Addis Ababa University

College of Business and Economics

Master of Business Administration Program Office

The Determinants of Financial Performance of Insurance Companies in Ethiopia

By: Tesfamichael Gizachew

A Thesis Submitted to the Master of Business Administration Program Office, College of Business and Economics, Addis Ababa University in Partial Fulfillment of the Requirements for a Degree of Master of Business Administration (MBA) in Finance

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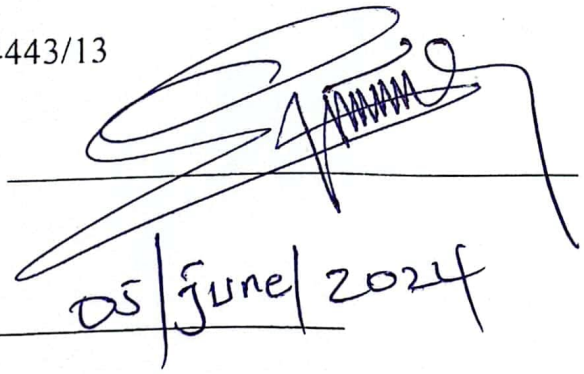
Name: Tesfamichael Gizachew

ID: GSE/4443/13

Signature: 

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Advisor: Temesgen Worku (PH.D.) Signature _____ Date 05/06/2024

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Approval page

The Determinants of Financial Performance of Insurance Companies in Ethiopia

By

Tesfamichael Gizachew

ID: GSE/4443/13

Under the supervision of Temesgen Worku(PHD)

Signed by the board of examiners:

Advisor: Temesgen Worku (PH.D.) Signature _____ Date 05/06/2024

Examiner: Dr. Demeke Chimdessa Signature _____ Date 02 July 2024

Examiner: Signature _____ Date 04/07/2024

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Acronyms and Abbreviations

AEI: Association of Ethiopian Insurers

BLUE: Best Linear Unbiased Estimator

CLRM: Classical Linear Regression Model

GDP: Gross Domestic Product

HO: Null Hypothesis

IMF: International Monetary Fund

INFO: Inflation Rate

LIQ: Liquidity

LVR: leverage

MCI: Management competency index

MDP: Management Development Program

MOF: Ministry of Finance

MoFED: Ministry of Finance and Economic Development of Ethiopia

NBE: National Bank of Ethiopia

OLS: Ordinary Least Square

ROA: Return on Assets

ROE: Return on Equity

SZC: company Size

Abstract

In today's economic world, insurance is a key risk-mitigation mechanism. Financial soundness, social stability, and economic development depend on the presence and longevity of financially stable insurance companies. To assure insurers' reliability and financial soundness, it is critical to understand the elements that influence their financial performance. This study aimed to look into the factors that influence the financial performance of Ethiopian insurance businesses, using ROA as a metrical. The study used a correlation explanatory research design and a quantitative research approach to investigate the link between ROA and independent factors such as leverage, liquidity, the management competency index, firm size, inflation, and GDP growth. The analysis examined secondary panel data from 2014 to 2020, covering all Ethiopian insurance providers. The study used descriptive statistics, correlation analysis, and multiple regression analysis to examine insurance firms' financial performance. The regression results showed that ROA was positively and significantly influenced by the management competency index and business size and positively and insignificantly by GDP. Inflation had a negative and minor impact on ROA. The liquidity and leverage ratios were both negative and significant. The study recommended that insurance companies maintain an acceptable degree of leverage and effectively manage their capital, as well as maintain an adequate level of liquidity and effectively manage their cash flow. Additionally, the study suggests that insurance companies adjust their prices, costs, and interest rates to account for inflation expectations, which helps maintain profit margins.

Keywords: Return on Asset, Financial performance, insurance companies

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Insurance companies play a significant role in today's business since they cover enterprises and individuals, reducing business losses and protecting social and economic activity from failure. Insurance companies contribute to society's economic and social well-being by moderating losses, reducing worry and fear, creating job opportunities, and collecting premiums for long-term investments (Kazeem, 2015). The success of business is extremely vital which helps in promoting the growth of specific industries and also as well as to the overall well-being of the economy of the one country (Burca & Batrinca, 2014).

In the insurance industry, performance criteria include guaranteeing profitability, premiums earned, return on financing, return on assets, annual turnover, and equity (Walker, 2001). This system of measuring can be categorized into two groups: non-financial and financial performance indicators. Firm-specific factors, sector characteristics, and macroeconomic variables influence nonfinancial metrics. Financial performance, on the other hand, is measured using monetary profits obtained from the difference between revenues and expenses (Walker, 2001).

Financial performance encompasses various metrics used to evaluate how effectively and efficiently an organization utilizes its assets to generate income," according to (Almajali, 2012). Operating income, earnings before interest and taxes (EBIT), and net asset value are important measures of financial performance. It is commanding to stress that no one financial performance metric should be taken into account in isolation. Instead, a thorough evaluation of a business's

success should take into account a variety of metrics. Measuring financial performance is important since it keeps track of a company's financial activities and standing and is essential to its operations. When it comes to insurance firms, their performance is a key marker of a healthy economy and can even raise a country's GDP ((Joseph, 2013). (Hifa, 2011) emphasizes the importance of profitability in financial management, as it increases owners' wealth and impacts performance. Non-profitable businesses no longer persist. In contrast, a very rewarding business can provide its owners with a significant return on their investment and earnings per share. A corporate entity's ultimate determination is to generate maintainable profit for the stakeholder under the current market conditions.

Concluding the aforementioned considerations, the current business environment would not last in the absence of insurance firms. This is because current economic units frequently demonstrate imbalances, with some having enormous funds and others having scarce. Furthermore, without the active involvement of these organizations, hazardous endeavors cannot fully assume the range of hazards in the current, extremely uncertain atmosphere.

In more recent research, evaluating the financial sector's profitability has become increasingly Vital. But the insurance sector hasn't gotten enough attention in this area as banks, especially in Ethiopia. Previous research on insurance has mostly concentrated on firm-specific aspects while ignoring the possible influence of external factors, and macroeconomic issues. Therefore, empirical research is required to determine the main factors influencing insurance businesses' financial performance by encompassing both firm-specific and macroeconomic factors. By identifying these critical factors which are crucial for investors, scholars, financial analysts, and regulatory bodies in Ethiopia this study seeks to close this gap.

1.2. Statement of the Problem

The success of the economy as a whole is reinforced by the industry's general growth as well as the performance of individual business elements, which in turn affects those businesses' market values (Abate, 2012). In corporate finance, evaluating the performance of financial institutions is essential. These entities assist investment activities in the economy by acting as an intermediate for risk and savings transfers as well as by making it easier to mobilize money from surplus to deficit economic units (Daniel & Aemiro, 2013).

This is particularly significant because insurance can serve as a form of protection against the risks and uncertainties that are associated with the global economy. Thus, it becomes essential to understand the factors that influence insurers' profitability. As a key indicator of a company's capacity to create revenue effectively, profitability is an indispensable element of success. Optimizing the performance of insurance companies requires identifying the most important variables driving and determining profitability.

Despite the above, not much study has been done on the Ethiopian insurance sector by encompassing external variables; instead, internal variables are getting all of the attention. The study conducted by (Daniel & Aemiro, 2013) they examined the factors that affect the profitability of insurance businesses in Ethiopia. The study took into account explanatory variables such as the company's age and size, leverage, loss ratio, tangibility of assets, liquidity, and premium growth. According to their investigation, these variables especially the company's age came up as the most important predictors of profitability.

Leverage, equity capital, management competency index, size, and ownership structure were found to be the predictors of financial performance by Mwangi & Jane Marig (2015). Leverage,

liquidity, size, risk, and tangibility all have a major impact on the financial performance of financial sectors, according to (R, Imran; Majeed, M; A, and Abida, 2015). The findings (Mohammed, 2016) imply that the performance of covering groups in Ethiopia is significantly impacted by firm leverage, size, tangibility, and commercial enterprise hazard.

Nevertheless, Abate (2012) employed the company's age, size, leverage, growth, capitalization, tangibility, and liquidity as the explanatory variable and the performance measures ROA as the dependent variable. The performance of the insurance sector is then determined by several key characteristics, including leverage, size, volume of capital, growth, and liquidity. However, it is thought that firm age and the value of tangible assets are not particularly useful independent variables in assessing how well insurance companies operate.

