SAINT MARY UNIVERSITY
AND SCHOOL OF GRADUATESTUDIES

FACTOR AFFECTING FINANCIAL PERFORMANCE OF SELECTED INSURANCECOMPANIES IN ETHIOPIA

By

TIGIST FEKYIBELU

July, 2024

ADDIS ABABA, ETHIOPIA

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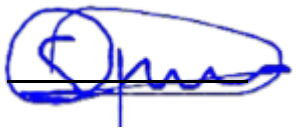
Simon T. (Asst. Prof.)		
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DECLARATION

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Abstract

The study investigated factors affecting the financial performance of 10 selected insurance companies out of 18 National Bank of Ethiopia (NBE) from 2014 to 2023. An explanatory research strategy employing quantitative techniques and panel data was adopted, utilizing secondary data from the National Bank of Ethiopia. Results from the regression model showed a significant negative correlation between inflation and the financial performance (ROA) of the sampled insurance enterprises, suggesting that for every percentage increase in inflation, the return on assets would decrease by 11.2%. Similarly, a statistically significant negative relationship was observed between underwriting risk and ROA, with a 13.1% decrease in ROA for every 1% rise in underwriting risk, significant at a level below 1%. Finding of the study indicated that the *company size and market share were positive and insignificant whereas risk, leverage, inflation and exchange rate were negative and significant. Accordingly, it is better for companies to improve and should pay greater attention to the significant variables such as: leverage, liquidity, premium growth, underwriting risk, inflations and gross domestic product.*

Keywords: - Variables, Return of Assent, Factors

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CHAPTER ONE

1. Introduction

This chapter provides a brief overview of the study. These chapters introduce the reader to the key concepts used throughout the paper on background section followed by statement of problem, research question, objective of the study, hypothesis of the study, significance of the study, scope of the study, limitation of the study, as well as the Organizations of the paper.

Background

Ethiopian insurance companies contribute significantly to the economic and society of the nation in a variety of ways, including: They protect people's money against risks and uncertainties that affect both individuals and businesses. This security encourages investment and economic activity. By assessing and managing risk, insurance companies help people and organizations lower the likelihood of suffering losses, which promotes stability and confidence.

The significance of financial institutions likes banks, insurance, credit unions, savings and loans, and the like in a contemporary economy cannot be disputed. These organizations are crucial for supporting and lubricating national economies (Melaku, 2019). Asserts that the insurance sector is a major contributor to economic growth, efficient resource allocation, lower transaction costs, increased liquidity, ease of scale economies in investment, and the dispersion of financial losses in the economies of the majority of developed and developing nations. Additionally, insurers aid society economically and socially by preventing losses, lowering anxiety and dread, and boosting employment.

According to Dereje (2012), financial institutions offer a range of financial instruments, serve as a medium of exchange and facilitate business activities, monitor investments and enforce corporate governance, and support resource mobilization through savings and allocation to activities with highest returns. They offer a variety of financial services to the community. Without financial institutions like insurance, Abate (2012) argues, the current business environment cannot function; in actuality, some economic units are in surplus while the others

are still in deficit; put another way, riskier businesses are unable to absorb all forms of risk in an unpredictable environment.

According to Abate (2012), financial organizations like banks and insurance providers have a role in ensuring economic activity and support both the stability of the financial system in particular and the overall stability of the economy of the nation in question. Naveed et al. (2011) state that while institutional insolvencies can lead to systemic crises that have detrimental effects on the economy as a whole, the effectiveness of financial intermediation and risk transfer can also have an impact on economic growth.

With the aforementioned in mind, insurance businesses are those that contribute significantly to the service-based economy, and the financial industry as a whole is now integrating their services. Private and public insurance firms are groups that offer services related to life, health, property, accidents, and many other types of insurance Melaku, (2019). Insurance is described as a social tool by Haiss, P., and Sumegi (2008). It involves a group of people (referred to as "Insurds") transferring risk to another party (referred to as the "insurer") in order to pool loss experiences, which statistically predicts losses and arranges for payment of losses from funds contributed (premiums) by all members who transferred risk.

Melaku (2019) asserts that the insurance sector is a major contributor to economic growth, efficient resource allocation, lower transaction costs, increased liquidity, ease of scale economies in investment, and the dispersion of financial losses in the economies of the majority of developed and developing nations. Additionally, insurers aid society economically and socially by preventing losses, lowering anxiety and dread, and boosting employment.

Insurance is a type of financial instrument that imposes a legal obligation on the insurance company to reimburse policyholder damages in the case of a specified occurrence. In return for a charge, the premium, the insurer assumes the risk that the event would transpire. A portion of the risk may then be transferred by the insurer to additional insurers or reinsurers. Activities that would normally be unaffordable if one partner had to bear all the risk are made feasible by insurance. The literature evaluations mentioned above provide insight into the critical role that insurance companies play in modern economies and society. Conversely, insurance companies have the potential to be dependable, long-lasting, and financially stable. In light of this, they

must turn a profit and ensure their dependability for both the economy as a whole and policyholders, or consumers Meleku, (2019).

As maximizing the owners' "wealth" is one of the goals of financial management, Tariku (2019) asserts that profitability is one of the most significant aims of financial management. A crucial performance metric is profitability. A non-profitable enterprise cannot endure. On the other hand, a very lucrative company might provide a significant return on investment for its shareholders. Therefore, a company's primary objective is to turn a profit in order to ensure its viability in the current market environment Taye, (2018).Thus, all parties involved in the insurance industry managers, regulators, investors, consumers, workers, and so on are very concerned about insurer profitability and the factors that impact it. Researchers and financial analysts have a significant task in finding and precisely defining the elements that influence insurers' performance in order to monitor their financial soundness and reliability.

The study's next goal was to evaluate how financial issues affected Ethiopian insurance companies' financial performance. Since very little research has been done in this field and there is now concern about the impact of factors on the financial performance of insurance businesses in Ethiopia, it is determined that this study must be conducted. The issue statement that has been analyzed follows the discussion of financial elements, their many components, and their influence on financial performance.

Statement of problem

The insurance sector should operate profitably and be expected to be robust and solvent financially. Profit is the least expensive source of funding and a necessary condition for the survival, expansion, and competitiveness of insurance companies on a micro level. In this dynamic, highly competitive global marketplace, insurers cannot accomplish their goals and objectives without earnings, which prevent them from attracting outside capital. Not only does profit help insurers maintain their solvency, but it also is crucial in convincing policyholders and shareholders to give money to insurance companies as stated by Malik (2011).

Profitability is one of the main goals of businesses, according to Hanna (2015). Additionally, profit draws in investors and raises solvency, which boosts customer trust. It is a gauge of a company's earnings, profits, and value growth as seen by the increase in the share price of the

company. Performance in the insurance industry is often measured in terms of net premiums received, yearly turnover, profitability from underwriting, returns on investment, and return on equity.

Numerous studies have also been carried out in Ethiopia to look at the impact of various factors on the profitability of insurance businesses. Despite the fact that their results led to differing findings, for example, research by Teklit and Jasmindeep (2017) shows a favourable correlation between insurance businesses' leverage and their financial success. However, studies by Abate (2012), Hanna (2015), Tariku (2019), Kiskor & Temesgen (2020), and Tadese, Abiy & Mengistu (2020) discovered an inverse link between leverage and the financial performance of Ethiopian insurance businesses.

Tariku (2019) discovered a favorable and strong correlation between the rise of insurance businesses' premiums and their profitability. On the other hand, Tadese, Abiy, and Mengistu's (2020) study found a negative and substantial correlation between insurance businesses' premium increase and profitability. However, the research by Mazviona et al. (2017) discovered that the size of insurance has a negative and substantial impact on profitability. Size has a favorable and considerable impact on profitability, according to Teklit & Jasmindeep, (2017), Suheyli, (2016), Tadese, Abiy & Mengistu, (2020), and Kishor & Temesgen, (2020). Tariku (2019) asserts that there is a positive but negligible correlation between inflation and insurance businesses' profitability.

According to Kanbiro and Ayneshet's (2019) study, inflation has a negative and significant impact on profitability. However, other studies conducted by Behailu (2016), Teklit and Jasmindeep (2017), and Tadese, Abiy, and Mengistu (2020) found that the inflation rate has an insignificant but negative impact on profitability. According to research done in (2016) by Behailu, (2017) by Teklit & Jasmindeep, and (2019) by Tariku, GDP significantly and negatively affects the performance of insurance firms. On the other hand, research by Kishor and Temesgen (2020) and Tadese, Abiy, and Mengistu (2020) shown that GDP positively affects insurance business profitability. The significance of financial institutions like banks, insurance, credit unions, savings and loans, and the like in a contemporary economy cannot be disputed.

As a result, as the literature shows, many researchers' findings about variables like liquidity, leverage, loss ratio, company size, premium growth, GDP, and inflation were inconsistent and

still up for debate because they had both positive and negative relationships with insurance companies' performance. This study will add to the body of research by identifying the variables that both positively and negatively as well as those that have a significant and insignificant impact on the financial performance of Ethiopian insurance companies. Giving information regarding the above-mentioned aspects that affect the financial performance of insurance businesses and by exploring the ones that are still unknown, this study was ultimately closed the knowledge gap.

Research questions

1. What effects the company specific variables (Risk, Leverage, Liquidity, premium growth, Company size, GDP, inflation, exchange rate and market share) have on financial performance of selected insurance companies in Ethiopia?
2. What are the extent of relationship that exists between companies' specific factors and the financial performance of selected insurance companies in Ethiopia?

Objective of the study

General objective of the study

General objective of the study is to investigate the factors affecting on financial performance of selectedinsurance companies in Ethiopia

Specific objectives of the study

In order to fulfill overall objective, the subsequent particular goals were established:

I. To analyze the effect of financial performance of selected insurance companies in Ethiopia over a specified period.
II. To evaluate the extent of relationship between financial factors and various financial performance indicators, such as inflation liquidity, leverage, Underwriting Risk, premium growth and Company size

Hypothesis of the research

The investigation to various financial elements affects the financial outcomes of insurance businesses in Ethiopia is organized by the hypotheses. The notion that financial considerations have a major influence on the financial success of insurance businesses has typically been

validated by earlier research. The following important financial variables are frequently looked at in these kinds of studies, along with their effects and previous research supporting them: According to Malik (2011) research, higher capital suitability ratios have been linked to improved financial performance in insurance businesses. Insurance companies need liquidity to fulfill their short-term commitments, especially payments of claims Alex, A. (2021). Enough liquidity enhances the performance and stability of the financial system. According to Ahmed, Ahmed, and Usman (2011), insurance companies' profitability is positively impacted by liquidity. Waschto, A. (2018), discovered a strong correlation between the financial success of insurance businesses and the rise of their premiums. Performance is positively impacted by the company's ability to draw in and keep clients, which is seen by its steady premium growth.

The researcher hypothesis:-

H1: Significantly effect on the financial performance of selected insurance companies in Ethiopia.

H2: There is positive and significant relationship between the liquidity their financial performance of Insurance Companies.

H3: There is positive and significant relationship between the ages their financial performance of Insurance Companies.

H4: There is positive and significant relationship between the sizes, their financial performance of Insurance Companies.

H5: There is positive and significant relationship between the premium growths their financial performance of Insurance Companies.

H6: There is positive and significant relationship between the markets shares their financial performance of Insurance Companies.

H7: There is positive and significant relationship between GDP their financial performance of Insurance Companies.

H8: The performance of insurance companies is negatively and considerably influenced by the risk.

H9: The performance of insurance companies is negatively and considerably influenced by the leverage.

H10: The performance of insurance companies is negatively and considerably influenced by the inflation rate.

H11: The performance of insurance companies is negatively and considerably influenced by the exchange rate.

Scope of the study

The scope of the research are including three aspects with the regards of thematic, spatial (geographical) and temporal point of view in the research. The thematic scope of the research mainly focuses on to investigate the effect of financial factors on financial performance of selected insurance companies in Ethiopia. The primary goal of the study is to determine how financial issues affected Ethiopian insurance companies' financial performance. The spatial or geographic scope of the study focus on ten purposefully choose insurance companies in Ethiopia with sufficient experience and complete financial statements for the study period, i.e. based on the age and availability of data with an operational life of 10 years and above, in order to examine the effects of financial factors on the financial performance of insurance companies in Ethiopia that were registered by NBE before 2014 and by gathering evidence from these insurance companies in Ethiopia for a ten-year period, from 2014 to 2023. There are eighteen private insurance companies in Ethiopia that are fully engaged in insurance activities. Certain insurances were chose because they are regarded as senior providers and are anticipated to possess greater expertise in certain areas. The study were carried out using a quantitative explanatory research strategy using secondary data gather from the audited financial accounts of those Ethiopian insurance companies.

Limitation of the study

The study only looked at limit variables; it overlooks variables like government regulations and management effectiveness that may have an influence and call for more study. The researcher was obligated to limit the number of factors included in the study to the one indicated above owing to the availability of the necessary data. Banks have been offering insurance services for a relatively short time, and their operations are based on a lack of actual insurance company data.

Significance of the study

The study's findings, which describe how effects on the financial performance of carefully select insurance companies in Ethiopia, have a variety of benefits. For example, by identifying and offering helpful information about financial factors and how these affect insurance companies' financial performance, the paper was benefited academics and all insurance firms alike. By demonstrating the relationship between financial variables and insurance companies' financial success, the study's findings will add to the body of knowledge already in existence and perhaps close the literature gap in Ethiopian-related research. In dealing with how to regulate these elements impacting insurance businesses' performance, insurance managers and regulatory bodies find this study to have significant practical consequences. Furthermore, it benefits future scholars by serving as a reference and a springboard for anyone wishing to go deeper into the topic of performance-affecting variables in the context of Ethiopian insurance. Ultimately, the study will help the researcher learn new information about the issue being studied and provide a comprehensive picture of the field known as research.

Organization of the study

There were five chapters in the thesis. The first chapter serves as an introduction, outlining the context of the research, the issue statement, the research questions, the purpose of the study, its importance, its scope, and its organization. The second chapter includes a review of the literature that includes theoretical and empirical reviews, a knowledge gap analysis, the literature's conclusion, and the study's conceptual framework. The study strategy, research design, data source and type, population, sample and sampling procedure, operational definition and measurement, model specification, and data analysis method are all cover in Chapter three presentation of the research methodology demonstration. The results gather from the regression output and discussions of the regression result and overall data presentations are also include in Chapter four. The study summary, findings, and recommendations which have implications for policy makers, regulators, practitioners, and academicians as well as suggestions for further research on the subject finally provide in Chapter five.

CHAPTER TWO

2. LITERATURE REVIEW OF THE RESEARCH

Introduction

Reviews of the theoretical and empirical literature are included in this chapter. The theoretical section covers the evolution of insurance in Ethiopia over time, as well as its definition, concepts, and role in the economy. It also discusses theories of profitability and the variables that impact insurance companies' profitability. The empirical section focuses on the empirical literature review on insurance profitability. A conclusion and knowledge gap will develop based on the two pieces of literature. Ultimately, a conceptual framework use to generalize the whole review literature.

Theoretical review

Development of insurance companies in Ethiopia

In Ethiopia, the history of insurance services dates back to the introduction of modern banking services in 1905. Emperor Menelik II and a representative of the National Bank of Egypt, which was owned by the British, came to an agreement at that time to establish a new bank in Ethiopia. In a similar vein, contemporary insurance services were brought to Ethiopia by outsiders and date back to 1905, when the Bank of Abyssinia started handling fire and marine insurance as an agent for an international insurance provider. A 1954 study found that the nation's insurance services were offered by nine different insurance firms. All of the other insurance companies were either subsidiaries or agents of foreign businesses, with the exception of Imperial Insurance Company, which was founded in 1951. There were 33 insurance businesses in 1960, a significant rise from the previous year. The insurance industry was governed by the rules of the commercial code at the time, just like any other corporate enterprise Hailu, (2009).

As a result, it established the insurance controller's office and an insurance council, which had an odd effect on the industry. Within a year of the law's enactment, the controller of insurance licenced fifteen domestic insurance firms, thirty-six agents, seven brokers, three actuaries, and eleven assessors in compliance with the proclamation's terms.

