FACTORS AFFECTING PROFITABILITY OF NON-LIFE INSURANCE COMPANIES IN NEPAL

A Dissertation Proposal submitted to the Office of the Dean, Faculty of Management, in partial fulfilment of the requirements for the Degree of Masters of Business Studies

by

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **"Factors Affecting Profitability of Non-Life Insurance Companies in Nepal"**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation

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Report of Research Committee

Ms. Asmita Poudel has defended research proposal entitled **"Factors Affecting Profitability of Non-Life Insurance Companies in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work and guidance of supervisor and submit the thesis for evaluation and viva voce examination.

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Approval Sheet

We have examined the dissertation entitled **"Factors Affecting Profitability of Non-Life Insurance Companies in Nepal"** presented by **Asmita Poudel** a candidate for the degree of Master of Business Studies (MBS). We hereby certify that the dissertation is acceptable for the award of degree.

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Abbreviations

CS	Company Size
GDP	Gross Domestic Product
HEI	Himalayan Everest Insurance Company
INF	Inflation
MBS	Master of Business Studies
NECO	Neco Insurance Company Limited
NLG	NLG Insurance Company Limited
OICL	Oriental Insurance Company Limited
PG	Premium Growth
ROA	Return on Assets
ROE	Return on Equity
SIL	Sikhar Insurance Company Limited
SPSS	Statistical Package for Social Sciences
SR	Solvency Ratio
TAN	Tangibility

Abstract

The purpose of this research is to analyze the factors that determine the profitability of life insurance firms in Nepal. The study places particular emphasis on important financial indicators such as the solvency ratio, premium growth, company size, and tangibility ratio. The study uses panel data techniques from eight different insurance companies, as well as descriptive and causal analysis with SPSS 25.0 to analyze the correlations between a variety of financial and macroeconomic aspects. The findings indicate that there is a somewhat favorable link between the size of a firm and its profitability (Return on Assets, or ROA), but the findings also show a negative correlation between GDP and ROA. More specifically, research has shown that larger organizations have higher levels of profitability, suggesting that economies of scale play a significant role. Other factors, including the solvency ratio, premium increase, and inflation, do not have a statistically significant influence on profitability, according to the research findings. It is imperative that non-life insurance companies continue to pursue premium growth plans and maintain solid solvency positions, as the implications of these results highlight the significance of doing so. In addition, the study recommends doing future research to investigate the causal links and other elements that influence profitability. This would result in a deeper comprehension of the non-life insurance business in Nepal. This study provides essential information for industry stakeholders and regulators, which enables informed decision-making and fosters sustainable development in the ever-changing environment of the insurance business.

Keywords: Profitability, Non-Life Insurance, Solvency Ratio, Premium Growth, Company Size, Tangibility Ratio, Economic Factors.

CHAPTER I

INTRODUCTION

1.1 Background of the study

Non-life insurance is a type of insurance policy that offers coverage for damages or losses to an individual's or entity's assets and properties resulting from unforeseen events such as natural disasters, accidents, theft, or other liabilities. Property and casualty insurance serve as alternative terms for this insurance category, aiming to provide financial security and protection against unexpected damages or losses that could lead to significant financial burden and hardship for policyholders.

The primary purpose of non-life insurance policies is to furnish policyholders with financial security and protection for a diverse range of assets and properties, including homes, automobiles, boats, personal possessions, and commercial assets. According to Bajwa and Sandhu (2013), these policies can be broadly categorized into three main groups: liability insurance, property insurance, and miscellaneous insurance. Distinguishing liability insurance from property insurance reveals that the former shields against legal liabilities arising from injuries or damages caused to third parties, while the latter safeguards against damages to insured property resulting from natural disasters such as fire, flood, or earthquakes. The "miscellaneous" category encompasses insurance policies addressing various additional risks, including medical insurance, travel insurance, and personal accident insurance.