Although the insurance industry has been the subject of significant research, the majority of the literature is devoted to the banking sector. Few research has looked into the variables affecting Ethiopian insurance businesses' financial Performance. Furthermore, current researches frequently ignore other insurance company's factors in favor of focusing solely on firm-specific factors. This study fills up these gaps by combining macroeconomic and firm-specific factors that influence Ethiopian insurance companies' financial performance. This study adds to the collection of literature by identifying factors that have either a favorable or adverse effect on financial performance. Looking at previously unidentified elements influencing financial performance in the insurance industry also fills in a knowledge gap. It looks into how macroeconomic and firm-specific factors affect financial performance.

1.3. Objective of the study

1.3.1. General Objective

The core objective of this study is to investigate the determinants of the financial performance of insurance companies in Ethiopia in the period of 2014-2020.

1.3.2. Specific Objective

The specific objectives of the study are:

- To investigate whether the leverage ratio has a negative and significant impact on the financial performance of Ethiopian insurance companies.
- To investigate whether the liquidity ratio negatively and significantly impacts the financial performance of insurance companies in Ethiopia.
- To investigate whether company size positively and significantly impacts the financial performance of insurance companies in Ethiopia.
- To investigate whether management competence positively and significantly impacts the financial performance of insurance companies in Ethiopia.
- To examine whether inflation negatively and significantly impacts the financial performance of insurance companies in Ethiopia.
- To investigate whether economic growth positively and significantly impacts the financial performance of insurance companies in Ethiopia.

1.4. Hypothesis of the Study

Based on the objective, the study was tested the following hypothesis:

H1: There is a positive and significant impact of company size on the financial performance of insurance companies in Ethiopia.

H2: Leverage ratio has a negative and significant impact on the financial performance of Ethiopian insurance companies.

H3: Ethiopian insurance companies' financial performance is negatively and significantly impacted by the liquidity ratio.

H4: Management competence has a positive and significant impact on the financial performance of Ethiopian insurance companies.

H5: Inflation negatively and significantly impacts the financial performance of insurance companies in Ethiopia.

H6: Economic growth has a positive and significant effect on the financial performance of insurance companies in Ethiopia.

1.5. Significance of the study

The importance of Ethiopia's insurance sector in supporting the country's economy and offering basic services to its citizens makes the study important. Moreover, it provides factual data to provide a thorough analytical framework for evaluating financial performance in Ethiopia's insurance industry.

It is also essential for policymakers participating in the financial system, such as central banks, government agencies, and supervisory and regulatory bodies, to comprehend the factors that impact the insurance business. The results of this study will assist in forming commercial connections and informing policy decisions, which are important stakeholders in economic progress.

Generally, by filling the gap in the current literature, the study offers value and might encourage more research in this field. It can encourage more research in this area and add to the body of knowledge regarding the performance of the insurance sector by acting as a reference point for other scholars.

1.6. Scope and limitation of the study

Examining the factors that influence financial performance among insurance companies registered with NBE is the ultimate objective of the study. All of the insurance companies' annual reports from the Association of Ethiopian Insurers' seven-year (2014-2020) period are the primary source of data used. Secondary data is the only source used in the analysis. In particular, firm size, managerial competency index, leverage, and liquidity ratio are firm-specific criteria taken into account. The macroeconomic variables that are considered are GDP and inflation.

It's also crucial to remember that while not all insurance companies in Ethiopia provide life assurance services, the study only looks at general insurance companies. Income statements and balance sheets from these general insurance companies are the main sources of data.

1.7. Organization of the Study

This study is structured into five sections: Introduction (Brief): This section provides an overview of the research issue addressed, setting the stage for the subsequent sections. Literature Review (Section Two): Here, both theoretical frameworks and empirical evidence related to the determinants of export performance are reviewed and discussed.

Methodology (Section Three): This section outlines the types of data utilized, research design, model specification, and methodology employed in the study. Results and Analysis (Section Four): This section presents the estimation outcomes and interprets the empirical results obtained from the estimated models. Conclusion and Recommendations (Section Five): Finally, this section summarizes the study's key findings and concludes by offering recommendations based on the research outcomes.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The concept of insurance businesses is introduced in this chapter, which also looks at their financial performance using the theoretical framework of dependent and independent variables. There are three components to it. The first part of the article dives into studies of theoretical literature, examining the nature of insurance businesses, their financial performance, and performance-influencing factors. The next part covers empirical literature, including investigations carried out by different researchers in Ethiopia and around the world. Ultimately, the chapter wraps up with a conceptual framework and a summary of the most important discoveries.

2.2 Theoretical Literature Review

2.2.1. The Concept of Insurance Companies

"Insurance is a service sector that provides financial advantages to people, organizations, or enterprises in exchange for premium payments is referred to as insurance. Its main purpose is to safeguard against possible threats. Such services are developed, produced, and marketed under the insurance sector. In addition, insurance companies are essential to the economy because they provide long-term funding for initiatives related to social and physical infrastructure, which helps to mitigate risk (Chen. R & Wong, 2004)".

Every economy benefits greatly from the contributions of insurance business companies, their unique function and operation is to offer customized financial services, which includes taking on

risks related to businesses and accumulating large sums of money by charging premiums for longer-term investments. Insuring against risk allows insurers to maintain market equilibrium and boost economic entities' confidence. The ability of insurance companies to produce profits or value for stakeholders determines how well they manage economic risks. A healthy and developed insurance industry provides long-term capital for expansion, which is a stimulant for economic growth (Charumathi, 2012).

“General insurance and life assurance are the two primary segments of the insurance market. General insurers handle risk, whereas life insurance businesses work mainly as financial intermediaries. (Chen. R & Wong, 2004)”. General insurance includes several categories, each of which represents a particular area of risk coverage, such as fire, automobile, accident, gas, and oil. These contracts create commitments between policyholders and insurers, with the insurer agreeing to pay benefits if certain conditions are met. On the other hand, individual life, group life, pension, health, and annuity insurance are all included in the life assurance business. (Suheyli, 2015)”.

2.3. Financial Performance of insurance companies

"Financial performance encompasses various metrics used to evaluate how effectively and efficiently an organization utilizes its assets to generate income," according to (Almajali, 2012). Operating income, earnings before interest and taxes (EBIT), and net asset value are important measures of financial performance. It is imperative to stress that no one financial performance metric should be taken into account in isolation. Instead, a thorough evaluation of a business's success should take into account a variety of metrics. Measuring financial performance is important since it keeps track of a company's economic activities and standing and is essential to

its operations. When it comes to insurance firms, their performance is a key marker of a healthy economy and can even raise a country's GDP ((Joseph, 2013).

Indicating efficiency and functioning as an indication of good management, profitability directs efforts in the direction of increased efficiency. Maximizing profitability is the most important goal of financial management because it immediately increases the wealth of the stakeholders. Profitability is therefore a key factor in determining performance (Hifa, 2011).

As per Nandan (2010), “The concept of financial performance is a comprehensive assessment of a company's overall financial well-being over a given period. It measures the efficiency and effectiveness with which a company uses its assets to generate revenue within its core business operations. It makes it possible to compare comparable businesses within the same industry or between various industries or sectors”.

2.4. Factors affecting the performance of insurance companies

The profitability of insurance is determined by both internal and external variables. External determinants include macroeconomic variables and industry features, whilst internal elements are exclusive to the insurer. This research takes into account a variety of macroeconomic factors in addition to the internal factors that are often the focus of studies that analyze profitability in the insurance industry. (Hifa, 2011). The impact of firm-specific factors and the influence of macroeconomic factors on profitability are the two primary categories of the literature

2.4.1. Internal Determinants

According to (Yuqi, 2007) “internal determinants are elements present in businesses that have the power to determine whether they succeed or fail. These elements include technology, organizational structure, employee competencies, culture and values, and financial resources. Controlling these internal factors is essential for any firm to meet its targets. The factors that are used in research to examine the profitability of finance and insurance companies are thoroughly explained in this section. Moreover, one non-financial variable and one variable from the internal financial report are described”.