As per the office mentioned earlier, the law mandates that an insurer must be a domestic company with a fully subscribed share capital of at least Ethiopian Birr 400,000 for general insurance, Birr 600,000 for long-term insurance, and Birr 1,000,000 for both long-term and general insurance. According to the proclamation, a "domestic company" is a share company with its headquarters located in Ethiopia. Ethiopian citizens or national companies must own at least 51% of the paid-up capital in the case of a company conducting general insurance business and at least 30% of the capital in the case of a company conducting life insurance business.

All private businesses were shut down by the military administration that took control in 1974, four years after the decree was enacted. After that, every insurance business that was in operation was nationalized. On January 1, 1975, the government assumed ownership and management of these businesses and combined them into one entity known as Ethiopian Insurance Corporation. Ethiopian Insurance Corporation took over as the exclusive provider in the years that followed nationalization. The declaration for the licensing and monitoring of the insurance company signaled the start of a new era following the political shift in 1991. Private insurance firms started to grow as soon as the proclamation was passed in 1994 NBE report (2017).

Concepts of Insurance and Its Role in the Economy

According to Tatjana28, P. (2015), insurance is the pooling of unintentional losses through the transfer of such risks to insurers, who then undertake to reimburse the insured for such losses, offer additional financial advantages should they materialize, or provide services related to the risk. The author explains the concepts in the definitions in the following ways. Fortunate loss is one that is unplanned, unexpected, and results from chance. Pooling is the distribution of losses suffered by a small number of people over the entire group, replacing actual loss in the process.

Contrarily, risk transfer refers to the transfer of pure risk from the insured to the insurer, who is usually better positioned financially to cover the loss than the insured. Indemnification for loss, which refers to returning the insured to roughly their pre-loss financial situation, is one of the additional features of insurance Melaku, (2019).

An insurance contract is one in which the insured assigns risk of future loss to the insurer, who agrees to pay the insured in the event of a loss. In exchange for this guarantee, the insured pays a predetermined amount known as a premium. According to Tatjana28, P. (2015), the promise is

referred to as the insured, while the promisor is known as the insurer. The amount of money that the insured pays the insurer in exchange for the coverage provided by the insurance policy is known as the insurance premium. To calculate the amount of premiums needed to build up a common fund or pool to cover losses as they occur, the chance of an occurrence or loss might be computed theoretically or based on statistical data from previous experience Behailu, (2016).

Insurance, according to Mwangi & Murigu (2015), is a financial instrument that imposes a legal obligation on the insurance provider to reimburse policyholder losses in the case of a specified occurrence. In return for a charge, the premium, the insurer assumes the risk that the event would transpire. A portion of the risk may then be transferred by the insurer to additional insurers or reinsurers. Activities that would normally be unaffordable if one partner had to bear all the risk are made feasible by insurance. In almost every industrialized and emerging nation, insurance plays a significant and expanding role in the financial sector. Through risk transfer and savings mobilization, a robust and well-regulated insurance sector may make a substantial contribution to economic growth. Furthermore, it improves the efficiency of the financial system by lowering transaction costs, generating liquidity, and enabling economies of scale in investment. The primary function of the insurance sector, in contrast to other financial services, is to distribute financial loss. Insurers create reserves against the projected overall cost of claims, and policyholders purchase protection against the occurrence of specific occurrences.

Based on probability theory, insurance is a market where the cost of the product (insurance contract, or policy) is not known until the price (insurance premium) is determined. We may divide insurance into three main categories, according to the Financial Stability Forum (2000): (i) life insurance; (ii) non-life insurance; and (iii) reinsurance. Pensions, savings plans, term assurance policies, permanent health insurance, and other products with varying levels of protection and investment components are all offered by life insurance. In certain developed economies, life insurance provides a range of products that serve as contractual savings comparable to bank deposits. As such, the life insurance sector is focused on both risk transfer and asset building.

Other names for non-life insurance include general insurance, property and liability insurance, and property and casualty insurance. When a consumer purchases non-life insurance, they are purchasing financial security against particular insured situations, including workplace accidents.

often, policies are one-year contracts for indemnification; they often don't include an investment component or any expectation of financial gains. However, the obligations resulting from these agreements may last for a long time (e.g., a manufacturer's duty to consumers or an industrial injury or sickness). Insurance for insurers is known as reinsurance. Reinsurance offers protection against both the volatility of underwriting outcomes and peak risks. They are frequently systematically significant to the primary insurance market and offer the primary market both knowledge and underwriting capacity Bernard, C. (2013).

The role of insurance in the economy

Insurance businesses are financial intermediaries, just like banks and security corporations are. Therefore, it is acceptable to see the insurance industry as nothing more than pass-through mechanisms for risk diversification, whereby the cash received from numerous policy holders are used to pay the unfortunate few who incur losses. In the modern world, insurance is a necessary component of complex national economies Melaku, (2019). The private commercial sector could not operate if it did not have insurance coverage Melaku, (2019).

Haiss and Sumegi, (2008) listed a number of the primary benefits of insurance. For example, insurance encourages people and businesses to specialize, build wealth, and take on advantageous projects that they might not otherwise be able to consider. It also helps to promote financial stability among households and businesses by shifting risks to an entity better suited to withstand them.

Malik (2011), in order to support commercial and infrastructure enterprises, insurance is essential. From the latter viewpoint, it enhances trade, commerce, and entrepreneurial activity; it channels and mobilizes savings; it fosters social and financial stability; and it raises the standard of living for citizens and the nation as a whole. Life insurance firms mobilize household funds and direct them towards the public and corporate domains. The term of bank obligations is often shorter than that of life insurance businesses, which is the primary distinction between banks and insurance companies. Because of this, life insurers may now participate significantly in the long-term bond market. However, compared to bank portfolios, life insurers' are usually better-equipped, making them less vulnerable to bank liquidity crises Melaku, (2019). A robust insurance market may alleviate financial strain on the government to the degree that private

insurance lowers the need for government social security programmes, and life insurance can play a significant role in an individual's own retirement planning strategy Melaku, (2019).

According to Melaku (2019) asserts that insurance promotes general trade, commerce, and entrepreneurial endeavors. Numerous industries, including manufacturing, shipping, aviation, the legal, medical, and accounting fields, as well as (increasingly) banking through credit risk transfer, are highly dependent on insurance. Since insurers have an incentive to monitor and control the risks to which they are exposed as well as to support risk mitigation actions, insurance may actually reduce the overall risk that the economy confronts. The increase of financial intermediaries, particularly insurance, is strongly correlated with economic growth, according to a number of empirical researches Melaku, (2019). According to Dereje, (2012), the financial sector's link to economic growth can be either supply-led or demand-following.

According to the supply-leading approach, financial services supply may stimulate economic growth; by contrast, the demand-following view holds that financial institutions' assets can rise as a result of increased demand for financial services. The insurance industry may facilitate the growth of capital markets by providing a pool of funds that are available to securities issuers and borrowers alike. This is because, in comparison to banks, insurance businesses have longer-term responsibilities. Dereje, (2012) examine how capital markets and the evolution of contractual savings the assets of life insurance firms and pension funds correlate with economic growth Melaku, (2019). According to Dereje, (2012), the financial sector's link to economic growth can be either supply-led or demand-following.

It has long been believed that the insurance sector of the financial system is very stable. Liability contagion, which was observed in the banking industry, has not affected insurance businesses due to notably reduced liquidity. However, insurance firms are not impervious to crises, especially if they integrate banking-related operations and/or maintain tight commercial relationships with banks, such as cross-sharing, deposit placement, and credit risk transfer. Financial crises, broadly speaking, are defined by Dereje, (2012) as circumstances in which a sizable portion of financial institutions have obligations greater than the market value of their assets, which can result in runs and other portfolio movements, the failure of some financial organizations, and government interventions.

Profitability concepts

The capacity of an organization to turn a profit on all of its commercial endeavors is known as profitability. It demonstrates how well the management can turn a profit by utilizing every resource on the market. Profitability, according to Tadese, Abiy and Mengistu (2020), is the capacity of a particular investment to generate income from its utilization. However, "efficiency" and "profitability" is not the same thing. Profitability is considered both a gauge of efficiency and a managerial tool for increasing efficiency.

One of the main goals of financial management is to maximize the owner's wealth and profitability, which in turn leads to improved financial performance, making profitability one of the most significant purposes of financial management. Profitability is a crucial metric for assessing efficiency, but it should not be interpreted as the only proof or measure of effectiveness. On the other hand, a suitable level of efficiency might occasionally be accompanied with a lack of profit. Satisfactory earnings can occasionally indicate inefficiency. Although the terms profit and profitability are occasionally used synonymously, there is a distinction between the two. While profitability is a relative idea or meaning, profit is an absolute phrase. Nonetheless, they play different functions in business and are mutually dependent and intimately connected. While profitability relates to the business's operational effectiveness, profit is the overall revenue the company made during the given time period. It is the business's capacity to turn a profit on sales. It is the capacity of the company to obtain a respectable return on the money and labour employed in the operation of the business ibid.

According to Malik, (2011), the financial success of insurance firms is often measured by net premium generated, yearly turnover, profitability from underwriting, return on investment, and return on equity. These metrics could be categorized as investment performance (which is a function of asset allocation and asset management as well as asset leverage) metrics and underwriting performance (losses and expenses, which are affected by product pricing, risk selection, claims management, and marketing and administrative expenses) metrics M. Adams, (1999) as cited in Behailu, (2016)

According to Tadese, Abiy, and Mengistu (2020), using return on assets (ROA) is the preferred method of measuring profitability despite varied approaches. Walsh (1996), referenced in Behailu (2016), said that determining the correlation between the items on the balance sheet and

the profit and loss statement is how performance is assessed. One way to compare profit before interest and tax (PBIT) is to net worth, total assets, or capital employed.

The terms "profit" and "ability" combine to form profitability. On the other hand, profitability is defined as an investment's capacity to generate a profit. One of the main goals of financial management is to maximize the owner's wealth and profitability, which in turn implies improved financial performance, making profitability one of the most significant goals Tariku, (2019). The operational efficiency of the entire company is examined by return on total assets (ROA), whereas return on equity (ROE) takes into account how that operating efficiency is converted into rewards for the owners. The basis for a corporation to have a strong return on equity is provided by return on total assets. It is nearly hard for a business to produce a solid ROE if its ROA is poor. As a result, this ratio assesses how well management utilizes company assets to produce an operational surplus. The three primary operational variables of the business total revenues, total costs, and asset employed are used to calculate ROA, regardless of the technique chosen. As a result, it is the most complete indicator of overall management effectiveness that, as stated by Malik (2011).

According to Malik, (2011), profitability ratios assess a company's capacity to make money. They represent a company's operating performance, riskiness, and leverage and gauge the management's capacity to keep costs under control in relation to revenues. Thus, it is clear from the aforementioned claims that return on asset is the most reliable and thorough performance metric, and it is used in this study as a stand-in for the performance of insurance companies.

Profitability theories

A broad theory that offers a cohesive framework for the study determinant of the insurer's profitability does not yet exist. This study attempts to examine various hypotheses that are more closely related to the idea of insurance profitability and its determinants as a result.

Dynamic theory

J.B. Clark created the dynamic theory of profit, which holds that because society is dynamic by nature, profit accrues. A society is considered dynamic when there are changes in its population, people's life patterns, capital stock, availability of entrepreneurs, etc. Because of this dynamic nature, the future is uncertain and any action taken as a result of it must occur in the future,

which carries risk. Therefore, assuming and enduring risk comes at a cost: profit. It only appears in dynamic societies, which are those where change is either nonexistent or unavoidable, in which case the profit aspect vanishes and the risk element disappears. Clark claims that an adjustment which the business owners themselves make leads to profit. In a dynamic economy, an entrepreneur stands to gain significantly if he innovates and generates demand for his product. However, the entrepreneurs' profits cannot last for very long. As more business owners use the invention and create comparable goods, the overall output rises and the profit progressively declines. The total output increases and the profit gradually decreases as other business owners adopt the idea to produce similar things.

Arbitrage Pricing Theory

Stephen Ross introduced the idea of Arbitrage Pricing Theory (APT) in 1976. APT concurs that while several distinct factors might impact a single company's performance; these unique impacts often balance out in a sizable, well-diversified portfolio. This is the diversification concept, and it affects the insurance industry. An insurance firm can precisely forecast its losses on a sizable pool of such risk, even if it has no means of predicting whether any given person will become sick or be in an accident. But just because an insurance business covers a big number of people don't mean it is risk-free. Changes in healthcare or natural disasters can have a significant impact on insurance losses by simultaneously affecting a large number of claims.

According to Dereje (2012), insurance policies may be viewed as certain kinds of financial instruments or contingent claims, and since insurance firms are corporations, it makes sense to apply financial models to insurance pricing. The models are intended to approximate the insurance costs that would apply in a market with competition. Setting a pricing that is at least as high as the reservation price, or competitive price, raises the company's market worth. In order to make informed financial judgments concerning tariff schedules, reinsurance contract conditions, and other matters, insurers need have access to financial models and financial pricing, among other important pieces of information Cummins, (1994). Therefore, when insurers are making financial judgments concerning tariff schedules, reinsurance contract conditions, and other related matters, two of the most important pieces of information they should have at their disposal are financial models and financial pricing.

Modern portfolio theory

Harry Markowitz created modern portfolio theory in 1952. According to the hypothesis, investors may enhance the performance of their portfolios by distributing their assets among several financial security classes and industrial sectors that are unlikely to respond in the same way in the event that new information becomes available. By examining many potential portfolios of the specified assets, it helps with the process of choosing the most profitable investments. The MPT model demonstrates to investors how to lower risk by selecting stocks that move in different directions at different times. It is predicated on the standard deviation (variance) and anticipated returns (mean) of the different portfolios.

By carefully balancing the quantities of different assets, modern portfolio theory aims to maximize predicted portfolio returns for a given level of portfolio risk, or equivalently minimize risk for a given level of return. It represents a portfolio as a weighted sum of its assets, meaning that the return on a portfolio is equal to the sum of the weighted returns on its assets. While acknowledging the existence of both systematic and non-systematic hazards, modern portfolio theory places an emphasis on maximizing profits while minimizing risks. These ideas are frequently brought up while talking about financial investments. modern portfolio theory gives meaning to insurance, which is impacted by risks and returns as well. The best defense against falling prey to concentration risk is diversification. Risk-portfolios can be quickly destroyed by an over-reliance on comparable assets' profitability and the expectation that contingent liabilities won't materialize as obligations.

Factors affecting performance of insurance companies

Taye (2018) suggests that, the variables influencing the financial performance of insurance businesses may be categorized into three groups: macroeconomic factors, firm-specific factors, and industry-related factors. The contemporary portfolio theory provides valuable insight into how internal and industry-related issues pertaining to internal efficiency impact organizational performance, which is then within the control of company management. The company manager has influence over the internal variables, also known as firm-specific factors, which are invariably linked to the internal efficiency and managerial decisions of the companies. Managers are unable to instantly alter the externally associated variable in the same way that they may with firm-specific variables.

Underwrite Risk

The process by which an insurance firm determines who and what to insure is known as insurance underwriting. A risk assessment is the basis for this. Determining who is covered and how much the insured will pay in insurance premiums is essentially the "behind the scenes" job done by an insurance business. Selecting individuals who the insurance company will not insure is another aspect of insurance underwriting Macedo, (2009).

The possibility that the premiums received will not be enough to pay for the cost of coverage is known as underwriting risk. Estimates of anticipated claim costs as well as the expenses associated with issuing and managing the policy are used to set insurance rates. In the end, it's possible that the estimations and presumptions utilized to create policy pricing were incorrect. This might be the result of incorrect assumptions, shifting legal landscapes, longer life spans, and more frequent than anticipated weather disasters Ernst and others (2010). The possibility of losing money on a risk assessment exercise if insurance premiums fall short of sufficiently covering claims is referred to as underwriting risk. According to Buckle & Adams, (2000), all expenses incurred in paying claimants throughout the time are included in the claims paid, regardless of the date the loss happened. Underwriting risk can manifest as undervalued present business or underpaid (expired) prior policy liabilities that are overestimated.