One of the most notable advantages of non-life insurance policies is their ability to assist policyholders in transferring the risk of potential losses to the insurer. In exchange for a premium payment, the insurer agrees to bear the financial burden of any covered losses. This arrangement allows individuals and businesses to protect themselves against unforeseen and potentially catastrophic events, mitigating the impact of such occurrences on their financial well-being. According to Lee and Shin (2019), non-life insurance plays a crucial role in risk management by enabling individuals and entities to pool their risks and share the financial burden of losses, contributing to overall risk management strategies.

Profitability stands as a crucial element for every business organization, representing the ability to generate earnings relative to expenses and incurred costs within a

specific timeframe. Hampton (2009) emphasizes that profitability is assessed through a set of financial metrics, collectively known as the profitability ratio, which gauges a company's capacity to generate earnings. Expressed as a percentage, this relative measure illustrates the correlation between the total profit and various other factors. Within financial management, the maximization of owner's wealth is a primary objective, and improved profitability serves as an indicator of enhanced financial performance (Hampton, 2009).

Several models, as identified by Ostroff and Schmidt (1993), are available for evaluating a company's financial health. Performance, in this context, involves analyzing how a company's decisions and actions impact its bottom line, measured by the effectiveness in achieving monetary objectives. Financial institutions, including insurance companies, play a significant role in the national economy as major investors and through risk-transfer mechanisms. Ostroff and Schmidt (1993) highlight the importance of assessing the performance of such institutions, including insurance companies, to gather pertinent information on cash flow, utilization, efficiency, and productivity (Almajali et al. 2012).

Increased profits serve as both a means, such as obtaining additional finance from retained profits or the capital market, and an incentive, such as a high rate of return, for new investments. This dual role places insurance companies under the responsibility of fulfilling two distinct obligations. First and foremost, to secure high rates of return for new investments, they must prioritize profitability. Second, maintaining profitability is essential to ensure financial stability, subsequently safeguarding the normal functioning of other sectors of the economy even in the face of incurred risks (Chen & Wong, 2004).

Various indicators, including net premiums earned, profitability from underwriting activities, annual turnover, return on investment, and return on equity, can be utilized to assess the financial performance of insurance companies. Greene and Segal (2004) classify these indicators as measures of either investment performance or profit performance. Despite the plethora of proposed methods for determining profitability, return on assets (ROA) is widely recognized by researchers in the insurance field as the most critical indicator of a company's profitability (Hardwick & Adams, 2002).

Breaking down either return on assets (ROA) or return on equity (ROE) into their primary components aids in analyzing factors contributing to profitability. Swiss Re (2008) notes that underwriting performance is the primary determinant of profits, influenced by factors such as product pricing, risk selection, claims management, as well as marketing and administrative expenses. Another influential factor is investment performance, determined by asset allocation, asset management, and asset leverage.

In the Nepalese economy, non-life insurance companies play a crucial role by providing protection against various risks, including theft, fire, and natural disasters. Their primary objective is achieving profitability, utilizing generated profits to expand their business and increase investments within the country. Consequently, this contributes to economic expansion by creating employment opportunities and fostering the growth of related industries.

The primary focus of this study is to investigate and analyze the factors influencing the profitability of non-life insurance companies in Nepal. The study aims to explore how various financial and economic indicators, including solvency ratio, premium growth, size of the company, tangibility ratio, GDP and inflation, correlate with the dependent variable, which is profitability measured through return on assets (ROA).

1.2 Problem statement

The central concern for any company lies in its profitability, directly influencing its potential success. An integral method for assessing business performance involves conducting financial ratio analysis, encompassing key metrics such as profitability ratios (Boadi et al., 2013). The primary goal for any company is to attain maximum profitability, leading to increased wealth for its owners. Hence, organizations consistently prioritize the optimization of profits.

