	0.089	0.361	0.296	1.020	0.462	9.76	0.356	0.303	0.058	0.134

Sum		0.6212	3.3451	2.8508	9.5706	3.7090	82.0790	3.3862	3.8263	0.7770	1.2638
Company mean		0.0621	0.3345	0.2851	0.9571	0.3709	8.2079	0.3386	0.3826	0.0777	0.1264
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	above	below	above	above	below	below	Equal	Equal	above
NILE	2014	0.044	0.300	0.322	1.036	0.250	8.74	0.348	0.689	0.103	0.093
NILE	2015	0.048	0.260	0.297	1.091	0.268	8.87	0.357	0.957	0.104	0.123
NILE	2016	0.050	0.250	0.242	1.043	0.280	8.92	0.363	0.663	0.094	0.111
NILE	2017	0.052	0.180	0.245	1.060	0.293	8.94	0.336	0.107	0.096	0.097
NILE	2018	0.057	0.152	0.279	0.900	0.297	9.05	0.361	0.138	0.068	0.146
NILE	2019	0.080	0.004	0.278	0.860	0.316	9.14	0.348	0.158	0.084	0.134
NILE	2020	0.072	0.127	0.297	0.880	0.327	9.19	0.355	0.204	0.061	0.174
NILE	2021	0.078	0.207	0.295	0.880	0.323	9.30	0.344	0.268	0.056	0.238
NILE	2022	0.076	0.309	0.226	0.917	0.329	9.42	0.346	0.339	0.053	0.196
NILE	2023	0.083	0.399	0.204	0.887	0.333	9.56	0.350	0.303	0.058	0.137
Sum		0.6396	2.1881	2.6838	9.5537	3.0141	91.1129	3.5076	3.8263	0.7770	1.4481
Company mean		0.0640	0.2188	0.2684	0.9554	0.3014	9.1113	0.3508	0.3826	0.0777	0.1448
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	below	below	above	above	above	above	Equal	Equal	above
NYALA	2014	0.060	0.290	0.300	0.897	0.181	8.94	0.358	0.689	0.103	0.083
NYALA	2015	0.064	0.230	0.321	0.944	0.194	9.06	0.323	0.957	0.104	0.123
NYALA	2016	0.067	0.270	0.313	0.910	0.203	9.11	0.331	0.663	0.094	0.119
NYALA	2017	0.078	0.180	0.340	0.920	0.213	9.16	0.336	0.107	0.096	0.053
NYALA	2018	0.079	0.210	0.452	0.940	0.248	9.31	0.364	0.138	0.068	-
NYALA	2019	0.073	-0.360	0.352	0.910	0.272	9.30	0.381	0.158	0.084	-
NYALA	2020	0.079	0.150	0.376	0.970	0.288	9.34	0.392	0.204	0.061	-
NYALA	2021	0.070	0.199	0.437	0.980	0.285	9.39	0.378	0.268	0.056	0.008
NYALA	2022	0.074	0.341	0.427	0.900	0.293	9.47	0.345	0.339	0.053	0.041
NYALA	2023	0.072	0.466	0.446	0.930	0.314	9.58	0.333	0.303	0.058	0.019
Sum		0.7165	1.9770	3.7645	9.3014	2.4918	92.6669	3.5405	3.8263	0.7770	0.1696
Company mean		0.0717	0.1977	0.3765	0.9301	0.2492	9.2667	0.3540	0.3826	0.0777	0.0170
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		above	below	above	below	below	above	above	Equal	Equal	below
ABAY	2014	0.051	0.274	0.296	0.722	0.139	8.50	0.324	0.689	0.103	0.136
ABAY	2015	0.061	0.260	0.266	0.785	0.171	8.63	0.368	0.957	0.104	0.179
ABAY	2016	0.065	0.290	0.286	0.854	0.193	8.68	0.315	0.663	0.094	0.176
ABAY	2017	0.071	0.280	0.276	0.899	0.215	8.71	0.320	0.107	0.096	0.111
ABAY	2018	0.081	0.141	0.266	0.931	0.275	8.80	0.314	0.138	0.068	0.242