It may result from improper or erroneous underwriting, from faulty or erroneous estimates of the frequency and seriousness of losses, or from events completely outside the underwriter's control. It could also result from a large portion of the total written premiums being uncollectible after going unpaid for extended periods of time Shiu, (2004).Underwriting risk is at the core of an insurer's primary risk management initiatives, therefore mitigating it is crucial for the company's long-term profitability even if it is impractical to totally eradicate it Yusuf & Dansu, (2012).

Liquidity Ratio

Having enough cash on hand or in near-cash assets to cover one's expenses is known as liquidity. Cash is king in business, especially when things are bad economically or when the markets are erratic. According to Ngwili (2013), the assessment gauges the company's ability to meet short-term commitments with its present assets and compares all possible liquidities linked to those assets with all debts that must be paid off in less than a year Ciprian & Alexandru (2009).An essential instrument for managing an organization is liquidity management, which shows how

well-equipped the company is to pay off short-term debts such as operational costs and other short-term financial outlays. Organizations utilize a variety of liquidity ratios, including the defensive interval ratio, quick ratio, cash ratio, and current ratio, to manage their liquidity. These ratios have a significant impact on a company's financial success Robinson et al., (2015).

The primary sources of liquidity for an insurer are cash flow (mostly from premium and investment income) and asset sales. Kie Ann Wong and Renbao Chen (2004), as referenced in Abate (2012). Results from empirical research on the impact of liquidity on insurance profitability were remarkably contradictory. For example, research by Kishor and Temesgen (2020) found a negative and substantial correlation between insurance businesses' liquidity and profitability. On the other hand, studies by Tadese, Abiy & Mengistu (2020) and Mazviona et al. (2017) demonstrated that the liquidity ratio has a positive correlation with profitability, which runs counter to the findings of Kinyua (2018). This implies that when the company's liquidity increases, profitability will follow suit.

Furthermore, the researchers found that businesses with more liquid assets had a lower failure rate since they can generate cash even under extremely challenging circumstances. As a result, it is anticipated that insurance businesses with higher levels of liquid assets will do better than those with lower levels. Credit Analysis & Research Ltd. (2016) states that, an insurance company's ability to quickly satisfy policyholder obligations is aided by its liquidity. The ability of an insurer to meet its financial commitments through operational cash flows or stable, diversified, and liquid investments and cash on hand determines how liquid the insurer is. An insurer with strong liquidity can satisfy unforeseen financial needs without having to sell investments prematurely, which could lead to significant realized losses because of short-term market circumstances and/or tax implications.

Leverage

The amount of debt used to fund a company's assets is known as leverage. A highly leveraged corporation is one that has a large ratio of debt to equity. Leverage, which is another word for solvency, takes into account the capital structure of the company as well as the assessment of the relative risk and return connected to liabilities, particularly long-term debt, and equity or ownership. The majority of research on the impact of leverage on insurance profitability has produced conflicting results. For example, Mazviona et al. (2017) found a positive correlation

between the firm's profitability and its leverage ratio in Zimbabwe Teklit & Jasmindeep, (2017) shown that there is absolutely no statistically meaningful correlation between the company's profitability and its leverage ratio. However, in contrast to the previous research, Abate, (2012), Tariku, (2019), and Kishor & Temesgen, (2020) came to the alternative conclusion that leverage has a negative and substantial relationship with insurance businesses' performance. This suggests that equity financing is preferable to debt financing for Ethiopian insurance businesses and forecasts lower profitability for highly leveraged Ethiopian insurance companies.

The study's premise is supported by the fact that the insurance businesses' profitability is adversely impacted by their degree of leverage ratio. Based on the results, it can be inferred that insurance businesses with high profitability tend to rely more on equity capital and domestically produced funds rather than borrowed capital for financing. This variable is determined by dividing the company's total debt by its entire equity value. Leverage in finance may be further classified as financial and operating leverage. Business risk is somewhat dependent on how much of a firm's costs are fixed, according to F. Bringham, (1995) quoted in Behailu, (2016).

Even a slight drop in sales might result in a significant drop in operating profits and return on equity (ROE) if fixed costs are high. As a result, assuming all other factors stay the same, the company risk increases with fixed costs. Financial risk is the extra risk that is imposed on common stockholders as a result of financial leverage. Financial leverage is the use of fixed-income securities, such as debt and preferred stock. Leverage, also known as solvency, takes into account the company's capital structure as well as the assessment of the relative risk and return connected to liabilities, particularly long-term debt, and equity or ownership. Giroux, G. (2003), quoted in Behailu (2016), one of the most basic metrics in corporate finance is the debt to asset ratio.

Size of the Company

It has been proposed that there is a positive correlation between profitability and company size. The following is a summary of the primary causes of this. First, compared to smaller organisations, larger insurance companies often possess a stronger ability to handle unfavourable market swings. Second, compared to small businesses, large companies often have an easier time finding qualified candidates with professional experience. Third, labour cost is the most important production component for providing insurance services, and large insurance

businesses enjoy economies of scale in this regard (Kishor & Temesgen, 2020; Tadese, Abiy & Mengistu, 2020). The decimal logarithm of the insurance company's total assets is used to calculate the company's size.

Given that larger businesses have greater resources, better risk diversification, more sophisticated information systems, and more effective expenditure management, a positive correlation between company size and profitability is predicted. A company's size may be determined by a variety of factors, including its total assets, number of branches, and number of workers. The majority of research uses total asset to illustrate how size affects insurance profitability Tadese, Abiy, & Mengistu, (2020). According to Asrat, L. & Tesfahun, (2016), size is employed to convey the reality that larger businesses may take advantage of economies of scale in transactions and generate higher levels of profit than smaller businesses. Which size best maximizes bank profitability is one of the key issues driving bank policy. According to Asrat &Tesfahun, (2016), the influence of an increasing size of a bank on profitability has been demonstrated to be favorable to a certain level. Consequently, many academics in the insurance industry anticipate a favorable association between size and profitability.

However, size may have a detrimental impact on businesses that grow to be excessively large for bureaucratic and other reasons Kinyua, (2018). As a result, a non-linear connection between size and profitability may be anticipated. Therefore, in order to account for any non-linear relationships, the majority of research employs the real assets in logarithm and their square. According to Hanna (2015), most research generally showed that large insurance firms outperform smaller ones in terms of performance. However, size development should be restricted to a specific stage, which might be determined by the management's aptitude. As a result, it can be concluded from the theoretical talks above that, if a company's size is reasonable and optimized; there is a positive correlation between it and profitability. Therefore, one of the key elements influencing an insurer's profitability is size.

Inflation

The average yearly change in the consumer price index serves as a proxy for inflation. It is involved in insurance and negatively affects a number of insurance-related processes, including claims, other costs, and payroll expenditures. Because inflation modifies spending patterns, insurance products are especially affected in terms of profitability. Suheyli (2016) found a

statistically significant and negative impact of inflation on profitability, indicating that greater inflation leads to higher interest rates and lower bond prices, which ultimately decrease portfolio returns. Suheyli (2016) notes that, the reasons for the insurance sector's expansions have been researched; there is a connection between the sector's growth and profitability.

Inflation is anticipated to have a negative impact on the demand for life insurance, according to their policy research working paper. However, after looking at life and non-life premiums across 90 countries from 2000 to 2008, they discovered that insurance activities are severely hindered in high inflation countries, particularly in the life sector. They clarify that the cause is that rising inflation severely reduces the value of life insurance, which in turn causes a decline in demand. Behailu (2016) found a weak and negative correlation between inflation and profitability, indicating that more inflationary times make businesses less profitable by requiring insurance companies to pay out more indemnity for risks that arise within the organization.

GDP growth

The real annual GDP growth rate, which is used to calculate GDP growth rate, is predicted to have a favorable impact on insurance profitability. Growth in the economy may boost the profitability of insurance businesses by raising individual income, or GDP per capita income, and subsequently household income. The requirement for security (the need to be guarded against danger in case of life, businesses, and other things in general) will increase as individual, family, and corporate incomes rise. Fear of uncertainty or danger drives people to purchase insurance policies and pay premiums in accordance with their desire to have health, non-life, and life insurance covered. Thus, if claims are paid in a regular manner, higher premiums will result in higher profits for insurance firms Tadese, Abiy & Mengistu, (2020).

GDP growth may be expressed as follows: GDP at time t - GDP at time t - 1 divided by GDP at time t - 1. GDP is a measure of a nation's total economic production during a specific period of time, generally a year, and is one of the main macroeconomic indicators used to assess the health of that nation's economy. GDP is a measure of the total economic production inside a country's boundaries during a specific period of time, generally a year, and is one of the macroeconomic indicators used to assess the health of a nation's economy Teklit & Jasmindeep, (2017).

The following is one way to express GDP growth: GDP at time t - 1 divided by GDP at time t - 1 is the GDP at time t. GDP is one of the primary macroeconomic indicators used to evaluate the state of a country's economy. It is a measurement of the entire economic production of a country over a given time period, usually a year. One of the macroeconomic indicators used to evaluate the state of a country's economy is its GDP, which is a measurement of the entire economic production inside its borders during a given time period, usually a year Teklit & Jasmindeep, (2017).

Premium growth

According to relevant literature, premium growth is another significant financial factor that affects how well insurance businesses perform financially. As a result, it has been extensively studied that the firm's premium growth has an impact on the financial performance of insurance businesses. The percentage change in total assets or, occasionally, the percentage change in insurance firms' premiums is used to quantify premium growth Abate, (2012). Empirical studies produced conflicting results. The research done in Kanbiro and Ayneshet(2019) also attempted to make a broad generalization that Ethiopian insurance firms' profits are positively and significantly impacted by increases in premiums. The consistent improvement in premium collection from year to year boosts insurance firms' profit growth. However, it requires careful application of risk management strategies because the likelihood that insurance firms will face more risk rises in tandem with premium collection.

A bigger profit margin does not automatically follow from a higher premium collection rate unless effective risk management strategies are used. Despite having a positive impact to profitability, the coefficient in this outcome is relatively modest. This might be because, as Charumathi, (2012) noted in their study, the insurance penetration rate the quantity of premiums collected in the Ethiopian insurance market is extremely low.

Market share

Market share is a commonly employed metric to depict a firm's standing and achievements within the insurance sector. The relationship between a firm and the overall success of the industry is demonstrated by its market share. If marginal costs were to continuously decline across all enterprises, a linear positive connection would be anticipated Pervan & Kramaric,

(2012). According to Pervan et al. (2012), a large number of academics concur that a company's profitability is frequently positively correlated with its market share.

While some studies found no correlation between market share and profitability, others found a negative correlation. Slade (2004) discovered, using panel data, that there is no consistent correlation between a company's profitability and its market share that is, smaller companies can be just as lucrative as bigger ones within a given market. According to Choi and Weiss's (2005) analysis, market share has a negative relationship with both profit and price. According to Kozak (2011), the profitability of non-life insurance businesses was positively impacted by a rise in the market share of foreign-owned companies. Pervan et al. (2012) found that market share has a strong beneficial impact on current profitability using dynamic panel analysis.

Exchange rate

Exchange rate risk arises from significant foreign obligations that aren't offset by equivalent-currency assets. Compared to non-life, this type of risk is less substantial for the life insurance industry KPMG (2002). The US dollar has grown significantly in value relative to the Ethiopian Birr in recent times. This information may have an effect on the solvency and profitability of insurance businesses. Every company's actions regarding its foreign currency exposure must take exchange rate risk management into consideration Allayannis, Ihrig, & Weston, (2001).

The goal of currency risk hedging methods is to eliminate or minimize this risk. To do this, it is necessary to comprehend how the exchange rate risk may impact the activities of economic actors as well as how to manage the resulting risk implications Barton, Shenkir, & Walker, (2002). Because it can be difficult to determine the right amount of risk exposure to cover and to measure present risk exposure precisely, choosing the right hedging strategy is frequently a difficult issue. Gladys (2017) came to the conclusion that ROA is adversely affected by currency rates. The insurance industry's return on assets (ROA) is adversely affected by fluctuations in foreign currency rates Nyairo, (2015).

Empirical literature review

Mingizem (2017) evaluated the elements influencing the Nile Insurance branch's profitability in Dire Dawa. The investigator combined primary and secondary data using descriptive study approaches. The findings demonstrated the importance of size, leverage, asset tangibility, risk

and loss ratio, business expansion, and management effectiveness in determining profitability. Two somewhat important factors that influence profitability are the company's age and liquidity. The factors influencing the financial performance of insurance businesses operating in the Hawassa municipal administration of Ethiopia were examined by Kanbiro & Ayneshet (2019). The researchers used a mixed research technique and a causal research design in their investigation. The researchers employed secondary data sources and the purposeful sampling approach.

Meaza (2014) looked at the impact of macroeconomic and firm-specific factors on profit in her investigation of the factors influencing insurance businesses' profitability in Ethiopia. Ten insurance firms were included in the study over a period of six years (2008-2013) because of this. Analysis was done on secondary data that was gathered from MOFED financial publications as well as insurance businesses' financial statements (profit/loss accounts and balance sheets). Size of businesses, leverage, tangibility of assets, liquidity, loss ratio, firm growth, management effectiveness, inflation rate, and economic growth were independent factors, whereas profitability as measured by ROA was a dependent variable.

After testing every assumption in the model, the regression analysis revealed that the following factors significantly influenced profitability: size, leverage, tangibility of the asset, risk/loss ratio, firm growth, and managerial effectiveness. As a result, there was a positive correlation between firm size, tangibility of the asset, firm growth, and managerial effectiveness. Leverage and risk/loss ratio, on the other hand, have a negative but substantial relationship with profitability. The factors that significantly influenced profitability were not inflation, liquidity, or economic expansion.

Hadush (2015) conducted research on the factors that affect Ethiopian insurance companies' profitability. In order to do this, the study used a panel of nine Ethiopian general insurance firms over the study period of 2005–2014, with all Ethiopian insurance companies serving as the targeted population. The yearly audited financial statements (balance sheet, profit/loss account, and revenue account) of insurance businesses, as well as financial publications of NBE, provided secondary data or quantitative data for the study. This was done by utilizing a statistical tool called Eviews 7 exclusively. While liquidity, tangibility, capital volume, claim ratio, premium growth, real GDP, and inflation are independent factors, profitability is the dependent variable.

According to Bhattarai (2020) conducted a five-year study using panel data from ten insurance firms covering the years 2013–2018 to investigate the factors affecting the profitability of Nepalese insurance businesses. He has been given Return on Equity (ROE) as a dependent variable and as profitability metric. With the aid of SPSS 25 software, the data has been processed. The expenditures ratio and other independent variables were shown to have a positive association, according to the results. The study came to the conclusion that size and financial leverage were the two main factors influencing Nepalese insurance businesses' profitability.

Taye (2018) investigated the elements influencing Ethiopian insurance companies' financial performance. Purposive sampling, an explanatory study design, and a quantitative technique were used by the investigator. The study made use of secondary data that was gathered between 2011 and 2016 from 12 of the 17 insurance firms and (NBE). For data analysis, descriptive statistics and the Random Effect econometric model were used. The results of the study showed that capital volume and prior profit performance have a positive and substantial impact on financial performance, but loss ratio and solvency margin have a strong negative correlation. In contrast to the lag inflation and exchange rate, which had a negative and large impact on ROA, the lag GDP rate and current inflation had a positive and considerable impact. The study suggested that governments should stabilize currency exchange rates and that businesses should increase their solvency buffer.

The primary factor influencing profitability in Ethiopia's insurance market is examined by Tariku (2019). All secondary data from NBE and MOFEC, spanning the years 2003–2017, served as the foundation for this investigation. There was a fixed effect model and an explanatory research design. According to the regression analysis, premium growth also has a positive and significant impact on the profitability of Ethiopian insurance companies. In addition, the company age, market share, and GDP have a significant impact on the profitability of Ethiopian insurance companies as measured by both return on equity and return on asset.