1. **Company Age**

Businesses with longer histories and established reputations tend to have higher levels of customer satisfaction and loyalty. In addition, more established businesses tend to have greater experience with complex claims and risk management, which benefits policyholders and insurers alike. However, the study also raises the possibility that more recent organizations may exhibit greater flexibility and responsiveness to changes in the market. In the end, a company's age is only one of many variables affecting its performance; instead, each business should be evaluated according to its advantages and disadvantages. (Hamadan, 2008).

2. **Company Size**

The size of a company plays a pivotal role in determining its success. Larger firms often enjoy a stronger market position and benefit from economies of scale, resulting in various advantages ((Flamini, McDonald, & Schumacher, 2009). Research indicates a notable positive association between company size and profitability, as evidenced by Return on Assets (ROA) measurements. (Swiss, 2008) (Hifa, 2011).

However, there is disagreement on the optimal size to maximize profits. After a particular asset threshold, companies may see declining returns, which could have unfavorable effects like more bureaucracy (Hamadan, 2008). Because of this, the link between size and profitability may not always be linear, which is why the logarithm of actual assets is used in many research. Athanasoglou (2006) and Yuqi (2007) found that there was a positive relationship between profitability and the size of the company.

3. Liquidity Ratio

The two main sources of liquidity for insurers are cash flow and asset sales. On the other hand, conflicting results have come from empirical research on liquidity (Renbao & wang, 2004). To put it simply, insurers need liquidity since it shows how well-equipped they are to handle their existing obligations, which usually include paying claims or running costs if damages are sustained.

Naveed (2011) investigated the relationship between return on assets (ROA) and liquidity in Pakistan and found that there was little statistical correlation between the two. On the other hand, (Chen. R & Wong, 2004) found an adverse link between liquidity and insurers' financial soundness. In a similar vein, (Hakim & Neaime, 2005) stressed the role that existing capital, investments, and liquidity play in determining insurance profitability.

4. Leverage Ratio

“Leverage ratios are used to compare an insurance company's obligations to equity to assess its financial performance. A low ratio denotes less debt and better financial stability, whereas a high ratio shows a sizable amount of debt relative to equity, signaling increased risk. As a result, insurance companies should generally aim to keep their leverage ratio low as a measure of their sound financial standing” (Athanasoglou, 2006).

5. **Management competency**

According to (Pavett & Lau, 1983) “Competency in management significantly influences a company's financial performance. Effective management practices enhance productivity, reduce waste, and facilitate informed decision-making, improving profits. Conversely, ineffective management can result in inefficiencies, errors, and delays, negatively impacting the company's bottom line. Therefore, companies must invest in developing and maintaining strong management competencies to ensure long-term success”.

Competency can be understood in various ways. (Boyatzis, 1982) Defines it as a “fundamental aspect of an individual, encompassing traits, motives, skills, self-image, social roles, or knowledge utilized by a person”. (Hamel & Prahalad, 1994) Describe “competency as a combination of skills and technologies enabling organizations to deliver benefits to clients, rather than singular skills or technologies”.

2.4.2. External Determinants

External determinants of insurance companies' financial performance encompass factors beyond the firm's control that can influence their financial well-being and success. These factors include regulatory policies, economic conditions, market competition, inflation, interest rates, and natural disasters. Their impact can substantially affect profitability, solvency, and growth prospects. By adeptly managing and comprehending these external determinants, insurance companies can improve their financial performance and maintain stability within the industry (Teece, 2009).

1. **Inflation**

Higher household consumption costs are usually the result of inflation, which may lower savings and lessen demand for life insurance products. Insurance businesses' profitability will therefore

probably decline (Hadush, 2015). However, depending on whether a household or business wants to protect itself from inflation, the effect of inflation may differ between life and non-life insurance firms. According to (Hussain, 2015), between 2006 and 2009, inflation had a detrimental effect on the profitability of Pakistani textile industries.

2. **Growth in the gross domestic product (GDP)**

The GDP, or gross domestic product, is a crucial macroeconomic metric that shows the total amount of goods and services generated in a country during a given time frame, usually a year. GDP growth is a good indicator of the state of the economy overall and, by extension, of insurers' potential (Hussain, 2015). Reduced investments made within a nation due to unfavorable economic conditions can affect business performance (Teklit & Jasmindeep, 2017).

Investments typically rise with GDP expansion, which may raise demand for insurance products. This increasing demand may help insurers by resulting in greater gross premiums and higher income. Economic growth raises people's purchasing power in addition to raising income and living standards. (Burca, M.A; Batrinca, G., 2014)

2.5 Empirical Review Literature

The majority of studies that have been carried out have concentrated on the relationship between a company's profitability and its financial performance. For example, (Gemechis, 2017) investigated the factors that impact the profitability of insurance companies in Ethiopia. Using panel data, Debela examined twelve insurance companies over six years (2011–2016). The panel least square regression analysis results reveal a statistically significant and positive relationship between the profitability of non-life insurance businesses and the industry concentration ratio and leverage. On the other hand, there is a statistically significant and negative relationship between

underwriting risk diversification, reinsurance dependence, and the profitability of general insurance.

An investigation of the variables impacting Ethiopian insurance companies' profitability was carried out (Asrat & Tesfahun, 2016). Using panel data analysis, they examined data from eight private insurers in Ethiopia over eleven years (2005–2015) and came to numerous important conclusions. According to their regression research, underwriting risk and solvency ratio hurt profitability, although firm size and premium growth have a beneficial impact. It's interesting to note that factors affecting profitability, such as inflation, interest rates, and reliance on reinsurance, were determined to be statistically irrelevant. Additionally, the profitability of non-life insurance companies was found to be significantly positively correlated with leverage and industry concentration ratio according to panel least square regression analysis (Asrat & Tesfahun, 2016).

In her research (Hanna, 2015), she examined the internal and external factors that affect insurance businesses' profitability in Ethiopia. A panel data study covering the years 2005 to 2014 was used to look at nine insurance companies in particular. Leverage, company expansion, and tangible asset quality are the main internal determinants driving profitability, according to the study. Firm growth enhances insurers' profitability, whereas asset tangibility and leverage have the opposite effect.

Hadush (2015) analyzed the profitability factors that impact insurance firms in Ethiopia. Panel secondary data were subjected to econometric studies between 2005 and 2014, with a sample of nine Ethiopian general insurance companies being the subject of the research. According to the study, the most important variables influencing profitability are real GDP, claim ratio, tangibility, capital volume, and premium growth. More specifically, tangibility, capital volume, and premium increase are all significantly and favorably correlated. On the other hand, though not significantly,

profitability shows a negative association with both the claim ratio and real GDP. Notably, profitability does not seem to be correlated with either liquidity or inflation (Suheyli, 2015).