ABAY	2019	0.077	0.092	0.267	0.962	0.294	8.87	0.334	0.158	0.084	0.216
ABAY	2020	0.073	0.070	0.304	0.930	0.313	8.93	0.362	0.204	0.061	0.131
ABAY	2021	0.064	0.289	0.377	0.953	0.328	9.02	0.355	0.268	0.056	0.177
ABAY	2022	0.071	0.267	0.359	0.897	0.329	9.17	0.354	0.339	0.053	0.096
ABAY	2023	0.078	0.467	0.305	0.860	0.347	9.19	0.386	0.303	0.058	0.071
Sum		0.6922	2.4298	3.0007	8.7931	2.6046	88.5043	3.4320	3.8263	0.7770	1.5355
Company mean		0.0692	0.2430	0.3001	0.8793	0.2605	8.8504	0.3432	0.3826	0.0777	0.1536
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	below	below	below	below	below	below	Equal	Equal	above
ETHIOLIFE	2014	0.042	0.270	0.279	0.922	0.090	8.33	0.365	0.689	0.103	0.206
ETHIOLIFE	2015	0.045	0.240	0.256	0.971	0.107	8.46	0.374	0.957	0.104	0.154
ETHIOLIFE	2016	0.047	0.270	0.245	0.939	0.125	8.51	0.350	0.663	0.094	0.193
ETHIOLIFE	2017	0.055	0.310	0.250	0.947	0.145	8.56	0.378	0.107	0.096	0.143
ETHIOLIFE	2018	0.059	0.270	0.275	0.930	0.176	8.60	0.381	0.138	0.068	0.102
ETHIOLIFE	2019	0.053	0.215	0.299	0.850	0.215	8.69	0.354	0.158	0.084	0.073
ETHIOLIFE	2020	0.039	0.294	0.278	1.070	0.231	8.78	0.339	0.204	0.061	0.105
ETHIOLIFE	2021	0.032	0.367	0.324	0.910	0.254	8.85	0.368	0.268	0.056	0.065
ETHIOLIFE	2022	0.050	0.224	0.313	0.980	0.299	8.88	0.353	0.339	0.053	0.087
ETHIOLIFE	2023	0.048	0.527	0.275	0.950	0.328	9.01	0.376	0.303	0.058	0.128
Sum		0.4706	2.9865	2.7931	9.4693	1.9713	86.6754	3.6391	3.8263	0.7770	1.2565
Company mean		0.0471	0.2987	0.2793	0.9469	0.1971	8.6675	0.3639	0.3826	0.0777	0.1256
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	above	below	above	below	below	above	Equal	Equal	above
OROMIA	2014	0.035	0.310	0.279	0.942	0.108	8.66	0.350	0.689	0.103	0.115
OROMIA	2015	0.038	0.290	0.281	0.992	0.189	8.78	0.345	0.957	0.104	0.138
OROMIA	2016	0.040	0.284	0.291	1.010	0.191	8.83	0.338	0.663	0.094	0.125
OROMIA	2017	0.042	0.225	0.261	1.063	0.226	8.91	0.317	0.107	0.096	0.121
OROMIA	2018	0.081	0.100	0.283	0.946	0.249	8.95	0.331	0.138	0.068	0.155
OROMIA	2019	0.078	0.077	0.230	1.000	0.268	9.05	0.342	0.158	0.084	0.074
OROMIA	2020	0.053	0.171	0.248	1.090	0.276	9.15	0.349	0.204	0.061	0.184
OROMIA	2021	0.067	0.179	0.244	0.990	0.294	9.28	0.355	0.268	0.056	0.212
OROMIA	2022	0.078	0.442	0.301	0.930	0.312	9.41	0.354	0.339	0.053	0.267
OROMIA	2023	0.088	0.480	0.312	0.800	0.327	9.58	0.376	0.303	0.058	0.279
Sum		0.5991	2.5563	2.7287	9.7637	2.4409	90.5948	3.4577	3.8263	0.7770	1.6710
Company mean		0.0599	0.2556	0.2729	0.9764	0.2441	9.0595	0.3458	0.3826	0.0777	0.1671
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	below	below	above	below	above	below	Equal	Equal	above