Tadese, Abiy, and Mengistu (2020) looked into the variables influencing Ethiopian insurance businesses' profitability from 2014 to 2018. They used a descriptive research design. The 17 insurance firms that made up the target population were all taken using the census approach. The researchers used data from audited National Bank of Ethiopia financial statements as secondary sources. The researchers utilised Stata software version 14 to perform multiple regression models

using a random effect model. The researchers discovered a strong and positive correlation between ROA and real GDP, real effective exchange rate, capital adequacy, and liquidity. On the other hand, debt, underwriting risk, and premium growth have a negative and substantial relationship with ROA. Additionally, ROA has a negative and negligible relationship with inflation but a positive and insignificant relationship with age and size. The researchers suggested that in order to maintain its profitability, the insurance business should priorities the ratios of capital adequacy and liquidity.

Mwangi (2013) carried out a descriptive survey as part of an investigation into the variables affecting Kenyan insurance businesses' financial performance. His goal was to identify some of the major variables that impact insurance businesses' financial performance and the degree to which they do so. As a measure of financial performance, he employed profitability. He mentioned that the main elements affecting the financial performance of Kenyan insurance businesses are competition, interest rate variations, and liquidity, but he could not explain how these aspects relate to one another.

In order to determine the factors influencing the financial performance of insurance businesses in Kenya, Wabita (2013) used a descriptive study approach. The amount of tangible assets held by the insurance industry has a positive impact on financial performance, the growth of the insurance industry has a positive impact on financial performance, and the insurance industry's leverage has a negative impact on financial performance are the three factors he identified as having the greatest influence on the financial performance of Kenyan insurance companies. The three primary determinants of financial performance identified by him were not the same as those identified by Mwangi (2013).

Mutugi (2012), using a descriptive study approach, sampling 23 insurance businesses, and a combination of primary and secondary data to determine the factors influencing the financial performance of life assurance companies in Kenya. He came to the conclusion that ownership structure, innovation, and capital structure are factors that affect financial success, which was a little departure from the conclusions reached by the two previous researchers who were directly involved. Once more, the link between the independent factors and financial success was not shown by him; instead, the dependent variable's performance differed significantly from Mwangi's (2013) findings.

Gap of literature review

Numerous studies have been carried out in Ethiopia to look at the impact of various factors on the profitability of insurance businesses. Despite the fact that their results led to differing findings, for example, research by Teklit and Jasmindeep (2017) shows a favorable correlation between insurance businesses' leverage and their financial success. However, studies by Abate (2012), Hanna (2015), Tariku (2019), Kiskor & Temesgen (2020), and Tadese, Abiy & Mengistu (2020) discovered an inverse link between leverage and the financial performance of Ethiopian insurance businesses.

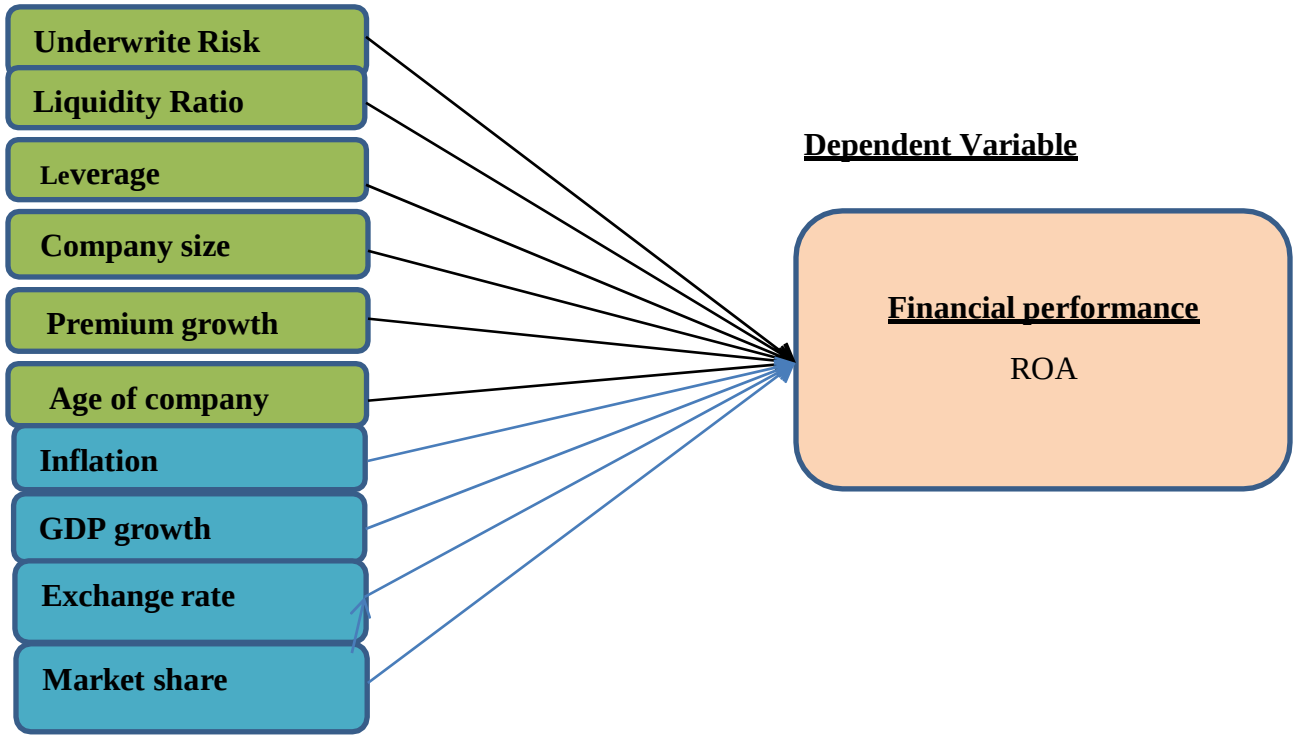
According to Teklit and Jasmindeep's 2017 study, underwriting risk has a negligible impact on the profitability of insurance businesses. Tariku (2019) discovered a favourable and strong correlation between the rise of insurance businesses' premiums and their profitability. On the other hand, Tadese, Abiy, and Mengistu's (2020) study found a negative and substantial correlation between insurance businesses' premium increase and profitability. However, the research by Mazviona et al. (2017) discovered that the size of insurance has a negative and substantial impact on profitability. Size has a favourable and considerable impact on profitability, according to (Teklit & Jasmindeep, 2017), (Suheyli, 2016), Tadese, Abiy & Mengistu, (2020), and (Kishor & Temesgen, 2020).

As a result, as the literature shows, many researchers' findings about the influence of variables like liquidity, leverage, loss ratio, company size, premium growth, GDP, and inflation were inconsistent and still up for debate because they had both positive and negative relationships with insurance companies' performance. Thus, the purpose of this study was to resolve this issue. Furthermore, the majority of studies have focused on the non-life insurance industry, but this analysis includes companies that offer both life and non-life insurance and are active in Ethiopia. This study will add to the body of research by identifying the variables that both positively and negatively, as well as those that have a significant and insignificant influence on the financial performance of Ethiopian insurance companies. Ultimately, by addressing the aspects that will not previously known to have an impact on insurance businesses' financial performance and by exploring new ones and will closed the knowledge gap.

Conceptual framework

A conceptual framework illustrates the link between the independent and dependent variables by a diagrammatic portrayal of the variables. The goal of the study was to find out how Ethiopian insurance companies' financial performance is impacted by their independent factors. Return on assets is a metric used to assess financial performance. The financial ratio known as return on assets displays the percentage of net profit relative to total assets. As seen in the schematic image below, the study is conceptualized inside a framework that explains the link between the independent and dependent variables with internal and external factors.

Internal and external independent variable



Source: Smith. M., (2017)

Figure 1Conceptual frame work

CHAPTER THREE

3. RESEARCH METHODOLOGY

Introduction

This chapter illuminated the research design and approach, population, sample size, sampling technique, data type and source, data collection tool, data analysis techniques. The researcher's approach for obtaining, analyzing, and turning the data into information that is useful. It offers the methods and techniques of the investigation that will conduct to identify the financial elements influencing Ethiopian insurance companies' profitability. These definitions include the option to select dependent and independent variables.

Research Design

The conceptual framework that research is carried out inside is referred to as research design; it serves as the guide for data collecting, measurement, and analysis. It is a precise plan outlining how the methodology you have selected used to address a certain research issue Kothari, (2011). In order to accomplish this study, the researcher was used an explanatory research design, which facilitates the identification and assessment of causal linkages among the many variables under investigation research design. For this investigation, both **descriptive and explanatory** research design were employed.

Research Approach

There are three methods employed while carrying out a certain study. This research approach will use qualitative, quantitative and mixed. Based on the measurement of quantitative research the study is a way to evaluate objective ideas by looking at the relationship among dependent and independent variables. It works with phenomena that have a quantitative expression. Conversely, the qualitative research technique purposes to inductively construct pattern by examining and comprehending the meaning that individuals or groups attribute to human situation. A mixed methods approach stresses the research topic and makes use of all available ways to help the researchers comprehend it Kothari, (2011). According to this study, the researcher test objective theories using a quantitative research approach by investigating how variables related to one

another, building an experiential model, and postulating a linear relationship between dependent and independent variables.

Target population and sampling technique

Target population

Population of the study is 18 insurance businesses registered by the National Bank of Ethiopia (NBE) and functioning in Ethiopia. In Ethiopia, there are eighteen insurance companies operating at the moment. Purposive sampling is the method utilize by the researcher to choose the sample insurance firms. Insurance businesses with sufficient experience and comprehensive financial statements for the study period are purposefully included in the sample, meaning that their inclusion is determined by the availability of data for the study period and their age.

Only 10 insurance companies Oromia, Africa, Awash, EIC, Lion, Global, National, Nile, Nyla, and Nib have sufficient experience and complete financial statements for the study period, according to investigator expectation of data from the National Bank of Ethiopia. These 10 insurance companies were selected as a sample from among all insurance companies operating in Ethiopia because they are senior insurance companies and are anticipated to have more experience in the activities on NBE, (2023).

Table 1Target population

Name of the Bank	Establishment Year
Zemen insurance company	2020
Abay Insurance Company	2010
Buna insurance company	2013
Tsehay insurance company	2012
Lucy insurance company	2012
Berhan Insurance Company S.C	2011
Oromia insurance company	2009
Ethiopia life and general insurance company	2008
Lion Insurance Company S.C	2007
NIB insurance company	2002
The United Insurance S.C	1997
Global Insurance Company S.C	1997
Nyala Insurance company S.C	1995
Nile insurance company	1995
Ethiopian Insurance Corporation	1995
Africa Insurance Company S.C	1995
National insurance company	1994
Awash insurance company S.C	1994

Source: NBE report (2023)

Sampling technique

Purposive sampling, also known as judgment sampling, involves selecting participants specifically based on their attributes. It is a nonrandom approach that does not require a predetermined number of participants or underlying hypotheses. In other words, the researcher determines what information is required and then searches for sources willing and able to supply it based on their experience IlkerItikan (2015). The researcher was employed the purposive selection approach chosen ten (10) insurance companies on the basis of their profit, market share, age of establishment and total assets.

Data source and instrument

Secondary sources of data were audited financial statements of the selected insurance companies and their annual reports that are filed with and submitted to NBE from 2014-2023 in order to analyze the effect of financial factors on the financial performance of insurance companies.

Method of data analyze

Multiple linear regression analysis, correlation matrices, and descriptive statistics have all been used to analyze the panel data that was gathered. The mean, minimum, and maximum values of each variable utilized in the analysis are presented in the descriptive statistics, together with the standard deviations of the variables for the variables under investigation for the years 2014 to 2023. When representing nonlinear interactions, the correlation matrix is meaningless. Instead, it gauges the degree or intensity of linear linkage between dependent and independent variables.

The ordinary least square (OLS) approach was used to run the model. OLS was chosen because, provided the assumptions of the Classical Linear Regression Model (CLRM) are met, the estimators produced by OLS have several desirable qualities Brooks,(2008). Additionally, a number of diagnostic tests, including those for normality, heteroscedasticity, autocorrelation, and multi-colinearity, have been carried out to determine the suitability of the model employed in the study and to confirm that it meets the requirements of the traditional linear regression model.

Reliability and Validity of the research

Reliability

An instrument's degree of dependability, according to Bless and Higson-Smith (1995), is based on how frequently it yields the same score when used several times. Therefore, measurement consistency and reliability are connected. Furthermore, a crucial element of measuring reliability is its ability to measure what it is supposed to measure. According to Kothari (1990), a measuring tool is reliable if it consistently produces the same results. The information gathered from various sources was applied by the researcher to give evidence for drawing conclusions about the topic of the research area.

Validity

Conversely, validity refers to whether an instrument, given the context in which it is used, genuinely measures what it designed to measure. Gibson-Smith & Bless, (1995). Investigator was created based on prior study questionnaires and a review of relevant literature in order to ensure validity.

Ethical considerations

In order to safeguard respondents from any potential damage that may result from engaging in the study, the researcher was take into consideration the research values of voluntary participation, confidentiality, and anonymity. The researcher therefore stated quite explicitly that the study's goal is to partially satisfy a Masters Study programmer in accounting and finance and asked the respondents to take part voluntarily, with the option to decline or not participate at all. The responders were guaranteed the privacy of their information and protection from any potential harm resulting from the study, since the results were only be utilized for the specified reasons, by the researcher. The participants pledge to receive input on the study's conclusions.

Model specification

The model adopted based on the financial factors influencing insurance companies' profitability in Ethiopia: The availability of data pertinent to the study as it is incorporated into accepted theories and other significant empirical studies is a prerequisite for model formulation Kothari, (2011). Both Behailu (2016) and Hanna (2015) have employed empirical models to ascertain the

link between the financial performance of the insurance business and its factors. In order to accomplish the study's main goal, the researcher then created an econometric model, which is a representation of the fundamental elements of economic phenomena, using actual data as well as other inputs.

Multiple Linear regression model

If a model or connection has linear parameters, it is called linear; if not, it is called nonlinear. Put another way, the model is referred to as linear if all of the partial derivatives of y with regard to each of the parameters β1, β2,..., βk are independent of the parameters. The model is classified as nonlinear if any of the partial derivatives of y with regard to any of the β1, β2,..., βk are not independent of the parameters. Keep in mind that the linearity or nonlinearity of the model's explanatory variables does not represent the model's linearity or nonlinearity. y = f (X1, X2,..., Xk, β1, β2,..., βk) + ε is referred to as a linear model when the function f has linear parameters; when the function f has nonlinear parameters, it is referred to as a nonlinear model. To represent a linear model, the function f is often selected as f (X1, X2,..., Xk, β1, β2..., βk) = β1X1 + β2 X2 +...+ βk Xk. Given that y is the result and X1, X2,..., Xk are predetermined variables, both are known. As a result, understanding the model requires understanding the parameters β1, β2,..., βk. In order to identify the model, we go backwards, since the gathered data is utilized to ascertain the model's unknown parameters, β1 and β2.

The multiple linear regression equation which takes into consideration ten independent variables for the 10 insurance companies from 2014 to 2023 period is presented as follows. Therefore, the model's regression equation is as follows:

$$Yit = \alpha + \beta 1X1 + \beta 2X2 + \beta 3\ X3 + \beta 4\ X4 + \beta 5\ X5 + \beta 6X6 + \beta 7X7 + \beta 8\ X8 + \beta 9\ X9 + \beta 10\ X10 + Є$$

$$ROAit = \alpha + \beta 1URit + \beta 2SIZit + \beta 3LVit + \beta 4LRit + \beta 5LQit + \beta 6ERit + \beta 7PGit + \beta 8INFit + \beta 9MSit + \beta 10GDPit + \varepsilon it$$

Where;

ROAi,t = Performance of insurance companies

Yit represents the dependent variable in the model,

β1, β2, β3, β4, β5, β 6, β7, β8, β9, β10 =Regression coefficients

α is constant term over time t

UR: Net annual claims incurred to net earned premiums collected

SIZ: company size was measured by total assets in log value

LV: is leverage ratio which was proxy by the ratio of total debt to total asset of the company

LR: Ratio of claims incurred to net earned premium

ER: Exchange rate

MS: Market share

LQ: Liquidity (Current assets divided by current liabilities)

PG: Premium growth= Absolute change / Previous value)

INF: inflation = (I (t) − I (t − 1)) I (t-1)

GDP: Gross domestic product= (GDP (t) – GDP (t − 1))/ GDP (t-1)

ε: is error term

Measurement of Variables

The following variables, which were chosen based on competing hypotheses and earlier empirical research on the relationship between financial indicators and company performance, were the main focus of the study. The dependent and independent variables of the study on which the researcher concentrated were determined in order to investigate the effect of financial factors on the financial performance of insurance businesses in compliance with theory and empirical studies.