2.6. Knowledge Gap

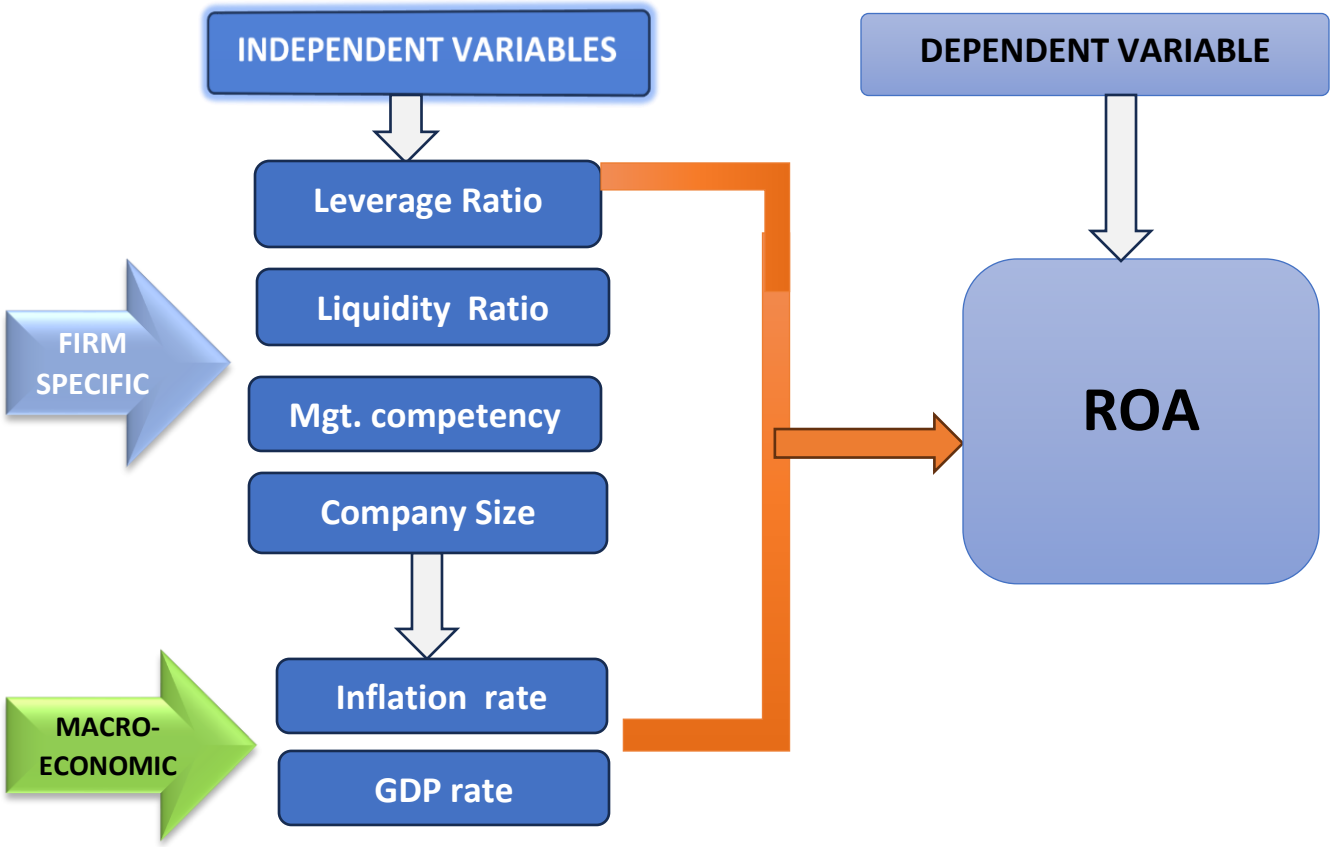
Studies on the factors affecting Ethiopian insurance businesses' profitability are few, especially when compared to studies on banks. As a result, compared to banking, there is less Attention devoted to insurance. Previous research tended to leave out specific organizations by selecting samples from a list of insurance businesses that are already in existence in Ethiopia. There is still a shortage of research on the impact of macroeconomic and industry-specific factors on financial success, and the results vary somewhat amongst studies.

Although the insurance sector has been the subject of some research, the majority of studies have been concentrated on banks. The elements influencing Ethiopian insurance businesses' financial success have not received much attention in research. Moreover, a lot of research focuses mostly on firm-specific factors while ignoring broader macroeconomic effects. While keeping in mind the limitations of empirical research, researchers have made an effort to fill up these gaps by taking into account both firm-specific and macroeconomic factors affecting the financial performance of all insurance businesses in Ethiopia.

2.7 Conceptual Framework

A conceptual framework is a map that shows how particular variables are connected in the study, it helps to identify the variables that will be used in the research process.

Figure 2.1 Conceptual framework



Source: Developed by researcher from Empirical review

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This implies that it is the researcher's plan of action to collect data, analyze data, answer questions, and test the hypotheses generated. It provides the procedural outline to conduct any investigation from start to end. Correlation explanatory research design helps the researcher construct correlational statistics and find out the degree of relationship between the dependent and independent

3.2 Research Approach

The researcher used a quantitative research approach to examine the variables influencing the financial performance of insurance businesses because the study's data are quantitative. This technique uses multiple regression analysis to quantify and ascertain the effects of different factors on financial performance. Because it may take into account the simultaneous relationships between independent and dependent variables inside the regression model, multiple regression analysis is used. All of the study's data sources were quantified to meet the research goal, and an econometric model was built to determine the importance of each aspect and how it affected financial performance.

3.3 Data Sources and Data Collection Methods

The researcher focused on secondary data collected from various sources including financial statements of specific insurance companies, the National Bank of Ethiopia (NBE), the Association

of Ethiopian Insurers (AEI), and financial publications from the Ministry of Finance of Ethiopia, as well as data from the IMF and World Bank, to fulfill the research objectives.

3.4 Total Population

The study's target populations are all insurance businesses that are registered with NBE and that operate in Ethiopia. 17 insurance companies are operating in Ethiopia, according to the 2020 NBE annual report. Due to the large number of small enterprises, all Ethiopian insurance providers are included in this analysis. Secondary data was collected from all insurance firms between 2014 and 2020 as part of a seven-year panel study. Using years of financial panel data is deemed relevant since most finance research suggests using data for spans of five years and higher. Including all insurance providers reduces sampling mistakes and other associated problems.

3.5 Method of Data Analysis

Data was collected from multiple sources and analyzed using descriptive statistics to achieve the research goal. All insurance firms' lowest and maximum values, means, and standard deviations were included in the data, which allowed for an analysis of the general patterns in the dependent and independent variables from 2014 to 2020. Moreover, in addition to multiple linear regression analysis, Breusch-Godfrey LM correlation analysis was used to investigate the relationship between the dependent and explanatory variables.

3.6 Operational Definition of Variables and Hypothesis Development

3.6.1. Definition of Variables

Quantitative research necessitates a precise delineation of the variables, enabling readers to comprehend the experimental manipulation of variable groups and the measurement of outcomes (Creswell, 2014).

Dependent Variables

ROA is the dependent variable commonly used to measure insurance companies' financial performance, which will be assessed using profitability ratios taken from their annual reports. Is a system of measurement used to measure a company's financial performance. It is defined as insurance companies' net profit before tax over total assets (Mehari & Aemiro, 2013).

Independent Variable

The choice of explanatory variables is contingent upon their theoretical association with the outcome variable. In this study, four variables about the firm (internal) and two variables concerning the economy (external) were utilized.

1. **Company Size**

Despite variations in research outcomes, as stated earlier, the researcher posits that a positive and significant correlation exists between insurance companies' financial performance and their company size, aligning with the prevailing literature.

2. **Leverage Ratio**

various research findings have presented divergent outcomes. Nevertheless, the researcher acknowledges that, in line with the predominant findings in the literature, there exists a significant and negative correlation between the leverage ratio and the financial performance of insurance companies.

3. **Liquidity Ratio**

The researcher contends that there exists a significant and negative correlation between the financial performance of insurance companies and liquidity, as indicated by the majority of the literature's findings.

4. **Management competency**

management competency is evaluated by dividing profit by the number of management teams within each insurance company to calculate the competency.

5. **Growth of domestic product**

As previously discussed, the researcher contends that there exists a positive and significant relationship between GDP and the financial performance of insurance companies, as indicated by the majority of the literature's findings.

3.7 Model Specification

The most important phase in building a model is defining the connections between the independent and dependent variables. This may entail creating descriptive or predictive models (William, Zikmund, Babin, & Mitch, 2010). The econometric panel data model could be applied to the data used in this investigation. Because panel data can account for individual variation and shows less

multicollinearity between variables, it is chosen over pure time series and cross-sectional data (Altai, 2005).

The size of the business, liquidity, leverage, managerial competency index, GDP, and inflation rate are among the independent factors included in this research.

A correlation matrix facilitates understanding the relationships between variables. Correlation analysis and multiple linear regression analysis are performed to explore the relationship between the dependent variable and the explanatory variables. The statistical package ordinary least squares (OLS) is utilized to identify the most significant impact of explanatory variables on the financial performance of private insurers in Ethiopia. Descriptive statistics, including mean values and standard deviations, are applied to the panel data collected to illustrate general data trends for all insurance companies in the sector from 2014 to 2020.

$$ROA_{it} = \beta 0 - \beta 1\ Lvr_{it} - \beta 2\ Lqr_{it} - \beta 3\ Infr_{it} + \beta 4\ Mci_{it} + \beta 5\ GDPr_{it} + \beta 6\ Szc_{it} + u_{it}$$

Where:

β0, β1, β2, β3…β6 are parameters to be estimated with a priori expectation.