AFRICA	2014	0.024	0.340	0.325	1.172	0.174	8.66	0.370	0.689	0.103	0.130
AFRICA	2015	0.026	0.327	0.264	1.234	0.179	8.79	0.392	0.957	0.104	0.129
AFRICA	2016	0.027	0.290	0.270	1.169	0.183	8.84	0.399	0.663	0.094	0.176
AFRICA	2017	0.028	0.315	0.273	1.230	0.287	8.87	0.303	0.107	0.096	0.111
AFRICA	2018	0.033	0.220	0.272	1.170	0.329	8.88	0.320	0.138	0.068	0.138
AFRICA	2019	0.032	0.116	0.267	1.150	0.349	8.93	0.333	0.158	0.084	0.199
AFRICA	2020	0.029	0.031	0.269	1.075	0.341	9.04	0.413	0.204	0.061	-
AFRICA	2021	0.027	-0.061	0.264	1.090	0.347	9.10	0.396	0.268	0.056	-
AFRICA	2022	0.006	-0.031	0.293	1.150	0.365	9.14	0.404	0.339	0.053	-
AFRICA	2023	0.025	0.838	0.279	1.060	0.414	9.25	0.393	0.303	0.058	0.123
Sum		0.2553	2.3845	2.7765	11.5005	2.9669	89.4892	3.7227	3.8263	0.7770	0.5420
Company mean		0.0255	0.2385	0.2777	1.1501	0.2967	8.9489	0.3723	0.3826	0.0777	0.0542
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		below	below	below	above	below	below	above	Equal	Equal	below
EIC	2014	0.090	0.190	0.279	0.777	0.408	9.49	0.335	0.689	0.103	0.033
EIC	2015	0.120	0.215	0.314	0.818	0.417	9.61	0.341	0.957	0.104	0.103
EIC	2016	0.112	0.214	0.325	0.770	0.428	9.66	0.311	0.663	0.094	0.093
EIC	2017	0.132	0.219	0.333	0.791	0.438	9.71	0.314	0.107	0.096	0.133
EIC	2018	0.153	0.150	0.388	0.661	0.446	9.79	0.342	0.138	0.068	0.082
EIC	2019	0.164	0.160	0.426	0.798	0.448	9.84	0.368	0.158	0.084	0.072
EIC	2020	0.121	0.310	0.454	0.829	0.457	9.98	0.354	0.204	0.061	0.122
EIC	2021	0.131	0.223	0.488	0.800	0.464	10.03	0.324	0.268	0.056	0.010
EIC	2022	0.141	0.100	0.461	0.840	0.443	10.05	0.332	0.339	0.053	0.023
EIC	2023	0.156	0.121	0.478	0.865	0.434	10.11	0.343	0.303	0.058	0.031
Sum		1.3197	1.9019	3.9462	7.9489	4.3829	98.2602	3.3638	3.8263	0.7770	0.7004
Company mean		0.1320	0.1902	0.3946	0.7949	0.4383	9.8260	0.3364	0.3826	0.0777	0.0700
Sample mean		0.0701	0.2569	0.3018	0.9420	0.2978	9.0256	0.3500	0.3826	0.0777	0.1067
Mean result from S.mean		above	below	above	below	above	above	below	Equal	Equal	below

Appendix 2. Ratio data & log data used for analysis

Insu. Name	Year	ROA	PG	RR	CR	TA	CZ	LQ	IR	GD	AS
UNITED	2014	0.094	0.232	0.256	0.738	0.309	8.87	0.365	0.689	0.103	0.153
UNITED	2015	0.101	0.306	0.291	0.807	0.343	9.00	0.387	0.957	0.104	0.143
UNITED	2016	0.106	0.296	0.289	0.884	0.371	9.05	0.333	0.663	0.094	0.176
UNITED	2017	0.111	0.287	0.274	0.930	0.387	9.08	0.318	0.107	0.096	0.153