Dependent Variable

The dependent variable in this study is financial performance, or profitability, which is determined by dividing return on investment (ROI), return on equity (ROE), and return on assets (ROA) by three. Because ROA is the key ratio for evaluating the profitability of insurance and is unaffected by high equity multipliers, whereas ROE ignores the risks associated with high financial leverage, the researcher chose to use ROA as the indicator of financial performance in

the regression analysis Malik, (2011). Since return on assets (ROA) is the most complete accounting measure of an insurance company's total performance, many regulators see ROA as the greatest indicator of insurance efficiency and use it as the primary ratio to assess the profitability of insurance companies IMF, (2002). The ratio of net income to total assets (for ROA) is used to compute return on asset (ROA).

Return on Asset (ROA) is a metric used to assess management's overall effectiveness. It provides insight into how well management uses its resources to turn a profit.

$$\textbf{ROA} = \frac{\textbf{Income after tax}}{\textbf{Total Asset}}$$

Independent Variables

The independent variables that the econometric model uses to estimate the dependent variable are explained in this part. Ten measures that the researcher selected as independent factors were utilized to measure the predictive variables of insurance businesses' profitability. The factors include GDP, premium growth, Inflation, exchange rate, market share, underwriting risk/loss ratio, leverage, liquidity, and firm size.

Gross Domestic Product

GDP is a measure of a nation's total economic production during a specific period of time, generally a year, and is one of the main macroeconomic indicators used to assess the health of that nation's economy. GDP is a measure of the total economic production inside a country's boundaries during a specific period of time, generally a year, and is one of the macroeconomic indicators used to assess the health of a nation's economy Teklit & Jasmindeep, (2017).

According to Tariku (2019), GDP significantly and negatively affects how well insurance businesses perform. On the other hand, research by Kishor & Temesgen (2020) and Tadese, Abiy & Mengistu (2020) shown that GDP positively affects insurance companies' profitability, meaning that as GDP rises, so will insurance firms' profitability. It is calculated as follows: GDP (t) - GDP (t − 1))/ GDP (t-1). This is the percentage change in the country's gross domestic product growth. The profitability of insurance companies in Ethiopia is positively and significantly impacted by economic growth (GDP).

Inflation rate

When the cost of products and services rises gradually over time, it is known as inflation. It is a general increase in the pattern of price level of goods and services. An increase in the price of one good or service, or even a number of goods or services, is not a reliable indicator of inflation. Instead, inflation is a general rise in the level of prices for goods and services across the board in a nation's economy; more precisely, it causes the value of money to decline. The overall amount of products and services in a country would drastically decrease if the inflation rate raises Suheyli, (2016).

It seems improbable that inflation will have a significant effect on insurance businesses' performance. Nonetheless, insurance firms may experience financial difficulties if inflation is much higher than anticipated. Both the obligations and assets of insurance firms may be impacted by inflation, which might have an impact on their profitability. Tariku (2019) asserts that there is a positive but negligible correlation between insurance firms' profitability and inflation. While Behailu (2016), Teklit & Jasmindeep (2017), and Tadese, Abiy & Mengistu (2020) indicated that the inflation rate has a negative and minor influence on profitability, a study by Kanbiro & Ayneshet (2019) revealed that inflation has a negative and substantial effect on profitability. The formula for calculating inflation rates is percentage change = (I (t) − I (t − 1)/I (t-1). Ethiopian insurance companies' profitability is significantly impacted negatively by inflation.

Company Size

Size is determined to be a highly significant factor in determining the profitability of insurers. Smaller businesses find it far more difficult to write insurance premiums than larger ones since they are unable to protect their clients in the event of a major catastrophe or general uncertainty. Larger insurers are able to realise economies of scale, particularly in terms of labour expenses, which are crucial for providing insurance services, by increasing production and so achieving operational cost savings. Numerous investigations have been carried out to investigate the impact of business size on profitability. The actual data, however, is not entirely consistent. For example, research conducted by Kinyua (2018) and Mazviona et al. (2017) revealed a negative and substantial relationship between size and profitability. Size has a favourable and considerable impact on profitability, according to Teklit & Jasmindeep, (2017), (Suheyli, 2016),

Tadese, Abiy & Mengistu, (2020), and Kishor & Temesgen, (2020). Given that size and ROA have a positive correlation, it may be inferred that larger insurance businesses are more profitable due to their superior ability to take advantage of economies of scale in transactions.

The size of the company and the financial success of Ethiopian insurance companies are positively and significantly correlated.

Premium Growth

The majority of insurers get their money from premiums, which is a more reliable source of income than other sources. Since premium growth is another significant financial factor that affects the financial performance of insurance firms, reports on it have been made from relevant literature. Consequently, it has been suggested that the company's premium growth has an impact on the financial success of insurance businesses, a claim that has been extensively researched. The percentage change in total assets or, occasionally, the percentage change in insurance firms' premiums is used to quantify premium growth Abate, (2012).

For example, Tariku's 2019 study discovered a favourable and strong correlation between insurance businesses' profitability and their premium increase. On the other hand, Tadese, Abiy, and Mengistu's (2020) study found a negative and substantial correlation between insurance businesses' premium increase and profitability. The percentage change in insurance firms' premiums is used to calculate premium growth: Absolute change / Previous value

Growth in premiums has a favorable and noteworthy impact on Ethiopian insurance companies' business.

Leverage

The amount of debt used to fund a company's assets is known as leverage. A highly leveraged corporation is one that has a large ratio of debt to equity. Leverage, which is another word for solvency, takes into account the capital structure of the company as well as the assessment of the relative risk and return connected to liabilities, particularly long-term debt, and equity or ownership. The empirical research on the impact of leverage on insurance firms' profitability is inconsistent. Conversely, studies conducted by Abate (2012), Hanna (2015), Tariku (2019), Kiskor & Temesgen (2020), and Tadese, Abiy & Mengistu (2020) reached a different conclusion than the other studies, stating that leverage has a negative and significant relationship with

insurance companies' performance. Leverage significantly and negatively affects Ethiopian insurance companies' financial performance.

Liquidity

It demonstrates the capacity to swiftly turn an asset into cash and, when maintained at a typical level, the firm's working capital management capabilities. When external financing is unavailable or too expensive, a company may utilize liquid assets to fund its operations and investments Suheyli, (2016). The primary sources of liquidity for an insurer are cash flow (mostly from premium and investment income) and asset sales Abate, (2012). Results from empirical research on liquidity were essentially inconsistent. For example, research conducted in (2020) by Kishor and Temesgen and in (2017) by Teklit and Jasmindeep found a negative and substantial correlation between the liquidity of insurance businesses and their profitability.

On the other hand, Tadese, Abiy & Mengistu (2020), Suheyli (2016), Mazviona et al. (2017), and Kinyua (2018) revealed that there is a positive and substantial association between the liquidity ratio and profitability. This implies that when the company's liquidity increases, profitability will follow suit. Furthermore, the researchers found that businesses with more liquid assets had a lower failure rate since they can generate cash even under extremely challenging circumstances. As a result, it is anticipated that insurance businesses with higher levels of liquid assets will do better than those with lower levels. Ethiopian insurance companies' financial performance is significantly and favorably impacted by liquidity.

Underwriting risk (Loss Ratio)

Underwriting risk is the risk of loss and unfavorable changes in the value of insurance obligations that result from insufficient premiums written by the firms, from inappropriate pricing, and from unclear provisioning decisions. It is the possibility that the amount of premiums received will not be enough to pay for the necessary coverage. As stated by Abate (2012). Operating earnings are increased and exposure to underwriting losses is reduced when insurers take on riskier business and diversify their underwriting risks. Numerous investigations have been carried out to look at how underwriting risk affects business profitability. The actual evidence for the connections, however, was not entirely consistent.

According to studies conducted by Taye (2018), Kishor & Temesgen (2020), Mazviona et al. (2017), Tariku (2019), Tadese, Abiy & Mengistu (2020), and Mingizem (2017), for example, the

profitability of insurance businesses in Ethiopia is adversely and considerably impacted by the loss ratio. On the other hand, research by Teklit & Jasmindeep (2017) and Kinyua (2018) demonstrated that the loss ratio has little bearing on the financial success of insurance businesses. Underwriting risk significantly and negatively affects Ethiopian insurance companies' financial performance.

Table 2Summary of Variables, Measurement, Symbol and Expected sign

Variable		Measurement	Symbol	Expected sign
Dependent variable	Return on Asset	ROA=Net Profit after tax/ Total asset	ROA	
Independent Variable	Underwriting Risk	Claim incurred/Annual premium Earned	UR	_
	Liquidity	Current Assets / Current Liabilities	LQ	+
	Leverage	Total Debt /Total Asset	LV	_
	Company size	total assets in log value	SIZE	+
	Age of the company	From date of establishment to up to date	Ag	+
	Premium growth	Absolute change / Previous value	PG	+
	Inflation	(I (t) − I(t − 1))/ I (t-1)	INF	-
	Economic growth	(GDP 2 - GDP 1) / GDP 1	GDP	+
	Market share	Total gross written premium of insurance company to total gross written premium of insurance industry	MS	+
	Exchange Rate	Percentage Change over time	ER	-

CHAPTER FOUR

4. DATA ANALYSIS AND PRESENTATION

The analysis of the study based on the established hypothesis and stated objectives is the main topic of this chapter. There are three sections in this chapter. Descriptive statistics of dependent and independent variables are covered in the first part. The classical linear regression model assumption test is covered in the second section. The regression results pertaining to the impact of financial parameters on the financial performance of Ethiopian insurance businesses are shown and explained in the third section.

Descriptive statistics

This section focused on the independent and dependent variables' descriptive statistics that were utilized in the study for the insurance firms that were sampled. The study employed return on asset as the dependent variable to quantify financial performance. The independent factors were premium growth, business size, Age of the company, leverage, underwriting risk, liquidity ratio, market share, exchange rate, inflation rate, and gross domestic product. A total of 100 observations were made for the dependent and independent variables (from ten insurance companies' data throughout a ten-year period, from 2014 to 2023). As a result, the research variables' mean, maximum, minimum, and standard deviation were displayed in the descriptive statistics underneath the table 3.

Table 3Descriptive Statistics

Descriptive Statistics					
Variables	**Observation**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
ROA	100	-.01	.21	.0817	.05263
UR	100	.52	.85	.6622	.09060
LQ	100	.81	1.38	1.1188	.15231
LV	100	.501	.9303	.7499	.07333
SIZ	100	8.02	9.73	8.8054	.41304
Ag	100	14.0	29.0	24.70	5.37578
PG	100	-.41	.901	.1333	.23739
INF	100	.07	.20	.1257	.04148
GDP	100	.06	.10	.0906	.01377
MS	100	.0101	.120	.0589	.03018
ER	100	16.69	21.09	18.7348	.61794
Valid N (listwise)	100				

Source: NBE Report (2014-2023)

According to Table3, the range of financial performance for insurance businesses in Ethiopia, representing the minimum and greatest financial performance from 2013 to 2023, is -0.01 to 0.21, respectively. As per the findings, several insurance companies attempted to achieve a maximum return on asset of 21% over the research period. However, the average return on asset achieved by these insurance businesses was just 8.17%, well below the maximum ROA. The outcome suggests that the insurance companies attempted to produce a maximum return of 0.21 cents for each birr invested in their whole asset, and 0.0817 cents on an average basis for the companies over the research years.

Table3 above also shows that, until the end of the research period, the maximum insurance business experience in the insurance sector was 29 years, and the average age of the selected insurance firms (private insurance companies) was 24.7 years. This indicates that the insurance sector is still in its infancy and lacks greater business experience. As there was no private

insurance firm during the Derg Regime, Ethiopia's command economic strategy was mostly to blame for this.

Additionally, table3 displays the lowest and highest value for selected private insurance companies as 1.38 and 0.81, in that order. The mean value of the liquidity variable for private insurance companies in Ethiopia was 1.1188. This average liquidity is less than the benchmark average worldwide ratio of 2. This raises concerns about the private insurance firms' ability to pay their present obligations with their available resources. The ratio of total debt to total equity yields the mean value of leverage, which is .7499. The variable's lowest and greatest values were 0.501 and 0.9303 respectively. Premium growth was .1333. It suggests that greater work was done to collect more premiums throughout the course of these six years. Thus, the premium growth was shown to be on average 13.33%. During the period under consideration, the premium growth has the lowest and highest values of -0.41 and .901, respectively. This indicates that the firm with the highest premium collection grew by nearly 90.1%, while some companies had a fall in policy sales, which led to a decline in premium growth of almost -41% throughout the course of the research.

For the insurance companies, the average market coverage value was 0.0589. This shows that throughout the course of the ten-year research period, an average of one insurance companies covered 5.89% of the Ethiopian insurance market. The insurance industry's average market share is occasionally falling. According to a research done in 2013 by Tadesse, the average market coverage for the same business from 2002 to 2011 was 6.5%. However, it is currently down to 5.89%. The reason for this might be because they haven't sold as many insurance policies.

The descriptive output's market share minimum and maximum values were 0.0101 and 0.120, respectively. Of the companies that were chosen, the maximum one accounted for 12% of the insurance industry's market share, while the company's little market share over the same period was around 1.01%.

Correlation Analysis

Given that correlation tests have the potential to skew the true picture of the relationship between the independent and dependent variables, they are frequently used in research pertaining to regression to ascertain whether or not colinearity exists among the independent variables used in the study. The method of indexing the degree of association or relationship between two or more

variables is through correlation. Getahun (2014) defines it as a situation where one variable depends on another.

Table 4Correlation matrix between independent and dependent variables

Correlations												
		ROA	UR	LQ	LV	SIZ	Ag	PG	INF	GDP	MS	ER
ROA	Pearson Correlation	1										
	Sig. (2-tailed)											
	N	100										
UR	Pearson Correlation	-.405**	1									
	Sig. (2-tailed)	.000										
	N	100	100									
LQ	Pearson Correlation	.388**	-.587**	1								
	Sig. (2-tailed)	.000	.000									
	N	100	100	100								
LV	Pearson Correlation	-.204*	.363**	-.268**	1							
	Sig. (2-tailed)	.000	.000	.000								
	N	100	100	100	100							
SIZ	Pearson Correlation	.097	-.119	.092	-.259**	1						
	Sig. (2-tailed)	.000	.000	.000	.000							
	N	100	100	100	100	100						
Ag	Pearson Correlation	.190	-.059	.081	-.436**	.257**	1					
	Sig. (2-tailed)	.000	.000	.000	.000	.000						
	N	100	100	100	100	100	100					
PG	Pearson Correlation	.198*	-.296**	.023	.158	-.059	-.080	1				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000					
	N	100	100	100	100	100	100	100				
INF	Pearson Correlation	-.207*	-.057	-.091	.119	.016	.000	.187	1			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000				
	N	100	100	100	100	100	100	100	100			
GDP	Pearson Correlation	.149	.128	.014	.114	-.369**	.000	.022	-.552**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000			
	N	100	100	100	100	100	100	100	100	100		
MS	Pearson Correlation	.249*	-.241*	.402**	-.140	.260**	.155	.024	-.201*	.015	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.0000	.000		
	N	100	100	100	100	100	100	100	100	100	100	
ER	Pearson Correlation	.116	-.102	.008	-.131	.642**	.124	.052	-.015	-.159	.208*	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

	N	100	100	100	100	100	100	100	100	100	100	100
**. Correlation is significant at the 0.01 level (2-tailed).												
*. Correlation is significant at the 0.05 level (2-tailed).												