ROA = Return on asset, indicated by the ratio of net income to total assets

i= Insurance company and i = 1, 2, 3……. 17

t= The index of time periods and t = 1, 2, 3. . .. 7

***Lvr**: Leverage ratio*

***Lqr**: Liquidity ratio*

***Inf.:** Inflation*

***Mci**: Management Competence Index*

***GDP**: Gross Domestic Product*

***Szc**: Company Size*

U_{it}: *represents unobservable factors of company i in year t*

it: *Insurance company and the index of periods 1.2.3….17*

Table 3.1. Description of variables and expected relationship

	Variables	Notation	Measure	Sources of Data	Expected Sign
Dependent Variable	Firms Performance	***ROA***	Net profit /total assets	Financial Statements	
Independent Variables	Leverage ratio	***Lvr***	Total liability / total Asset	Financial Statements	-Ve
	Liquidity ratio	***Lqr***	Current assets / current liability	Financial Statements	-Ve
	Management competency index	***Mci***	The ratio of profit to the number of the management team	Financial Statements	+Ve
	Company size	***Szc***	Natural logarithm of total asset	Financial Statements	+Ve
	Inflation rate	***Info***	The country's annual inflation rate	IMF	-Ve
	GDP growth rate	***GDPr***	The real GDP growth rate of the country	World Bank	+Ve

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter examines the factors that determine insurance companies' financial performance. There are three sections in this chapter. Descriptive statistics and correlations analysis are covered in Section One, the diagnosis test and CRLM assumptions are covered in Section Two regression analysis is covered in Section Three, and the last section, discussion and findings on Ethiopian insurance companies are presented.

4.2. Descriptive Statistics

The researcher provides the descriptive statistics for the independent and dependent variables used in the study in this part. The financial success of the insurance company as determined by the return on assets (ROA) is the dependent variable. The managerial competency index, company size, leverage, liquidity, and inflation rate are all examples of explanatory factors.

For the dependent and independent variables, a total of 119 data were gathered from 17 insurance firms between 2014 and 2020. Each study variable's mean, maximum, minimum, and standard deviation are calculated as descriptive statistics.

The following Table 4.1 provides a summary and representation of each descriptive statistics result.

Table 4.1 Summary of descriptive statistics

Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROA	**119**	**.077**	**.035**	**-.01**	**.21**
LVR	**119**	**.648**	**.083**	**.34**	**.81**
LQR	**119**	**1.413**	**.628**	**.79**	**6.25**
INF	**119**	**.12**	**.046**	**.066**	**.204**
MCI	**119**	**5.264**	**2.382**	**-1.18**	**11.96**
GDP.r	**119**	**.0 88**	**.015**	**.06**	**.104**
SZc.	**119**	**6.139**	**1.19**	**4.73**	**10.09**

Source: Researcher Own Stata Computation, 2023

Table 4.1, the firms' performance measured by return on asset (ROA) shows all companies over the last seven years (2014 to 2020) achieved 7.7% on average profit before tax.

ROA (Return on Assets)

The sampled firms' average return on assets (ROA) is 0.077, meaning that they generated an average return of 7.7% on their assets. On the other hand, companies produced an average of 0.077 units of net income for each asset. The ROA standard deviation of 0.035 suggests that asset returns are distributed around the mean. Interestingly, the sample's minimum ROA value is -0.01, suggesting that some of the sample's businesses experienced losses. On the other hand, the highest ROA number of 0.21 reveals that some companies attained extraordinarily high returns on their assets. Moreover, a business with robust financial performance would have a profit-before-tax ratio of 21% to total assets, which would indicate a return of a single unit invested.

Leverage Ratio

The sampled firms' average leverage ratio is 0.648, meaning that these businesses have an average leverage ratio of 64.8%. This implies that debt financing accounts for over 65% of insurance companies' total assets, highlighting the preference for debt financing over equity.

The sample firms' leverage ratios range around the mean, as indicated by the 0.083 standard deviation of the ratio. The lowest figure for the leverage ratio is 0.34, indicating that certain companies have quite low leverage ratios. On the other hand, the maximum value of the leverage ratio is 0.81, indicating that some companies have considerably greater leverage ratios.

Liquidity Ratio

The sampled firms' average liquidity ratio is 1.413, indicating that these businesses typically have a liquidity ratio of 1.41. This shows how well the company can fulfill its immediate responsibilities. The sample's firms' liquidity ratios range around the mean, as indicated by the sample's liquidity ratio standard deviation of 0.628. While the maximum liquidity ratio value is 6.25, which indicates that some organizations have noticeably larger liquidity ratios, the minimum liquidity ratio value is 0.79, which suggests that certain firms have comparatively low liquidity ratios. A high liquidity ratio is generally seen favorably since it shows that the business has enough liquid assets to cover its debts on time.

Inflation

One of the macroeconomic factors looked at in this study is Ethiopia's average inflation rate for seven years, which was 12%. Throughout the study period, the inflation rate fluctuated, reaching a maximum of 20.4% in 2020 and a minimum of 6.6% in 2016. The standard deviation of 4.58%, which shows a lack of stability, reflects this dispersion of inflation rates around the mean. The effect of this volatility on insurance firms' financial performance could not be very great.

The management competency

The sample's management competency (MC) has an average value of 5.26, which suggests that firms' levels of competency are moderate. The sampled organizations exhibit significant variance in management competency, as indicated by the 2.38 standard deviation. The Management Competency has a minimum value of -1.18, which means that certain companies have a very poor competency level. On the other hand, the greatest value of 11.96 indicates that a considerable increase in competency is exhibited by some of the sample firms.

Gross Domestic Product Growth (GDP)

With a sample mean of 0.088 for the Gross Domestic Product Growth Rate (GDPR), an average growth rate of 8.8% is shown. The GDPR's 1.5% standard deviation indicates that growth rates can vary widely from the mean. The GDPR's minimal value of 0.06 indicates a period of comparatively slow GDP growth throughout the previous seven years. On the other hand, the sample's maximum value of 0.104 denotes a time of noticeably rapid GDP growth.

The size of the company

As indicated in Table 4.1, the study's other variable, the company's size, has an average mean value of 613,941,200. This figure shows the average size of businesses that were reported and documented between 2014 and 2020; the smallest and maximum sizes are stated as 473,000,000 and 1,009,000,000, respectively. Furthermore, Table 4.1 shows a noteworthy standard deviation percentage of 119%, indicating significant volatility over the previous seven years among Ethiopian insurance companies. The regression results show that this large size variance may have a significant effect on the financial performance of insurance companies in Ethiopia.

4.3. Correlation Analysis

As per Gujarati (2004), "when the pairwise correlation coefficient between predictors is more than 0.80, multicollinearity becomes a cause for concern". Nonetheless, Hair Jr. (2006) "contended that there may not necessarily be a substantial multicollinearity problem when the correlation coefficient is less than 0.9. Therefore, care should be used when interpreting regression findings to ensure proper inference, even though correlations below 0.9 may not always result in severe multicollinearity".

Table 4.2: Correlation Matrix

Matrix of correlations

Variables	(ROA)	(LVR)	(LQR)	(INF)	(MC)	(GDPR)	(SZC)
(1) ROA	**1.000**						
(2) LVR	**-0.199**	**1.000**					
(3) LQR	**0.066**	**0.061**	**1.000**				
(4) INF	**-0.080**	**-0.031**	**0.139**	**1.000**			
(5) MC	**0.343**	**0.037**	**0.051**	**-0.017**	**1.000**		
(6) GDPR	**0.099**	**0.067**	**-0.097**	**-0.675**	**0.018**	**1.000**	
(7) SZC	**0.568**	**0.165**	**0.308**	**0.047**	**-0.045**	**-0.039**	**1.000**

Source: Researcher Own Stata Computation, 2023

The results presented in Table 4.2 indicate that the independent variables of management competency, company size, and leverage are significantly associated with return on assets (ROA) at 0.1 levels of statistical significance. On the other hand, liquidity, GDPR, and inflation

variables do not significantly correlate with ROA. The correlation between the leverage ratio and inflation is negatively correlated with ROA, while the correlation between the liquidity ratio, GDPR, and company size is positively correlated. The correlation coefficient between company size and the financial performance of insurance firms is the highest at 0.568. This suggests that there is no multicollinearity issue in this study.