UNITED	2018	0.093	0.196	0.304	0.920	0.409	9.13	0.321	0.138	0.068	0.116
UNITED	2019	0.070	0.187	0.227	0.920	0.407	9.18	0.357	0.158	0.084	0.181
UNITED	2020	0.076	0.260	0.236	1.020	0.420	9.21	0.316	0.204	0.061	0.184
UNITED	2021	0.080	0.224	0.268	0.930	0.435	9.26	0.350	0.268	0.056	0.011
UNITED	2022	0.084	0.304	0.295	0.950	0.449	9.33	0.361	0.339	0.053	0.017
UNITED	2023	0.099	0.580	0.259	0.800	0.460	9.52	0.341	0.303	0.058	0.068
NIB	2014	0.074	0.328	0.290	1.002	0.110	8.85	0.305	0.689	0.103	0.253
NIB	2015	0.069	0.276	0.287	0.964	0.148	8.97	0.349	0.957	0.104	0.138
NIB	2016	0.072	0.290	0.294	0.932	0.163	9.02	0.364	0.663	0.094	0.112
NIB	2017	0.083	0.210	0.270	0.940	0.183	9.07	0.335	0.107	0.096	0.076
NIB	2018	0.083	0.220	0.278	0.908	0.190	9.12	0.361	0.138	0.068	0.105
NIB	2019	0.085	0.264	0.286	0.910	0.215	9.19	0.396	0.158	0.084	0.034
NIB	2020	0.084	0.296	0.293	0.960	0.278	9.24	0.312	0.204	0.061	0.106
NIB	2021	0.076	0.293	0.288	0.940	0.281	9.29	0.360	0.268	0.056	0.021
NIB	2022	0.069	0.319	0.337	0.990	0.317	9.35	0.345	0.339	0.053	0.020
NIB	2023	0.086	0.558	0.311	0.850	0.320	9.45	0.376	0.303	0.058	0.022
AWASH	2014	0.041	0.298	0.301	0.929	0.313	6.11	0.361	0.689	0.103	0.136
AWASH	2015	0.044	0.336	0.275	0.978	0.336	6.24	0.322	0.957	0.104	0.229
AWASH	2016	0.046	0.310	0.262	0.934	0.351	6.29	0.323	0.663	0.094	0.176
AWASH	2017	0.048	0.280	0.257	0.950	0.367	6.32	0.328	0.107	0.096	0.111
AWASH	2018	0.059	0.310	0.228	0.910	0.343	9.34	0.342	0.138	0.068	0.032
AWASH	2019	0.064	0.320	0.235	0.920	0.354	9.40	0.368	0.158	0.084	0.080
AWASH	2020	0.073	0.320	0.268	0.980	0.369	9.46	0.344	0.204	0.061	0.114
AWASH	2021	0.076	0.427	0.367	0.950	0.381	9.55	0.324	0.268	0.056	0.122
AWASH	2022	0.080	0.383	0.363	1.000	0.432	9.62	0.320	0.339	0.053	0.129
AWASH	2023	0.089	0.361	0.296	1.020	0.462	9.76	0.356	0.303	0.058	0.134
NILE	2014	0.044	0.300	0.322	1.036	0.250	8.74	0.348	0.689	0.103	0.093
NILE	2015	0.048	0.260	0.297	1.091	0.268	8.87	0.357	0.957	0.104	0.123
NILE	2016	0.050	0.250	0.242	1.043	0.280	8.92	0.363	0.663	0.094	0.111
NILE	2017	0.052	0.180	0.245	1.060	0.293	8.94	0.336	0.107	0.096	0.097
NILE	2018	0.057	0.152	0.279	0.900	0.297	9.05	0.361	0.138	0.068	0.146
NILE	2019	0.080	0.004	0.278	0.860	0.316	9.14	0.348	0.158	0.084	0.134
NILE	2020	0.072	0.127	0.297	0.880	0.327	9.19	0.355	0.204	0.061	0.174
NILE	2021	0.078	0.207	0.295	0.880	0.323	9.30	0.344	0.268	0.056	0.238
NILE	2022	0.076	0.309	0.226	0.917	0.329	9.42	0.346	0.339	0.053	0.196
NILE	2023	0.083	0.399	0.204	0.887	0.333	9.56	0.350	0.303	0.058	0.137
NYALA	2014	0.060	0.290	0.300	0.897	0.181	8.94	0.358	0.689	0.103	0.083
NYALA	2015	0.064	0.230	0.321	0.944	0.194	9.06	0.323	0.957	0.104	0.123
NYALA	2016	0.067	0.270	0.313	0.910	0.203	9.11	0.331	0.663	0.094	0.119
NYALA	2017	0.078	0.180	0.340	0.920	0.213	9.16	0.336	0.107	0.096	0.053
NYALA	2018	0.079	0.210	0.452	0.940	0.248	9.31	0.364	0.138	0.068	-0.039
NYALA	2019	0.073	-0.360	0.352	0.910	0.272	9.30	0.381	0.158	0.084	-0.160
NYALA	2020	0.079	0.150	0.376	0.970	0.288	9.34	0.392	0.204	0.061	-0.077
NYALA	2021	0.070	0.199	0.437	0.980	0.285	9.39	0.378	0.268	0.056	0.008
NYALA	2022	0.074	0.341	0.427	0.900	0.293	9.47	0.345	0.339	0.053	0.041
NYALA	2023	0.072	0.466	0.446	0.930	0.314	9.58	0.333	0.303	0.058	0.019
ABAY	2014	0.051	0.274	0.296	0.722	0.139	8.50	0.324	0.689	0.103	0.136
ABAY	2015	0.061	0.260	0.266	0.785	0.171	8.63	0.368	0.957	0.104	0.179
ABAY	2016	0.065	0.290	0.286	0.854	0.193	8.68	0.315	0.663	0.094	0.176
ABAY	2017	0.071	0.280	0.276	0.899	0.215	8.71	0.320	0.107	0.096	0.111
ABAY	2018	0.081	0.141	0.266	0.931	0.275	8.80	0.314	0.138	0.068	0.242