Source: NBE Report (2014-2023)

The correlation finding presented in Table4 indicates that when evaluating the financial performance of Ethiopian insurance companies, underwriting risk, leverage, and inflation rate have a negative association with return on asset. It means that Ethiopian insurance companies' financial performance would decline when these variables rise. However, there is a positive association between return on asset and deposit interest rate, companies' liquidity ratio, size, age, premium growth, economic growth, market share and exchange rate. This suggests that when these factors rise, insurance companies' financial performance would also raised

The above table4 illustrated the coefficient estimates of correlation for underwriting risk (-0.405012), leverage (-0.203661), and inflation rate (-0.206644). This suggests that there is a strong negative correlation between return on asset and underwriting risk, leverage, and inflation rate.

On the other hand, the coefficient numbers for companies' liquidity ratio, size, age, premium growth, economic growth, market share and exchange rate are 0.387701, 0.0970024, 0.190122, 0.198005, 0.148550, 0.249227and 0.116014, respectively. This suggests that there is positive correlation between these independent variables and return on asset because of the coefficients were recorded greater than 0.05.

Tests of Regression Model

Panel data model methodologies were utilized by the researcher to accomplish the study's main goal. Depending on the regression coefficients and error term, there are many methods for estimating a panel data regression model. Consequently, two popular models in panel data analysis were the random effects model and the fixed effects model. Fixed effects models (FEM) and random effects models (REM) are two general kinds of panel estimator techniques that may be used in financial research Brooks, (2008). The Hausman test is used to select between the two methods. The number of cross sections needed for a Hausman test must exceed the number of coefficients that need to be calculated. Since of this, the researcher is unable to run the Hausman test in this study since the number of cross sections (ten insurance companies) and coefficients (ten variables) are identical.

To select between the random and fixed effect models, the researcher uses the following criteria: "the fixed effect model is preferred instead of the random effect model; otherwise the random effect model is preferable, if statistically significant P-value from the Haussmann test is more significant only at 5% significance level." The reasoning for this is that the random effects model is suitable since the p-value for the Haussmann test is larger than 5%.

By using the Haussmann specification test at 5% significance levels, the researcher can select between fixed effects and random effects models, according to Haussmann. Thus, even though there are other methods for choosing a model, the researcher in this study chose the suitable model using the Hausman test. Given that the Hausman test is used to evaluate or choose the best model to utilize for estimate.

It is commonly stated, according to Rothstein, H. R. (2010) that a fixed effect model makes more sense when the entities in the sample accurately represent the entire population, but the random effects model is more appropriate when it can be assumed that the entities in the sample were chosen at random from the population. Because the sample for this study was chosen logically and with the intention of accurately representing the whole population, it was chosen in accordance with the fixed effect model selection criteria rather than at random. The following are the formulations of the Hausman test hypotheses based on this: Test cross-section random effect, Hausman: correlated random effect and Equation: untitled.

Table 5Hausman test

Test Summary	Chi-Square Statistic	d.f	Probability
Cross-Section Random	0.000000	9	1.000000

Source: NBE Report (2014-2023)

The Hausman test has a P-value of 1.0000, which is more than the 0.05 (5%) level of significance, as shown in Table 5 above. The above-mentioned Hausman test result led to the conclusion that the random effect null hypothesis would not reject. This suggests that a random effect rather than a fixed effect was more suited for this investigation.

Classical Linear Regression Model Assumptions and Test

The test for the classical linear regression model's five underlying assumptions that is, that the error of zero mean, multicollinearity, hetroskedasticity, autocorrelation and normality is

presented in this section.

Error of Zero mean

The standard linear regression model's initial presumption is that the errors term's average value is zero. In reality, this presumption could never be broken if the regression equation has a constant component Brooks, (2008). In order to meet the first premise of the traditional linear regression model, which states that the errors must have a value of zero, a constant term has been added to the study's model.

Multicollinearity Test

The degree of collinearity between independent variables and the strength of the association between the variables were examined using collinearity analysis. According to Gujarat (2004), multicollinearity refers to a linear connection between the explanatory variables, which might lead to bias in the regression model. Perfect and near multicollinearity are the two types of multicollinearity. It might be challenging to identify which independent factors are influencing the dependent variables when there is perfect multicollinearity, which happens when there is a precise link between two or more variables. Furthermore, the regression coefficients and standard errors of the explanatory variables are infinite if multicollinearity is perfect.

The latter is far more likely to transpire in real life and would emerge in the event if there were a non-negligible, albeit imperfect, correlation between the two independent variables. Then, examining the matrix of correlations between distinct variables is the most straightforward way to look into the existence of multicollinearity problem.

According to Brooks (2008), while utilizing the OLS estimation technique, it is implicitly assumed that the explanatory variables have no correlation with one another. The explanatory variables are said to be orthogonal to one another if there is no link between them. Multicollinearity is the term for the issue that arises when there is a very high correlation between the explanatory factors. According to Malhotra (2007), multicollinearity issues arise when there should be a correlation coefficient between the explanatory variables of more than 0.75.

Table 6 Multicollinearity **c**orrelation matrix between independent variables

	UR	LQ	LV	SIZ	Ag	PG	INF	GDP	MS	ER	**Overall**
UR	1										
LQ	-.587	1									
LV	.363	-.268	1								
SIZ	-.119	.092	-.259	1							
Ag	-.059	.081	-.436	.257	1						
PG	-.296	.023	.158	-.059	-.080	1					
INF	-.057	-.091	.119	.016	.000	.187	1				
GDP	.128	.014	.114	-.369	.000	.022	-.552	1			
MS	-.241	.402	-.140	.260	.155	.024	-.201	.015	1		
ER	-.102	.008	-.131	.642	.124	.052	-.015	-.159	.208	1	
Overall	**0.1077**	**0.1401**	**-0.0821**	**0.1245**	**0.0398**	**0.0713**	**-0.256**	**-0.072**	**0.208**		**0.0123**

Source: NBE Report (2014-2023)

The Pearson correlation between the independent variables was examined in this study in order to determine whether multicollinearity existed. Table6 above displays the correlations between the independent variables. Since every correlation finding is less than 0.75, multicollinearity is not an issue for this investigation.

Test of hetroscedasticity

Table7 illustrated that, one of the CLRM's tenets was homoscedasticity, asserts that the errors term's variance must be constant. Heteroskedastic mistakes are those that do not have a constant variance Chris B., (2008). Hypothesis testing is no longer valid or accurate if heteroskedasticity occurs since the estimators of ordinary least squares methods are wasteful and underestimate variances and standard errors. The null hypothesis, which states that the variance of mistakes is homoscedastic, was tested for heteroskedasticity using the White test. In the event when the test statistic's p-value exceeds the suitable threshold ($p>0.05$), the null hypothesis of homoscedasticity is not rejected and the hetroscedasticity is not assumed. Consequently, the

following was the formulation of the hetroscedasticity test hypotheses:

Table 7Heteroscedasticity is the variance of the error

Heteroskedasticity			
F-statistic	0.957183	Prob. F(2618)	0.8454
Obs*R-squared	34.28005	Prob. Chi-Square(24)	0.6424
Scaled explained SS	38.64261	Prob. Chi-Square(24)	0.7176

Source: NBE Report (2014-2023)

The results of the tests on both F-statistics and Chi Square in this study, which is shown in table7 above, demonstrated that there is no indication of heteroscedasticity because the P value is more than 0.05. The test's result was thus statistically insignificant, proving that heteroscedasticity did not exist. In the other hand, the p-values in this instance are significantly higher than 0.05, the F-statistic and R-squared forms of the test statistic also conclude that there is no evidence of heteroscedasticity. Additionally, the third form of the test statistic, "Scaled explained SS," which gets its name from a normalized form of the explained sum of squares from the auxiliary regression, also suggests that there is no evidence of heteroscedasticity. Consequently, the test's result indicates that there is no proof of heteroscedasticity, and the null hypothesis is accepted.

Test of autocorrelation

According to this assumption, there is no correlation across time between the error terms. As stated by Brooks (2008). The mistakes are thought to be uncorrelated with one another. It would be said that the errors are auto-correlated or serially correlated if they are not uncorrelated with one another. The Breusch-Godfrey test, which allows for the analysis of the connection between error terms, was employed by the researcher to determine if autocorrelation was present in this study. Accordingly, the autocorrelation is not assumed and the null hypothesis that there is no autocorrelation is not rejected if the test statistic has a p-value larger than a suitable threshold ($p>0.05$). Consequently, in order to test it, the following assumptions were developed for the autocorrelation test:From the table8 demonstrated both forms of the test; F- statistic and R-squared form of the test indicate that the null hypothesis of no autocorrelation should not be rejected, since the p-values are considerably in excess of 0.05. The conclusion from both forms of the test described that the null hypothesis of no autocorrelation is not rejected

Table 8Autocorrelation test

Autocorrelation test			
F-statistic	.983124	Prob. F(2,128)	0.6322
Obs*R-squared	1.97454	Prob. Chi-Square(2)	0.6218

Source: NBE Report (2014-2023)

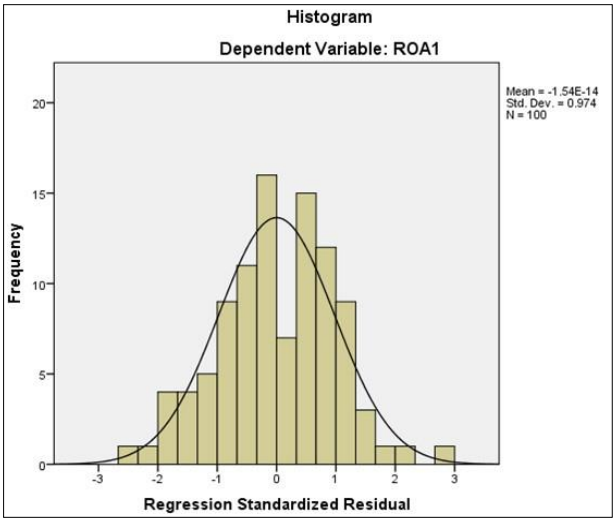
Test of normality

The study's normality test is displayed in the figure2 and table9 below. The histogram would be bell-shaped and the Bera-Jarque statistic would not be significant if the residuals were normally distributed, indicating that the disturbance would be normally distributed around the mean. Accordingly, at the 5% significance level, the p-value displayed at the bottom of the normality test screen needs to be greater than 0.05 in order to not reject the null hypothesis of normality. According to Chris B. (2008), a normal distribution has a coefficient of kurtosis of three and is not skewed.

Table 9Test of normality

Series: standardized residuals	
Sample: 2014-2023	
Observation: 100	
Mean	0.002603
Median	0.006846
Maximum	0.024642
Minimum	-0.034334
Std. Dev.	0.016242
Skewness	-0.285406
Kurtosis	3.110246
Jarque-Bera	1.611512
Probability	0.564214

Figure 2Test of normality



Source: NBE Report (2014-2023)

Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% significance level. The above diagram attests to the validity of the normality assumption, as seen by the coefficient of kurtosis being close to 3, scenes being zero, and the Bera-Jarque statistic

having a P-value of 0.56 implying that the data were consistent with a normal distribution assumption.

Regression Analysis and result presentation

The general findings of the regression study on the impact of financial variables on the financial performance of insurance businesses in Ethiopia are shown in this section. ROA used as a stand-in for profitability metric in this investigation. The dependent variable in this regression study was ROA, whereas the independent variables were underwriting risk, GDP growth rate, firm size, leverage, liquidity, premium growth, market share, exchange rate and inflation. It is typical to detect a negative or positive beta coefficient under the following regression output. The beta coefficient signifies the degree of influence that every variable has on the dependent variables. The P-value shows the percentage or accuracy level at which each variable is significant. According to Brooks (2008), the R-squared number expresses how well the regression model accounts for the real fluctuations in the dependent variables.

The empirical results of the econometric output on the variables influencing the performance of insurance businesses in Ethiopia are presented in this section. The regression findings between the explanatory factors and the dependent variable (ROA) are shown in Table10 below. The beta coefficient under the subsequent regression outputs might be either positive or negative; beta signifies the degree of effect that each variable has on the dependent variable.

Dependent Variable: ROA
Method: Panel least square
Sample: 2014 to 2023
Periods included: 10
Cross-sections included: 10
Total panel observations: 100
Estimator of component variances

Table 10Dependent Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UR	-0.13077	0.022135	-6.02579	0.000120
LQ	0.049853	0.01117	4.625609	0.000010
LV	-0.076002	0.025138	-3.08361	0.000264
SIZ	0.000553	0.005024	0.112216	0.880852
AG	0.010651	0.02114	3.325611	0.002210
PG	0.024819	0.006653	3.80453	0.000306
INF	-0.111651	0.044077	-2.58372	0.013056
GDP	0.342317	0.146447	2.384243	0.021828
MS	0.022802	0.029604	0.024212	0.205012
ER	-0.033024	0.00225	1.221002	0.043010
C	0.310944	0.061773	2.148103	0.000021

Table 11Specification Effects

		S.D	Rho
Cross-section rand		0.003064	0.0682
Idiosyncratic rand		0.004482	0.8216
Weighted Statistics			
R-squared	0.753406	Mean dependent var	0.080514
Adjusted R-squared	0.746484	S.D. dependent var	0.03512
S.E. of regression	0.024913	Sum squared resid	0.034413
F-statistic	26.24354	Durbin-Watson stat	1.77146
Prob.(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.676044	Mean dependent var	0.081108
Sum squared resid	0.033784	Durbin-Watson stat	1.66112

Source: NBE Report (2014-2023) and the Audited Financial Statements

Note: Significance at the 1%, 5%, and 10% levels are indicated by the symbols

The findings of the study for each explanatory variable and variables impacting the performance of insurance businesses in Ethiopia and their substantial influence on profitability are displayed in Table10 above. At the 5% significance level, the following significant variables stood out:, company size and market share (0.880852 and 0.205012). On the other hand, GDP growth rate, age of the firm underwriting risk, liquidity, leverage, premium growth , exchange rate were significant at the 1% significance level given the variable's p-values are 0.021828,0.0002210, 0.000120, 0.00011, 0.000306, 0.000752 and 0.00401 respectively.

The explanatory factors, including GDP, underwriting risk, leverage, liquidity, premium growth, and inflation rate, have less of an impact on the financial performance of insurance businesses than the 5% significance threshold, as shown in table11 above. Contrarily, company size has no statistically significant effect on the sampled insurance businesses' financial performance as determined by return on asset at a significance level higher than 10%. R square and adjusted R square had values of 0.7534 and 0.7465, respectively. This suggests that the model fits the data well. The sample regression line exhibits 75.34% of fitness, according to the R-squared value of 0.7534. This may be clarified further by noting that the independent variables account for 75.34% of the variation in ROA overall.

Other factors not included in the model account for 24.66% of the remaining change in the change. A substantial F-statistic of 26.24 and a P-value of zero indicate that the model's regression adequately explains fluctuations in the dependent variable. This suggests that all independent variables, with the exception of firm size, are jointly important in driving variance in return on asset at lower than 1% and 5% significance level. The entire model is therefore highly significant.

Discussion of the Result

Underwriting risk and financial performance

The coefficient of underwriting risk is -0.13077 with a p-value of 0.00012, as shown in table 10 above, which is less than at the 1% significance level. The model's findings showed a statistically significant and negative correlation between the financial performance (ROA) of the sampled Ethiopian insurance businesses and underwriting risk. This indicates that a 1% increase in

underwriting risk was result in a 13.1% loss in return on asset, with the link being statistically extremely significant at a significance level below 1%. The researcher then adopts the null hypothesis, according to which underwriting risk and ROA have a strong and negative connection. This indicates that there is enough data to back up the idea that underwriting risk and ROA are negatively correlated.

As a result, this outcome is consistent with some earlier investigations and matches the researcher's expectations. For example Mengistu (2020), Temesgen (2020), and Mingizem (2017) discovered a strong and negative correlation between underwriting risk and profitability. The present study's findings contradict those of Teklit & Jasmindeep (2017) and Kinyua (2018), which found no meaningful correlation between underwriting risk and insurance businesses' financial success. The researcher came to the conclusion that underwriting risk and ROA had a negative and substantial association based on the study's regression results.