4.4 CLRM assumptions and Diagnostic tests

To make sure the presumptions of the traditional linear regression model were met, diagnostic tests were run. The purpose of these tests was to confirm desired characteristics in the coefficient estimators of the independent variables (β) and constant term (α), which were obtained using ordinary least squares (OLS) and are referred to as best linear unbiased estimators (BLUE) (Gujarati, 2004). These tests aim to evaluate the validity of the classical linear regression model assumption. Therefore, the study was examined for normality, autocorrelation, heteroscedasticity, multicollinearity, and an error term mean of zero. The results of these tests on the classical linear regression model's assumptions are explained and supported in the section that follows.

4.4.1. The Errors have zero mean

According to Brooks (2008), “the average error term value needs to be zero for the second CLRM assumption to hold. If this requirement is not met, a biased regression line will be produced, which will consistently underestimate or overestimate the real connection. If there is a constant term in the regression and the average error value is zero, this assumption is still true. Because the regression model in this study included a constant component that guarantees that the mean of the errors equals zero (E(ut) = 0”.

4.4.2. Tests of Heteroscedasticity

The homoscedasticity assumption (Brooks, 2008) suggests that "the variance of the disturbance stays constant. Although errors may still average zero when regression models are evaluated on non-constant data, the predictions may become imprecise. Some independent variables may appear inconsequential despite their true significance as a result of this variance discrepancy. The error is referred to as heteroscedastic if its variance is irregular". One tool used to evaluate heteroscedasticity is the Breusch and Pagan test.

The hypothesis for testing the presence of Heteroscedasticity:

H0: There is no Heteroscedasticity

H1: There is Heteroscedasticity

Table 4.3 Breusch and pagan test for Heteroscedasticity result

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of ROA

         chi2(1)      =     0.92
         Prob > chi2  =   0.3369
```

. Since the p-value is greater than 0.05, we fail to reject the null hypothesis and conclude that there is no evidence of heteroskedasticity

4.4.3 Test for autocorrelation

It is assumed in panel data analysis that the disturbance term of each observation is independent of other observations, meaning that there is no correlation between disturbances and zero

covariance over time. (Gujarati, 2004) refer to disturbances that exhibit correlation as "autocorrelated" or "serially correlated." This assumption is tested using the Breusch-Godfrey LM test for panel data.

The hypothesis to test serial correlation:

H0: There is no autocorrelation

H1: There is autocorrelation.

Table 4.4 The result of the Breusch-Godfrey test result

Breusch-Godfrey LM test for autocorrelation

lags(*p*)	chi2	df	Prob > chi2
100	100.322	100	0.4721

H0: no serial correlation

Source: Researcher Own Stata Computation, 2023

The Godfrey autocorrelation test for 119 observations of panel data yields a p-value of 0.472, exceeding the significance level of 0.05. Consequently, we do not reject the null hypothesis, leading the researcher to conclude that the model has no autocorrelation issue.

Variance inflation factor

	VIF	1/VIF
INF	**1.855**	**.539**
GDPR	**1.844**	**.542**
SZC	**1.138**	**.879**
LQR	**1.13**	**.885**
LVR	**1.036**	**.965**
MC	**1.009**	**.991**
Mean VIF	**1.335**	**.**

From the above table, the VIF value of all independent variables is below 10, which concludes that there is no multicollinearity concern.

4.4.4 Test for Normality

According to Brooks (2008), "the classical linear regression model (CLRM) implies that the residuals have a zero mean and a normal distribution with constant variance. Relatives may have a normal distribution if the histogram shows a bell-shaped curve and the Bera-Jarque statistic is not significant. Accordingly, p-values higher than 0.05 signify that the normalcy null hypothesis is accepted"

The hypothesis of the normality test is presented as follows:

H0: The residuals are normally distributed.

H1: The residuals are not normally disturbance

Table 4.5 Skewness/Kurtosis Tests for Normality

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
myresiduals	119	0.0694	0.0859	5.97	0.0505

Source: Researcher Own Stata Computation, 2023

The researcher can conclude that the variable residuals are normally distributed based on these observations. The skewness probability values are greater than 0.05, which means that at the 5% significance level, the null hypothesis is not rejected. On the other hand, the kurtosis probability values are more than 0.05, indicating that the null hypothesis is retained at the 5% significance level. The joint chi-squared statistic further supports the variable's normal distribution, which is significant at the 5% level.

4.5 Regression Analysis

A regression model's overall fit can be assessed using the standard error of the estimate. It displays the degree of confidence in the calculated coefficient estimate. While a greater standard error is less advantageous, a smaller standard error produces a larger test statistic, suggesting a better fit. To put it simply, a reduced standard error indicates that the regression line fits the data more closely (Brooks, 2008).

To forecast the effect and direction of each independent variable on the dependent variable, the researcher used multiple regressions. Return on Assets (ROA) is the dependent variable, and the size of capital, GDP growth rate, inflation rate, liquidity ratio, leverage ratio, and management competency index are the independent factors.

Table 4.6 Result of regression