ABAY	2019	0.077	0.092	0.267	0.962	0.294	8.87	0.334	0.158	0.084	0.216
ABAY	2020	0.073	0.070	0.304	0.930	0.313	8.93	0.362	0.204	0.061	0.131
ABAY	2021	0.064	0.289	0.377	0.953	0.328	9.02	0.355	0.268	0.056	0.177
ABAY	2022	0.071	0.267	0.359	0.897	0.329	9.17	0.354	0.339	0.053	0.096
ABAY	2023	0.078	0.467	0.305	0.860	0.347	9.19	0.386	0.303	0.058	0.071
ETHIOLIFE	2014	0.042	0.270	0.279	0.922	0.090	8.33	0.365	0.689	0.103	0.206
ETHIOLIFE	2015	0.045	0.240	0.256	0.971	0.107	8.46	0.374	0.957	0.104	0.154
ETHIOLIFE	2016	0.047	0.270	0.245	0.939	0.125	8.51	0.350	0.663	0.094	0.193
ETHIOLIFE	2017	0.055	0.310	0.250	0.947	0.145	8.56	0.378	0.107	0.096	0.143
ETHIOLIFE	2018	0.059	0.270	0.275	0.930	0.176	8.60	0.381	0.138	0.068	0.102
ETHIOLIFE	2019	0.053	0.215	0.299	0.850	0.215	8.69	0.354	0.158	0.084	0.073
ETHIOLIFE	2020	0.039	0.294	0.278	1.070	0.231	8.78	0.339	0.204	0.061	0.105
ETHIOLIFE	2021	0.032	0.367	0.324	0.910	0.254	8.85	0.368	0.268	0.056	0.065
ETHIOLIFE	2022	0.050	0.224	0.313	0.980	0.299	8.88	0.353	0.339	0.053	0.087
ETHIOLIFE	2023	0.048	0.527	0.275	0.950	0.328	9.01	0.376	0.303	0.058	0.128
OROMIA	2014	0.035	0.310	0.279	0.942	0.108	8.66	0.350	0.689	0.103	0.115
OROMIA	2015	0.038	0.290	0.281	0.992	0.189	8.78	0.345	0.957	0.104	0.138
OROMIA	2016	0.040	0.284	0.291	1.010	0.191	8.83	0.338	0.663	0.094	0.125
OROMIA	2017	0.042	0.225	0.261	1.063	0.226	8.91	0.317	0.107	0.096	0.121
OROMIA	2018	0.081	0.100	0.283	0.946	0.249	8.95	0.331	0.138	0.068	0.155
OROMIA	2019	0.078	0.077	0.230	1.000	0.268	9.05	0.342	0.158	0.084	0.074
OROMIA	2020	0.053	0.171	0.248	1.090	0.276	9.15	0.349	0.204	0.061	0.184
OROMIA	2021	0.067	0.179	0.244	0.990	0.294	9.28	0.355	0.268	0.056	0.212
OROMIA	2022	0.078	0.442	0.301	0.930	0.312	9.41	0.354	0.339	0.053	0.267
OROMIA	2023	0.088	0.480	0.312	0.800	0.327	9.58	0.376	0.303	0.058	0.279
AFRICA	2014	0.024	0.340	0.325	1.172	0.174	8.66	0.370	0.689	0.103	0.130
AFRICA	2015	0.026	0.327	0.264	1.234	0.179	8.79	0.392	0.957	0.104	0.129
AFRICA	2016	0.027	0.290	0.270	1.169	0.183	8.84	0.399	0.663	0.094	0.176
AFRICA	2017	0.028	0.315	0.273	1.230	0.287	8.87	0.303	0.107	0.096	0.111
AFRICA	2018	0.033	0.220	0.272	1.170	0.329	8.88	0.320	0.138	0.068	0.138
AFRICA	2019	0.032	0.116	0.267	1.150	0.349	8.93	0.333	0.158	0.084	0.199
AFRICA	2020	0.029	0.031	0.269	1.075	0.341	9.04	0.413	0.204	0.061	-0.296
AFRICA	2021	0.027	-0.061	0.264	1.090	0.347	9.10	0.396	0.268	0.056	-0.139
AFRICA	2022	0.006	-0.031	0.293	1.150	0.365	9.14	0.404	0.339	0.053	-0.030
AFRICA	2023	0.025	0.838	0.279	1.060	0.414	9.25	0.393	0.303	0.058	0.123
EIC	2014	0.090	0.190	0.279	0.777	0.408	9.49	0.335	0.689	0.103	0.033
EIC	2015	0.120	0.215	0.314	0.818	0.417	9.61	0.341	0.957	0.104	0.103
EIC	2016	0.112	0.214	0.325	0.770	0.428	9.66	0.311	0.663	0.094	0.093
EIC	2017	0.132	0.219	0.333	0.791	0.438	9.71	0.314	0.107	0.096	0.133
EIC	2018	0.153	0.150	0.388	0.661	0.446	9.79	0.342	0.138	0.068	0.082
EIC	2019	0.164	0.160	0.426	0.798	0.448	9.84	0.368	0.158	0.084	0.072
EIC	2020	0.121	0.310	0.454	0.829	0.457	9.98	0.354	0.204	0.061	0.122
EIC	2021	0.131	0.223	0.488	0.800	0.464	10.03	0.324	0.268	0.056	0.010
EIC	2022	0.141	0.100	0.461	0.840	0.443	10.05	0.332	0.339	0.053	0.023
EIC	2023	0.156	0.121	0.478	0.865	0.434	10.11	0.343	0.303	0.058	0.031