In this context, a high claim ratio suggests that premium rates are too low for the level of risk, endangering the profitability of the companies. This is because higher underwriting risk means higher unexpected payments or expenses for the insurers, whereas a low claim ratio shows that the insurers are underwriting profitable business.

Liquidity and financial performance

The Current Ratio (CR), which measures liquidity in the above table10, demonstrates an insurance company's ability to settle short-term debts with policyholders and other creditors without having to sell off financial assets when they become due. An insurance industry's ability to promptly fulfill policyholder commitments is aided by strong liquidity. An insurer with a high degree of liquidity is better able to cover unforeseen losses or financial needs without having to sell investments prematurely, which might result in losses owing to erratic market circumstances. The coefficient of liquidity, as determined by comparing current assets to current liabilities, was 0.050653 in the table10 above, and its P-value was 0.00001. Return on asset (ROA) of selected Ethiopian insurance businesses increased by 4.99% when liquidity increased by 1%, holding other independent variables constant at their average value. This link was statistically significant at less than 1% significance level. Stated otherwise, there is a noteworthy positive correlation between the studied Ethiopian insurance businesses' return on asset (ROA) and liquidity. As a

result, the researcher adopts the null hypothesis, according to which there is a strong and positive association between ROA and liquidity.

This indicates that there is enough data to support the notion that liquidity and ROA have a positive connection. This positive correlation is anticipated and consistent with other research that also found a positive correlation between liquidity and ROA, such as Tadese and Mengistu (2020), Kinyua (2018). On the other hand, the study by Kishor and Temesgen (2020) discovered a strong and negative correlation between insurance businesses' financial performance and liquidity. The researcher came to the conclusion that an increase in the liquidity ratio boosts the profitability of insurance companies in Ethiopia and improves their capacity to meet their current obligations without having to sell long-term investments or take out loans. This conclusion was based on the study's regression output.

Leverage and financial performance

Leverage expresses how much a company uses debt financing. Using the tax advantages attached to the borrowed cash, debt financing can occasionally increase the shareholder's return on investment. And the debt ratio (LV) is used to measure it. The coefficient of leverage ratio was negative (-0.076002) and statistically significant, with a p-value of 0.000264, which is less than 0.01, as shown in table10 above. The unfavorable outcome demonstrated the unfavorable link between ROA and leverage.

This indicates that a 1% increase in leverage will result in a 7.6% loss in return on asset, with the link being statistically significant at a significance level of less than 1%. The insurance businesses that have less leverage will often report better return on assets (ROA), and the opposite is also true, according to data supporting the capital structure hypothesis. The researcher then adopts the null hypothesis, according to which there is a substantial and negative link between leverage and ROA. This indicates that there is enough data to back up the idea that leverage and ROA have a negative connection.

The observed negative correlation between leverage and return on assets (ROA) is in line with prior research (Abate, 2012), Tariku, (2019), Kishor & Temesgen, 2020, and Tadese, Abiy & Mengistu, 2020). This demonstrates that an insurance company's return on asset will be lower the more assets it has financed with debt. However, this result conflicts with other earlier

research. For example, a study by Mazviona et al. (2017) showed a positive and substantial correlation between insurance businesses' financial success and their leverage.

Based on this study, the researchers came to the conclusion that low company performance could be caused by assets that are more heavily leveraged, which lowers the capital needed for an insurer to operate their business. This lowers market value, which lowers profit and can lead to solvency issues for the firm. If heavily leveraged companies were unable to obtain new lenders in the future and were unable to make payments on their debt.

Company size and financial performance

Table10 showed that the company size coefficient is 0.000553 at a p-value of 0.880852, which is more than at the 10% significance level. The study's regression analysis revealed that, at significance levels higher than 10%, the variable size has a positive correlation with profitability but is statistically insignificant otherwise. This suggests that huge insurance businesses are more profitable than smaller ones. Size-related increases in profitability are expected because larger insurance companies typically have more economies of scale in terms of unit cost the most important production factor for providing insurance services and can handle unfavorable market fluctuations better than smaller ones. They also typically have more sophisticated information systems and better expense management.

The results of this study are in line with those of Abate, (2012), Suheyli, (2016), Tadese, (2020), and Temesgen, (2020), which discovered that a larger organization is better equipped to diversify its anticipated risks and react to changes in the market more rapidly. An insurer can underwrite more policies, which might raise the underwriting profit and the overall net profit, if total assets rise as a result of branch expansions and technological adoption.

Therefore, while this study does not support its relevance, it does support the premise that the size of the insurance is a positive factor of the insurer's financial success in Ethiopia. Although the results contradict some earlier research, such as Kinyua (2018) and Mazviona et al. (2017), which revealed that managing a larger firm effectively and efficiently has a negative and substantial impact on profitability, the present study finds no evidence of this relationship.

Age and financial performance

The table10 displayed the coefficient of age increase as 0.010651 at a p-value of 0.00221, which is less than the significance level of 1%. The results of the regression model showed a

statistically significant and positive relationship between the financial performance (ROA) and age of the company of the sampled Ethiopian insurance companies. There is a strong association between age of the establishment and return on assets (ROA), as seen by the positive age of the company coefficient.

Premium growth and financial performance

The coefficient of premium increase, as shown in the table10, is 0.024819 at a p-value of 0.000306, which is less than at the 1% significance level. The regression model's findings demonstrated a statistically significant and positive correlation between the sampled Ethiopian insurance businesses' financial performance (ROA) and premium increase. The premium growth coefficient is positive, indicating a clear correlation between premium growth and return on assets (ROA). It suggests that insurance companies that underwrite more premiums over time have a higher chance of being profitable because they make money from the premiums they collect. It also suggests that when marketing is heavily focused on growing premiums, a commensurate amount of resources is allocated to managing the investment portfolios of the companies. The researcher then adopts the null hypothesis, according to which leverage and ROA have a positive and substantial connection. This indicates that there is enough data to back up the notion that premium increase and ROA are positively correlated. This positive correlation is consistent with other research; Tariku, for example, (2019) found a positive and substantial correlation between the rise of insurance premiums and the financial success of insurance businesses. However, the results contradict those of Tadese, Abiy, and Mengistu (2020), who found a substantial and negative correlation between the financial success of insurance businesses and the rise of their premiums.

Accordingly, the researcher came to the conclusion that premium growth has a positive and significant impact on Ethiopian insurance companies' profitability because insurers with higher premium growth would also have higher profitability if they improved their underwriting performance through methods like choosing better products, handling claims more frequently, outlining the terms of the insurance before agreeing to an agreement with the insured, accurately estimating future claims, losses, and expenses, and, lastly, by appropriately pricing the insurance contracts that their companies provide.

Inflation and financial performance

Changes in the total level of prices within the economy are referred to as inflation, and the rise in the nation's product sales prices serves as a gauge for inflation. Both the obligations and assets of insurance firms are impacted by inflation, which has an impact on their profitability. Claims payments rise in tandem with inflation, which lowers technical outcomes and profitability. The coefficient of inflation rate, as shown in Table10, is -0.111651 with a p-value of 0.01356, which is less than at the 5% significance level. The regression model's findings demonstrate that the financial performance (ROA) of the sampled insurance businesses and inflation have a negative and statistically significant association. Imply that the return on asset would drop by 11.2% for every percent increase in inflation.

The present study's outcome is consistent with earlier research done by Kanbiro and Ayneshet (2019), which found a negative and substantial correlation between inflation and the financial performance of insurance businesses in Ethiopia. On the other hand, a few earlier studies by Tariku (2019) and Teklit & Jasmindeep (2017) discovered a positive and substantial correlation between the rate of inflation and the financial success of insurance firms. Based solely on the aforementioned findings, the researcher came to the conclusion that inflation has a negative and significant impact on the profitability of insurance companies because it lowers citizens' desire and willingness to purchase insurance products and services by decreasing their ability to afford luxuries and, ultimately, by decreasing the firm's solvency.

Gross Domestic Product and financial performance

Gross Domestic Product (GDP) is the total worth of goods produced and services rendered in a nation over the course of a year. It is calculated by looking at the nation's GDP growth. The coefficient of gross domestic product, as shown in table10 above, is 0.342317 with a p-value of 0.021828, which is less than at the 5% significance level. According to this interpretation, the selected insurance businesses' return on asset would rise by 34.2% for every 1% growth in the gross domestic product. This link is statistically significant at a significance level below 5%. This demonstrates that the financial performance (ROA) of the sampled insurance businesses in Ethiopia has a positive and statistically significant link with the country's Gross Domestic Product.

The performance of the insurance industry will rise in tandem with the nation's growth rate. This study's regression output result is then in line with the findings of a few other research. For example, Kishor & Temesgen (2020) and Tadese, Abiy & Mengistu (2020) reported that GDP has a statistically significant positive correlation with respect to profitability as determined by ROA. However, the results go against what several earlier researches found. For example, Tariku (2019) and Behailu (2016) discovered a negative correlation between ROA and economic development. The researcher therefore came to the conclusion that as the nation's economy grew, so did society's need for and desire for insurance products and services, which maximized the insurance companies' profits.

Market share and financial Performance

Table10 in above demonstrated, the coefficient of market share which is measured as ratio of total written premium of the company to total gross written premium of the company in this study was positive 0.0228(2.28%) but statistically insignificant even at 10% significance level and p-value recorded 0.205(20.5%) indicating that its impact is insignificant. The insignificant parameter indicates that the market share does not significantly affect Ethiopian insurance profitability. Making reference to earlier research in their multivariate research, Cassandra R. Cole et al. (2015) discover evidence of a positive correlation between market concentration and insurers' underwriting profitability. More precisely, and in line with this study, insurers in states with higher degrees of market concentration are more lucrative than insurers in states with lower levels of market concentration.

Exchange rate and financial performance

Table10 showed a negative correlation between the exchange rate and insurance businesses' financial performance. With a coefficient of -0.033024 (3.3%) and a significance level of 5% 0.043(4.3%), it likewise significantly affects financial performance. This outcome agrees with the findings of Gladys (2017), who found that exchange rate had a negative impact on ROA. The results indicate that the volatility of foreign exchange rates has a detrimental effect on the insurance industry's return on assets (ROA), which is a measure of financial performance Nyairo, (2015). This outcome may be attributed mostly to the problem of insurance policies being overpriced due to exchange rates, particularly because most imported property, such as machinery and other plants, has a high US dollar conversion rate versus the Ethiopian Birr.

Compared to property insurance, life insurance policies are less affected by this exchange rate. As a result, changes in exchange rates cause variations in insurance firms' financial performance.

Comparison of expected and actual hypothesis result

Table 12Comparison hypothesis test

Independent variables	**Hypothesis Test**			**Dependent variable**
	Expected	**Actual**	**Result**	
UR	negative & significant	negative & significant	not rejected	Return on Asset
LQ	positive & significant	positive & significant	not rejected	
LV	negative & significant	negative & significant	not rejected	
SIZ	positive & significant	positive & insignificant	**rejected**	
Ag	positive & significant	positive & significant	not rejected	
PG	positive & significant	positive & significant	not rejected	
INF	negative & significant	negative & significant	not rejected	
GDP	positive & significant	positive & significant	not rejected	
MS	positive & significant	positive & insignificant	**rejected**	
ER	negative & significant	negative & significant	not rejected	

Source: NBE Report (2014-2023)

CHAPTER FIVE

5. Summary, conclusions and recommendations

The study's summary findings led to the formulation of conclusions and the transmission of potential recommendations. In light of this, the first section includes the overview and conclusion, and the second portion offers some potential recommendations.

Summary

This study's primary goal was to investigate, taking into account both internal and external factors, the impact of financial factors on the financial performance of insurance businesses in Ethiopia. Internal factors, often known as company-specific factors, are those that are within the management of insurance firms' control. Leverage, liquidity, premium growth, underwriting risk, and company size are some of these variables. Moreover, external factors include things like inflation and GDP growth rates that are outside the control of insurance firms. The financial performance of Ethiopian insurance businesses is measured in this study by ROA.

Using a panel data set of ten insurers' financial data from 2014 to 2023, which were subjected to multiple linear regression analysis and descriptive statistics, an empirical analysis was carried out to determine the impact of financial factors on the financial performance of insurance companies in Ethiopia. The analyses were conducted in accordance with the study's stated hypotheses and particular research objectives. While NBE in Ethiopia provided the data on external factors, the data on insurance-specific elements came from the audited financial records of each insurance company.

The results showed that throughout the course of the study, a number of insurance businesses made an effort to reach a maximum return on asset of 21%. But these insurance companies only managed an average return on asset of 8.17%, far less than the maximum ROA. The findings imply that the insurance firms sought to generate a maximum return of 0.21 cents for each Birr invested in their whole asset and an average return of 0.0817 cents for the companies throughout the course of the research.

The financial performance of Ethiopian insurance companies is positively and significantly impacted by liquidity, premium growth, and GDP, but company size has a positive and

insignificant effect. Leverage, underwriting risk, and inflation, on the other hand, have negative and significant impacts at a significance level of less than 5%. These findings are in relation to the regression result measured by ROA. In summary, every independent variable, with the exception of company size, supported the research hypothesis. Approximately 75.34% of the variation in return on asset can be explained by the explanatory variables used in this study.

The inflation rate (-0.206644), leverage (-0.203661), and underwriting risk (-0.405012) coefficient estimations of correlation. This implies that underwriting risk, leverage, and inflation rate have a substantial negative association with return on asset. The coefficient values, on the other hand, are 0.387701, 0.0970024, 0.190122, 0.198005, 0.148550, 0.249227, and 0.116014 for the firms' liquidity ratio, size, age, premium growth, economic growth, market share, and exchange rate, respectively. This shows that return on asset and these independent factors have a significant positive association.

The coefficient of liquidity, which was calculated by comparing current assets to current liabilities, was 0.050653, and its P-value was 0.00001. When liquidity rose by 1%, the return on asset (ROA) of a subset of Ethiopian insurance enterprises improved by 4.99% while maintaining the average value of the other independent variables.

Conclusion

This study looked at how financial variables affected Ethiopian insurance businesses that operated from 2014 to 2023 in terms of their financial performance. A quantitative research approach was applied in the study to accomplish this wide goal. Using multiple linear regression analysis and descriptive statistics, the data obtained from a sample size of eleven Ethiopian insurance firms between 2014 and 2023 was examined in order to achieve this goal. The analyses were conducted in accordance with the precise research questions and stated hypotheses that were developed during the investigation.

Based on this study, it is generally possible to describe the financial performance of a selected insurance as a function of both internal and external variables. A diagnostic test was carried out for each assumption, and the Random Effect Model was determined to be the best fit for this inquiry based on the findings. The findings of the regression indicate a significant and negative link between underwriting risk and ROA. This implies that a low claim ratio indicates that the

insurers are underwriting profitably, whereas a high claim ratio indicates that the premium rate is too low, risking the company's profitability since increased underwriting risk translates into higher unexpected expenditures or payments for the insurers.

The study finds that the following explanatory variables and the explained variable the financial performance of Ethiopian insurance companies have a strong correlation with each other: leverage, liquidity, premium growth, underwriting risk, gross domestic product, inflation, and so on. The insurance companies that have higher liquidity ratios, higher premium growth, lower underwriting risk, lower leverage ratios, lower inflation rates, and higher gross domestic products have better financial performance in Ethiopia.

The liquidity regression result indicated a considerable and beneficial impact on the financial performance of Ethiopian insurance companies. This suggests that an increase in the liquidity ratio boosts the profitability of insurance firms operating in Ethiopia and improves their capacity to pay their current debts without having to sell long-term assets or take out loans, and vice versa. This suggests that the insurance companies that have higher liquid asset counts outperform those that have lower liquid asset counts.

The financial performance of insurance companies was found to have a positive and substantial link with the GDP regression outcome. This suggests that as the nation's economy grew, so did society's needs and desires for insurance products and services, which maximized the insurance industry' profits.

The results of the regression analysis indicate a substantial and negative correlation between the financial performance of insurance businesses and the rate of inflation. This is due to the fact that growing inflation reduces people's ability to afford luxury, which in turn reduces their desire and demand to purchase insurance products and services.