```
. reg ROA LVR LQR INF MC GDPR SZC
```

Source	SS	df	MS	Number of obs	=	119
				F(6, 112)	=	27.22
Model	.088022363	6	.014670394	Prob > F	=	0.0000
Residual	.060364085	112	.000538965	R-squared	=	0.5932
				Adj R-squared	=	0.5714
Total	.148386448	118	.001257512	Root MSE	=	.02322

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LVR	-.1405353	.0263438	-5.33	0.000	-.1927321	-.0883385
LQR	-.0074076	.0036151	-2.05	0.043	-.0145704	-.0002447
INF	-.0152256	.0634737	-0.24	0.811	-.1409906	.1105393
MC	.0058139	.0009015	6.45	0.000	.0040277	.0076001
GDPR	.2650889	.1897974	1.40	0.165	-.1109703	.6411482
SZC	.0204322	.0019155	10.67	0.000	.016637	.0242274
_cons	.0010255	.0291062	0.04	0.972	-.0566447	.0586957

The multiple linear regression model's independent variable findings are shown in Table 4.6. The model has an R^2 of almost 59.32% and is highly significant (P-value = 0.0000). This indicates that approximately 59.32% of the variation in the insurer's financial performance can be explained by the variables studied in the study, with the remaining 41.68% being explained by factors not examined in the study. The managerial competency index, leverage, liquidity, and firm size are four independent variables that show a noteworthy influence on the success of the insurance company. The main conclusions of the study about the variables affecting the financial performance of insurance businesses are expanded upon below.

The null hypothesis of F-statistics, which is a general test of significance, is that the coefficients of each independent variable are zero. At a 1% significance level, the F-statistic (0.00000) is significant, meaning that the explanatory variables are jointly significant and that the financial performance and factors connected to it that were chosen for the study sufficiently match the

model. This suggests that all of the explanatory variables have a statistically significant effect on Ethiopian insurance companies' financial performance and that there is a 99.9% chance that some of the variables' relationships are not just the result of random chance. The coefficient intercept (α) in the table above is 0.001, meaning that the average ROA value would be 0.001 if all explanatory factors had a value of zero.

Leverage Ratio

The results show that there is a substantial negative correlation, below the 0.05 level, between the leverage ratio and ROA (coefficient of -0.141, p-value of 0.00). This indicates that, when all other factors remain the same, the predicted ROA value falls by an average of 0.14 units for every unit increase in the leverage ratio.

Liquidity Ratio

The current assets to current liabilities in the table indicate the liquidity coefficient, which is -0.007, and the associated P-value is 0.043. This shows that all other things being equal, the predicted ROA falls by 0.007 units for every unit rise in liquidity. This demonstrates that there is a notable inverse relationship between liquidity and Ethiopian insurance companies' return on assets (ROA).

Inflation

The inflation coefficient has a negative value of -0.015, yet its statistical insignificance is indicated by its p-value of 0.811, which is greater than 0.05. This suggests that assuming no other changes, the predicted ROA falls by 0.015 units for every unit increase in inflation. As a result, there is no visible linear association between inflation and ROA, indicating an insignificant inverse relationship between the two.

Management Competency

The results show a statistically significant positive correlation between ROA and the management competency index. This means that, when all other variables are controlled for, an increase of one unit in the management competency results in an average predicted increase of 0.006 units in ROA. In other words, there is a significant positive linear relationship between the management competency index and ROA.

Gross Domestic Product (GDP)

The GDP coefficient is more than 0.05, with a p-value of 0.165 and statistical significance at the 5% level. It is presently at 0.265. This means that, while other factors stay the same, the predicted ROA increases by an average of 0.265 units for every unit increase in GDP. As such, there is an insignificant positive linear correlation between GDP and ROA.

Company Size

The coefficient for company size is positive 0.020 and statistically significant at a 5% level, with a p-value of 0.00, below 0.05. This indicates that for every one-unit increase in company size, the estimated ROA rises by 0.020 units, on average, while keeping all other variables constant. Therefore, company size exhibits a significant positive linear relationship with ROA.

4.6 Discussion and Findings

The model comprises 119 observations and 7 variables, including the intercept. It explains 59.32% of the variance in the response variable, as denoted by the R-squared value. The adjusted R-squared value stands at 57.14%.

The multiple regression result table is the main source of the discussion of the findings. The subsequent section discusses the impact of each explanatory variable on the financial performance of insurance companies in Ethiopia.

Leverage

With a coefficient of -0.140 and a p-value of 0.00, the results show a statistically significant negative correlation between the leverage ratio and ROA that is below the generally accepted significance level of 0.05. This shows that, when all other factors are held equal, the predicted ROA declines by an average of 0.140 units for every unit rise in the leverage ratio. This indicates a negative and substantial linear relationship between the leverage ratio and ROA, supporting the rejection of the null hypothesis. The premise that increased leverage ratios result in lower performance in Ethiopian insurance companies is supported by the observed negative sign. This consistent result supports the study's premise and correlation analysis, demonstrating that the leverage ratio does have a detrimental effect on Ethiopian insurance companies' financial performance between 2014 and 2020.

Liquidity

The projected ROA falls by an average of 0.007 units for every unit increase in the liquidity ratio, while other variables stay constant, according to the table, where the liquidity ratio coefficient is -0.007. At the 0.05 significance level, the liquidity ratio's p-value of 0.043 indicates statistical significance.

Researchers conclude that there is a significant negative linear relationship between the liquidity ratio and ROA, indicating that the null hypothesis—that is, that the coefficient is zero—cannot be

discarded. In essence, this means that Ethiopian insurance companies with greater liquidity ratios also have smaller profits, which limits their ability to pay for incurred claims and obligations.

Inflation

The coefficient for inflation is -0.015, meaning that, assuming all other variables remain constant, the projected ROA falls by an average of 0.015 units for every unit increase in inflation. On the other hand, the inflation p-value is 0.811, over the standard significance level of 0.05.

Consequently, it can be said that there is no meaningful linear relationship between inflation and return on assets (ROA) and the null hypothesis that the coefficient is zero can be rejected. The profitability of insurance businesses in Ethiopia appears to be unaffected by changes in inflation rates, as indicated by a negative and insignificant coefficient. Since the results of the study's regression analysis conflict with the hypothesis of a small and negative relationship between inflation and ROA, the researcher rejects it.

Management competency

When adjusting for other variables, the estimated ROA increases by 0.005 units on average for every unit increase in management competency, according to the coefficient of 0.005 for management competency. At a particular significance level, the management competency p-value of 0.000 indicates statistical significance.

There is a substantial positive linear association between management competency and ROA, as indicated by the p-value being less than 0.05, which makes it impossible to reject the null hypothesis that the coefficient is zero. Therefore, it can be concluded that management proficiency has a significant impact on the profitability of the company.

Gross Domestic Product

The GDPR coefficient is more than 0.05 and has a p-value of 0.165, making it statistically significant at the 5% level. Its current value is 0.265. This suggests that, while other factors stay the same, the expected ROA value increases by an average of 0.265 units for every unit increase in GDP. GDPR and ROA have a negligible linear relationship, although a positive correlation.

According to the standardized coefficient for GDP, a 1% rise in GDP causes a 26.5% increase in the financial performance of insurance businesses, all other things being equal. However, there is no discernible correlation between Ethiopia's GDP and the financial success of its insurance sector. This implies that changes in GDP have little effect on how profitable insurance companies are in

The researcher rejects the null hypothesis of a negative and significant relationship between GDP and ROA, as it contradicts the regression findings of the study.

Size of the Company

At the 5% level, the company size coefficient is positive and statistically significant. Less than 0.05, or 0.00, is the significant p-value. This indicates that, while holding all other factors constant, the expected value of Return on Assets (ROA) grows by the coefficient value, on average, for every unit increase in the size of the company.

The correlation analysis and hypothesis are supported by the study's findings. Since the null hypothesis cannot be rejected, it can be said that a company's profitability is significantly determined by its size. For this reason, concentrating on growing the insurance company's size is crucial to enhancing its financial success.

Table 4.7 The summary of expected and actual signs of independent variables

Dependent variable		ROA		
Explanatory variables	Expected Relationship	Actual Result	Significance Status	Hypothesis Status
Leverage Ratio	Negative	Negative	Significant 1%	Failed to reject
Liquidity ratio	Negative	Negative	Significant 5%	Failed to reject
Inflation	Negative	Negative	Insignificant	Reject
Management competency	Positive	Positive	Significant 1%	Failed to reject
Gross Domestic Product	Positive	Positive	Insignificant	Reject
Size of the company	Positive	Positive	Significant 1%	Failed to reject

The study looked at how several explanatory factors related to the dependent variable ROA (Return on Assets) in the study.

The findings demonstrated a statistically significant negative association between the leverage ratio liquidity ratio and ROA at the 1% and 5% levels, respectively. The theories about these factors were not disproved. The association between ROA and management competency and firm size was positive and statistically significant at the 1% level. Additionally, the theories about these variables were not disproved. On the other hand, the gross domestic product and inflation showed positive and negative correlations with ROA, respectively, but these findings were not statistically significant. As a result, the theories about these variables were disproved.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1. Summary

Using Return on Assets (ROA) as the performance indicator, this study explores the factors affecting the financial performance of insurance companies in Ethiopia. In addition to external parameters like GDP growth rate and inflation, internal ones like leverage ratio, liquidity ratio, managerial competency index, and company size are analyzed. We use secondary quantitative data covering all insurance companies in Ethiopia from 2014 to 2020. Techniques include regression analysis, correlation analysis, and descriptive statistics that show relationships between selected internal and external macroeconomic variables and the financial performance of insurance businesses.

- After conducting a descriptive analysis, the study found that insurance companies had an average return on assets of 0.077. Leverage, liquidity, GDP growth, company size, managerial competency index, and inflation were also found to have mean values of 0.87, 1.41, 5.26, and 6.13, respectively.
- The association between ROA and company size was represented by a noteworthy correlation coefficient of 0.568 in the correlation matrix. This implies a somewhat positive correlation, suggesting that larger businesses typically have higher profitability.
- The correlation matrix displays a highly negative correlation coefficient of -0.674 between GDPR and INF. This suggests that there is usually a negative correlation between the GDP growth rate and the inflation rate, meaning that higher inflation is usually associated with poorer economic performance.

- Liquidity, GDPR, and inflation have no significant link with ROA, but management competency, firm size, and leverage do. In particular, there is a negative correlation between ROA and the leverage ratio and inflation.
- The GDPR, liquidity ratio, and firm size, on the other hand, have favorable associations with ROA. The leverage ratio coefficient in the regression analysis turned out to be negative and statistically significant ($p < 0.05$).
- The current assets to current liabilities ratio showed a negative and statistically significant predictor for liquidity ($p = 0.043$). Inflation had a negative impact, although it was not statistically significant ($p = 0.811$, $p > 0.05$).
- The coefficient for the management competency index was positive and highly significant at the 1% level ($p = 0.000$). GDP coefficient was positive but not significant, with a coefficient of 0.265 and a p-value of 0.165.
- Moreover, the regression results revealed a positive and significant association between company size and financial performance, with a coefficient of 0.020 and a p-value of 0.00.

5.1 Conclusion

According to the analysis, the variables that were chosen leverage, liquidity, GDP growth rate, inflation rate, managerial competency index, and firm size take into account around 59.32% of the difference in the financial performance of insurance companies in Ethiopia. This implies that a considerable amount of the variability seen in these companies' return on assets (ROA) between 2014 and 2020 can be explained by these independent variables.

- The study's conclusions show that leverage has a statistically significant negative influence on return on assets (ROA), suggesting that higher leverage levels are linked to worse profitability. This implies that businesses that depend significantly on debt financing typically see a decline in profitability. Elevated levels of leverage could indicate unstable finances and a downgrade in a company's credit standing, which could hinder its capacity to obtain outside capital and hurt its liquidity and return on assets.
- Because of the strong and negative correlation between liquidity and ROA, a company's profitability may be impacted by having a larger liquidity ratio. This might be the result of liquid assets yielding lower returns than other assets, or it could be the result of investing less in revenue-generating assets when one has more liquid assets. It can show that a business is having financial difficulties and requires additional funding to pay its debts. Because of the strong and inverse relationship between liquidity and ROA, businesses must maximize their liquidity to reconcile short- and long-term objectives.
- A negative and insignificant correlation between inflation and ROA reveals that firms are more profitable when inflation rates rise and more profitable when they fall. Inflation reduces the value of money and raises input costs (labor, capital, materials, etc.), which lowers firm earnings and asset values. Higher interest rates also result in more debt obligations and borrowing costs for businesses, which further lowers ROA.
- The results of the regression and correlation studies show a strong and positive link between the insurance businesses' financial success and the management competency index. This implies that insurance companies with competent management have a higher chance of becoming successful. A company's ability to use its resources effectively, analyze investments thoroughly, optimize product offerings, analyze markets, handle risks

effectively, foresee potential difficulties, and put necessary measures in place are all greatly aided by having competent management. Therefore, having capable management in place is essential to guarantee insurance companies operate at their best.

- A positive and statistically significant correlation between GDP and ROA suggests that there is insufficient evidence to support the hypothesis that changes in GDP have a direct impact on insurance companies' profitability, as measured by ROA. This may imply that these financial institutions are comparatively immune to variations in the economy, such as shifts in the GDP. On the other hand, it can mean that variables other than GDP variations are having a greater impact on their performance.
- Larger companies are typically more lucrative when there is a positive and significant association between ROA and firm size. Bigger businesses can charge higher pricing, lower costs, and increase profit margins since they frequently have better economies of scale and market power. Furthermore, larger businesses usually have greater access to funding sources and growth prospects, which allows them to invest in profitable ventures and improve performance in the future. Furthermore, larger businesses might gain from better governance and management techniques, which would improve decision-making and resource allocation procedures.

5.3. Recommendations

The findings of the study suggest that concentrating on variables under the control of the organization might improve the profitability of insurance companies, as measured by metrics such as Return on Assets (ROA). This implies that insurance companies could enhance their financial performance by focusing more intently on these identified internal elements.

The management of insurance companies can influence firm-specific aspects, therefore focusing more on factors such as company size, management skill index, leverage ratio, and liquidity ratio will help the business operate better. Thus, the researchers came to the following conclusions about the study's findings:

- The results show that the leverage ratio has a negative and considerable impact on the financial performance of insurance firms. The leverage ratio shows the proportion of debt to equity in an insurance company. If a corporation has a high leverage ratio and its liabilities or claims exceed its assets or income, there is a greater chance that it won't be able to pay them. Therefore, insurance companies must evaluate the company's capital structure thoroughly to identify the optimal blend of debt and equity financing. It may be necessary to make adjustments to achieve a balance that mitigates the adverse effects of leverage on financial performance.

- The liquidity ratio shows how an insurance provider will handle its immediate financial responsibilities, including bills, claims, and taxes. If the organization is unable to generate sufficient cash from its assets or income, a low liquidity ratio could be a sign of cash flow issues or unexpected liquidity. As a result, insurance businesses need to carefully manage their cash flow and maintain an ideal level of liquidity.

- The investigation revealed a strong and favorable relationship between insurance businesses' financial success and the management competency index. This implies that insurance firms with better-trained management are probably going to see improved financial outcomes. Investing in leadership development programs should be prioritized due to the importance of managerial competency. Similar to the MDP (management development program). These could include a range of initiatives like executive coaching,

mentorship programs, and training seminars, all of which are meant to develop leadership skills and improve decision-making abilities. By focusing on leadership development, the organization may cultivate a strong management team that can drive organizational success and achieve outstanding performance outcomes.

- The size of an organization's overall assets positively affects insurers' financial performance. It is therefore advised that insurance businesses concentrate on growing to enhance their effectiveness. Larger private insurance businesses typically have higher economies of scale, sophisticated information systems, and superior expenditure management than smaller ones, making them better equipped to handle unfavorable market changes.

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Appendix

Appendix 1. lists of insurance companies operating in Ethiopia

No	Insurance Companies Name	Year of Establishment
1	Ethiopian Insurance Corporation	1976
2	Africa Insurance Company S.C	1994
3	Awash Insurance Company S.C	1994
4	National Insurance Company of Ethiopia S.C.	1994
5	Nile Insurance Company S.C	1995
6	Nyala Insurance Company S.C	1995
7	Global Insurance Company S.C.	1997
8	The United Insurance S.C	1997
9	NIB Insurance Company S.C	2002
10	Lion Insurance Company S.C	2007
11	Ethio-Life and General Insurance S.C.	2008
12	Oromia Insurance Company S.C.	2009
13	Abay Insurance Company	2010
14	Berhan Insurance S.C.	2011
15	Lucy Insurance S.C.	2012
15	Tsehay Insurance S.C.	2012
17	Bunna Insurance S.C.	2013

Appendix 2: Stata Outputs