Appendix 3. Random effect regression analysis result

Random-effects GLS regression					Number of obs = 100	
Group variable: newvar					Number of groups =	90
R-sq:					Obs per group:	
within = 0.8929					min =	1
between = 0.7926					avg =	1.1
overall = 0.8030					max =	4
ROA	Coef.	Std.Err.	Z	P>z	[95% Conf.	Interval]
PG	-0.01944	0.011965	-1.63	0.1040	-0.0428949	0.0040069
RR	0.144894	0.0301516	4.81	0.0000	0.0857981	0.2039901
CR	-0.12421	0.0112349	-11.06	0.0010	-0.1462307	-0.1021907
TA	0.139141	0.0149579	9.3	0.0000	0.1098236	0.1684575
CZ	0.012007	0.0015439	7.78	0.0070	0.0089808	0.0150329
LQ	-0.01076	0.0565842	-0.19	0.8490	-0.1216633	0.1001427
IR	-0.01632	0.0059758	-2.73	0.0060	-0.0280286	-0.0046038
GD	0.440696	0.1173912	3.75	0.0003	0.2106134	0.6707785
AS	0.065915	0.0219392	3	0.0030	0.0229146	0.1089147
_cons	-0.03269	0.0339254	-0.96	0.3350	-0.0991844	0.0338006

Appendix 4. Company financial data collection format

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Net Income										
Total asset										
Gross Premium income										
Premium Cession										
Claims ratio										
Expense ratio										
Fixed Asset										
Operating Expense/P										
Cost of technology/p										
annual No of Policy (composite Buss.)										
NIB										
UNITED										
AWASH										
NILE										
NYALA										
ABAY										
ETHIOLIFE										
OROMIA										
AFRICA										
EIC										

Appendix 5. Macro-economic data collection format

Year	Real GDP	Inflation rate
2014		
2015		
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		

Appendix 6: Interview Questions for Ethiopian insurance industry Executive members

- 1. What challenges do you face, in your insurance companies and at the industry level?**
- 2. Which variables highly influenced your company's growth?**
- 3. Do you think that macroeconomic environments like GDP and inflation influence your insurance company's growth?**
- 4. What measures are taken by your company to reduce the influence that affects growth negatively?**
- 5. Any ideas or comments?**