The results of the regression analysis indicated that Ethiopian insurance businesses' financial performance was positively and significantly impacted by premium increase. This indicates that a rise in premium collection has a major impact on the profitability of insurance firms. This suggests that if the current insurance industry improves its underwriting performance through strategies like product selection, increased claims handling experience, elucidating the subject matter of insurance before agreeing with the insured, and ultimately by accurately pricing the

insurance contracts provided to their customers, the higher underwriting premium will increase the profitability of the industry going forward in terms of premium income.

Recommendation

The researcher sent the following suggestion to the relevant body based on the findings. Important major determinants of the performance of Ethiopian insurance businesses include the following: prior profit, underwriting risk (loss ratio), liquidity, leverage, and company size, and premium growth, age of the company, inflation, market share, and exchange rate factors. The overall performance of Ethiopia's insurance businesses will increase if the sector receives the attention it deserves in accordance with the major determinants influencing performance. To strengthen their financial performance and maintain stability in the insurance sector, it is preferable for them to increase their solvency buffer. This can be achieved by lowering liabilities, which lowers such companies' return on assets. Once more, as it has a negative influenced on their profit performance, they are urged to lower their cost, or loss ratio. When compared to other factors that have a negative impact on the return on asset, this one had a very high negative coefficient 13.1%. Since the insurance industry operates in a highly risk-sensitive sector, it is predicted that insurance firms would improve by reducing their costs the application of effective risk management methods from both themselves and policyholders.

An effective risk management framework must be established before implementing a complete risk management system. This framework should contain well-defined risk management policies and procedures that address risk identification, acceptance, measurement, monitoring, reporting, and control. Since the currency exchange rate has a significant influenced on the financial performance of insurance companies, it is recommended that the government stabilize it. This is due to the fact that there will be distortion in the cost of the products that need to be bought and insured when there is significant variation.

The future study

The research attempted to address firm-specific, industry-specific, and macroeconomic factors influencing Ethiopian insurance companies' financial performance. Other factors, such as the

commercial relationships of insurance firms, management skill, political influence, and risk management strategies of insurance businesses, may also have an impact on the financial performance but were not examined in this study. Future studies are thus anticipated to incorporate these characteristics and determine their influence on the financial.

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Appendix

Raw data from2014to2023

	ROA	UR	LQ	LV	SIZ	AG	PG	INF	GDP	MS	ER
Africa	0.05	0.82	0.93	0.75	8.68	28	0.37	0.18	0.1	0.02	18.68
Africa	0.05	0.85	0.88	0.74	8.75	28	0.2	0.14	0.09	0.02	18.75
Africa	0.05	0.85	0.82	0.69	8.75	28	-0.09	0.14	0.1	0.05	18.75
Africa	0.06	0.8	0.86	0.66	8.81	28	-0.03	0.08	0.1	0.04	18.81
Africa	0.06	0.81	0.82	0.6	8.86	28	-0.07	0.08	0.1	0.04	18.86
Africa	0.05	0.82	0.82	0.61	8.89	28	-0.41	0.1	0.08	0.04	18.89
Africa	0.06	0.8	0.97	0.59	8.94	28	-0.39	0.07	0.1	0.06	18.94
Africa	0.05	0.82	1.05	0.68	9.05	28	0.32	0.15	0.08	0.05	19.05
Africa	0.11	0.84	1.01	0.7	9.04	28	0.11	0.13	0.09	0.02	19.04
Africa	0.06	0.74	0.94	0.73	9.16	28	0.31	0.2	0.06	0.03	19.16
Awash	0.06	0.62	0.92	0.68	8.56	29	0.4	0.18	0.1	0.04	18.56
Awash	0.05	0.66	0.96	0.71	8.71	29	0.15	0.14	0.09	0.05	18.71
Awash	0.16	0.61	1.1	0.63	8.82	29	0.41	0.14	0.1	0.01	18.82
Awash	0.08	0.64	1.11	0.58	8.85	29	-0.09	0.08	0.1	0.08	18.85
Awash	0.08	0.64	1.05	0.58	8.9	29	0.05	0.08	0.1	0.08	18.9
Awash	0.06	0.63	1.02	0.58	9	29	0.16	0.1	0.08	0.06	17.19
Awash	0.08	0.62	1.1	0.56	9.07	29	0.31	0.07	0.1	0.05	19.07
Awash	0.05	0.62	0.95	0.57	9.38	29	-0.07	0.15	0.08	0.05	19.38
Awash	0.06	0.65	1.05	0.53	9.4	29	0.16	0.13	0.09	0.04	19.4
Awash	0.07	0.56	0.91	0.54	9.46	29	0.22	0.2	0.06	0.05	19.46
EIC	0.07	0.74	1.26	0.64	9.22	28	0.04	0.18	0.1	0.07	19.22
EIC	0.07	0.56	0.94	0.6	9.35	28	0.42	0.14	0.09	0.07	19.35
EIC	0.09	0.67	1.22	0.67	9.42	28	0.18	0.14	0.1	0.04	19.42

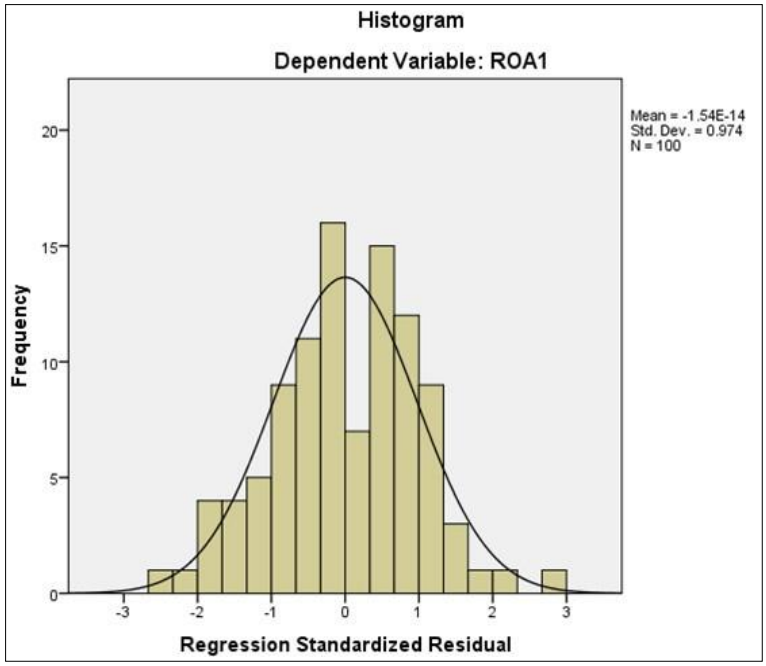
EIC	0.11	0.6	1.26	0.66	9.46	28	0.2	0.08	0.1	0.11	19.46
EIC	0.11	0.62	1.24	0.66	9.5	28	0.01	0.08	0.1	0.11	19.5
EIC	0.11	0.61	1.3	0.63	9.54	28	0.11	0.1	0.08	0.11	19.54
EIC	0.12	0.62	1.35	0.6	9.61	28	0.37	0.07	0.1	0.12	19.61
EIC	0.12	0.52	1.34	0.56	9.65	28	0.41	0.15	0.08	0.12	19.65
EIC	0.09	0.62	1.18	0.65	9.67	28	-0.03	0.13	0.09	0.09	19.67
EIC	0.08	0.7	1.06	0.7	9.73	28	-0.09	0.2	0.06	0.08	19.73
Global	0.03	0.79	0.92	0.57	8.02	26	-0.3	0.18	0.1	0.03	18.02
Global	0.02	0.8	0.92	0.68	8.06	26	0.19	0.14	0.09	0.02	18.06
Global	0.11	0.57	1.14	0.65	8.09	26	0.9	0.14	0.1	0.11	18.09
Global	0.12	0.53	1.35	0.57	8.19	26	0.22	0.08	0.1	0.12	18.19
Global	0.11	0.55	1.32	0.59	8.27	26	-0.11	0.08	0.1	0.11	18.27
Global	0.1	0.6	1.37	0.5	8.34	26	0	0.1	0.08	0.01	18.34
Global	0.08	0.74	1.25	0.6	8.28	26	-0.35	0.07	0.1	0.08	18.28
Global	0.07	0.54	1.3	0.51	8.48	26	-0.39	0.15	0.08	0.07	18.48
Global	0.06	0.65	1.22	0.55	8.57	26	-0.39	0.13	0.09	0.06	18.57
Global	0.09	0.64	1.31	0.54	8.63	26	0.18	0.2	0.06	0.09	18.63
Lion	0.05	0.62	1.02	0.78	8.04	16	0.28	0.18	0.1	0.05	18.04
Lion	0.14	0.61	1.06	0.65	8.08	16	0.54	0.14	0.09	0.01	18.08
Lion	0.08	0.64	1.19	0.7	8.2	16	0.47	0.14	0.1	0.08	18.2
Lion	0.07	0.66	0.87	0.64	8.36	16	0.29	0.08	0.1	0.07	18.36
Lion	0.06	0.79	0.85	0.68	8.43	16	0.22	0.08	0.1	0.06	18.43
Lion	-0.01	0.8	0.82	0.73	8.53	16	-0.09	0.1	0.08	0.01	18.53
Lion	0.04	0.82	0.8	0.78	8.61	16	0.2	0.07	0.1	0.04	18.61
Lion	0.05	0.6	0.9	0.76	8.78	16	0.35	0.15	0.08	0.05	18.78
Lion	0.06	0.62	1.01	0.73	8.86	16	0.4	0.13	0.09	0.06	18.86
Lion	0.06	0.6	1.06	0.71	8.93	16	0.52	0.2	0.06	0.06	20.93

National	0.03	0.78	1.12	0.93	8.04	29	-0.09	0.18	0.1	0.03	18.04
National	0.12	0.59	1.05	0.63	8.16	29	0.42	0.14	0.09	0.02	18.16
National	0.1	0.7	1.16	0.73	8.35	29	0.54	0.14	0.1	0.01	18.35
National	0.06	0.68	1.12	0.74	8.41	29	0.09	0.08	0.1	0.06	18.41
National	0.08	0.67	1.21	0.68	8.45	29	0.1	0.08	0.1	0.08	18.45
National	0.08	0.65	1.07	0.72	8.53	29	-0.29	0.1	0.08	0.08	18.53
National	0.09	0.68	1.09	0.7	8.6	29	0.35	0.07	0.1	0.09	18.6
National	0.08	0.62	1.31	0.7	8.69	29	0.26	0.15	0.08	0.08	16.69
National	0.08	0.59	1.32	0.68	8.71	29	0.05	0.13	0.09	0.08	18.71
National	0.08	0.59	1.36	0.67	8.71	29	0.05	0.2	0.06	0.08	17.71
Nib	0.07	0.69	1.05	0.71	8.51	21	0.3	0.18	0.1	0.07	18.51
Nib	0.07	0.73	1.02	0.76	8.7	21	0.26	0.14	0.09	0.07	18.7
Nib	0.08	0.67	1.09	0.71	8.74	21	0.26	0.14	0.1	0.08	18.74
Nib	0.09	0.63	1.2	0.67	8.84	21	-0.03	0.08	0.1	0.09	18.84
Nib	0.07	0.73	1.13	0.66	8.9	21	0.07	0.08	0.1	0.07	18.9
Nib	0.05	0.78	1.11	0.62	8.94	21	-0.07	0.1	0.08	0.05	18.94
Nib	0.05	0.76	1.08	0.64	9	21	-0.07	0.07	0.1	0.05	17.8
Nib	0.05	0.78	1.11	0.73	9.12	21	-0.07	0.15	0.08	0.05	19.12
Nib	0.07	0.74	1.19	0.69	9.19	21	0.07	0.13	0.09	0.07	19.19
Nib	0.08	0.62	1.21	0.65	9.24	21	0.09	0.2	0.06	0.08	19.24
Nile	0.08	0.71	1.05	0.62	8.47	28	-0.15	0.18	0.1	0.08	18.47
Nile	0.09	0.71	1.17	0.61	8.6	28	0.5	0.14	0.09	0.09	17.6
Nile	0.09	0.73	1.22	0.59	8.67	28	0.01	0.14	0.1	0.09	18.67
Nile	0.1	0.7	1.25	0.6	8.74	28	0.08	0.08	0.1	0.1	18.74
Nile	0.07	0.69	1.31	0.57	8.81	28	0.27	0.08	0.1	0.07	18.81
Nile	0.03	0.78	1.01	0.61	8.87	28	-0.25	0.1	0.08	0.03	18.87
Nile	0.11	0.64	0.96	0.59	8.95	28	0.23	0.07	0.1	0.01	18.95

Nile	0.06	0.58	1.05	0.59	9.05	28	0.07	0.15	0.08	0.06	19.05
Nile	0.06	0.56	1.19	0.58	9.14	28	0.07	0.13	0.09	0.06	18.14
Nile	0.06	0.56	1.14	0.56	9.19	28	0.06	0.2	0.06	0.06	19.19
Nyala	0.11	0.55	1.21	0.53	8.4	28	0.23	0.18	0.1	0.01	18.4
Nyala	0.12	0.54	1.33	0.52	8.55	28	0.35	0.14	0.09	0.02	18.55
Nyala	0.12	0.53	1.24	0.59	8.68	28	0.37	0.14	0.1	0.02	18.68
Nyala	0.11	0.54	1.32	0.58	8.79	28	-0.18	0.08	0.1	0.01	18.79
Nyala	0.51	0.57	1.26	0.64	8.92	28	0.18	0.08	0.1	0.1	18.92
Nyala	0.19	0.56	1.22	0.64	8.99	28	0.11	0.1	0.08	0.09	18.99
Nyala	0.12	0.56	1.33	0.61	9.09	28	0.44	0.07	0.1	0.12	21.09
Nyala	0.07	0.57	1.27	0.63	9.28	28	0.27	0.15	0.08	0.07	18.28
Nyala	0.12	0.54	1.18	0.59	9.31	28	0.34	0.13	0.09	0.02	19.31
Nyala	0.07	0.61	1.11	0.58	9.32	28	0.3	0.2	0.06	0.07	19.32
Oromia	0.02	0.72	1.05	0.75	8.14	14	0.19	0.18	0.1	0.02	18.14
Oromia	0.06	0.66	1.11	0.79	8.27	14	0.22	0.14	0.09	0.06	18.27
Oromia	0.08	0.54	1.35	0.75	8.42	14	0.26	0.14	0.1	0.02	18.42
Oromia	0.07	0.57	1.21	0.71	8.59	14	0.15	0.08	0.1	0.07	18.59
Oromia	0.11	0.59	1.2	0.7	8.67	14	0.25	0.08	0.1	0.01	18.67
Oromia	0.06	0.66	1.18	0.72	8.78	14	0.07	0.1	0.08	0.06	18.78
Oromia	0.07	0.79	1.23	0.68	8.83	14	0.07	0.07	0.1	0.07	18.83
Oromia	0.08	0.57	1.26	0.67	8.95	14	-0.15	0.15	0.08	0.04	18.95
Oromia	0.08	0.6	1.29	0.68	9.05	14	-0.23	0.13	0.09	0.03	18.05
Oromia	0.06	0.75	1.05	0.62	9.16	14	0.14	0.2	0.06	0.05	18.16

Normality

Series: standardized residuals	
Sample: 2014-2023	
Observation: 100	
Mean	0.002603
Median	0.006846
Maximum	0.024642
Minimum	-0.034334
Std. Dev.	0.016242
Skewness	-0.285406
Kurtosis	3.110246
Jarque-Bera	1.611512
Probability	0.564214



Specification Effects

		S.D	Rho
Cross-section rand		0.003064	0.0682
Idiosyncratic rand		0.004482	0.8216
Weighted Statistics			
R-squared	0.753406	Mean dependent var	0.080514
Adjusted R-squared	0.746484	S.D. dependent var	0.03512
S.E. of regression	0.024913	Sum squared resid	0.034413
F-statistic	26.24354	Durbin-Watson stat	1.77146
Prob.(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.676044	Mean dependent var	0.081108
Sum squared resid	0.033784	Durbin-Watson stat	1.66112