```
. sum ROA LVR LQR INF MC GDPR SZC
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	119	.0769661	.0354614	-.0113907	.2139074
LVR	119	.6481707	.0825749	.3435122	.8127594
LQR	119	1.412773	.6284757	.7872218	6.250172
INF	119	.1204286	.0458623	.066	.204
MC	119	5.264092	2.381707	-1.177714	11.96233
GDPR	119	.0878571	.0152906	.06	.104
SZC	119	6.139107	1.190038	4.732394	10.09216

```
. corr ROA LVR LQR INF MC GDPR SZC
(obs=119)
```

	ROA	LVR	LQR	INF	MC	GDPR	SZC
ROA	1.0000						
LVR	-0.1994	1.0000					
LQR	0.0660	0.0610	1.0000				
INF	-0.0795	-0.0312	0.1395	1.0000			
MC	0.3431	0.0374	0.0511	-0.0167	1.0000		
GDPR	0.0989	0.0667	-0.0973	-0.6748	0.0183	1.0000	
SZC	0.5684	0.1648	0.3080	0.0465	-0.0449	-0.0391	1.0000

```
. vif
```

Variable	VIF	1/VIF
INF	1.86	0.538989
GDPR	1.84	0.542314
SZC	1.14	0.879047
LQR	1.13	0.884827
LVR	1.04	0.965221
MC	1.01	0.990802
Mean VIF	1.34	

```
. reg ROA LVR LQR INF MC GDPR SZC
```

Source	SS	df	MS		
Model	.088022363	6	.014670394	Prob > F	0.0000
Residual	.060364085	112	.000538965	R-squared	0.5932
Total	.148386448	118	.001257512	Adj R-squared	0.5714
				Root MSE	.02322

Number of obs = 119
F(6, 112) = 27.22

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LVR	-.1405353	.0263438	-5.33	0.000	-.1927321	-.0883385
LQR	-.0074076	.0036151	-2.05	0.043	-.0145704	-.0002447
INF	-.0152256	.0634737	-0.24	0.811	-.1409906	.1105393
MC	.0058139	.0009015	6.45	0.000	.0040277	.0076001
GDPR	.2650889	.1897974	1.40	0.165	-.1109703	.6411482
SZC	.0204322	.0019155	10.67	0.000	.016637	.0242274
_cons	.0010255	.0291062	0.04	0.972	-.0566447	.0586957