In a business context, performance measurement becomes a complex and multifaceted process, offering various definitions and evaluation methods. The evaluation of an organization's performance often relies on the outcomes of its activities, with metrics varying based on the organization's objectives and structure. Despite numerous models proposed by researchers in strategic management for evaluating financial performance (Ostroff & Schmidt, 1993), there exists no universally accepted standard for determining valid performance criteria.

The insurance industry, as a crucial driver of economic expansion, plays a significant role in protecting individuals and businesses from monetary losses caused by unforeseen events (Kihara, 2012). Originally designed to shield individuals from various risks and uncertainties, insurance's importance is undeniable. Understanding the factors influencing the profitability of insurance companies is pivotal, as profitability serves as a relative measure of performance influencing investment decisions. Therefore, the need for a comprehensive understanding of the elements shaping the profitability of insurance companies poses a significant challenge in the industry.

The non-life insurance sector in Nepal faces challenges in understanding and managing the factors that influence profitability. Despite the industry's importance in providing protection against various risks, the profitability of non-life insurance companies is subject to several complexities. Key financial and economic indicators, including solvency ratio, premium growth, company size, tangibility ratio, and broader economic factors such as GDP and inflation, collectively contribute to the financial performance of these companies. However, there is a lack of comprehensive research addressing the specific dynamics and relationships among these variables in the context of Nepal.

Several studies have performed on the profitability of insurance companies all over the world. In Turkey, Kaya (2015) found that the size of the company, age, loss ratio, current ratio, and premium growth rate significantly impact the profitability of non-life insurance companies. Larger companies demonstrated higher profitability, emphasizing the importance of growth strategies and potential mergers and acquisitions. In Bangladesh, Ullah et al. (2016) identified underwriting risk, expense ratio, solvency margin, premium growth, asset growth, and company size as determinants of profitability, with varying relationships observed between these factors and return on assets (ROA). The study emphasized the importance of understanding internal factors to guide strategic decision-making.

In Nepal, Hamal (2020) emphasized the positive correlation between liquidity and profitability, advocating for effective liquidity management in non-life insurance companies. Leverage showed an inverse relationship with profitability, suggesting the importance of maintaining a lower leverage ratio to mitigate above-average losses.

Risal (2020) found that the size of non-life insurance companies significantly influenced profitability, while higher leverage exhibited a negative impact. The study underscored the practical implications for companies to optimize their size and manage leverage effectively.

Likewise, in Fiji, Kumar et al. (2022) revealed that premium income, underwriting expenses, administrative expenses, and the volume of capital positively influenced profitability, while leverage and contingent liability exhibited negative associations. The findings guided strategies for revenue enhancement and cost management in Fiji's insurance sector. Msomi (2023) investigated financial performance in African non-life insurance companies, identifying lagged return on assets, equity capital, operational efficiency, leverage, investment capability, and gross domestic product as significant determinants of financial performance. The study recommended restructuring capital structures to maintain a favorable balance between equity and debt.

Siopi and Poufinas (2023) explored the European insurance landscape, revealing that the efficiency of accounts receivable management and the state of the economy positively impacted both profitability and financial strength, while underwriting risk and size had negative effects. Long-term interest rates positively influenced profitability, while the purchase of reinsurance, size of the domestic market, market structure, and inflation exerted negative influences. In South Africa, Horvey et al. (2024) investigated life insurers, highlighting the positive impact of investment income and solvency on profitability, while underwriting risk, reinsurance, and size had negative effects. Non-linearities in these relationships were observed, emphasizing the importance of maintaining solvency, managing assets, and controlling underwriting risk effectively.

The absence of a detailed examination of the existing scenario and interdependencies within the non-life insurance sector of Nepal hinders stakeholders' ability to make informed decisions. A thorough understanding of these factors is crucial for industry participants, regulators, and policymakers to develop strategies that enhance the profitability and overall sustainability of non-life insurance companies in the Nepalese market. Therefore, the problem at hand revolves around the need for an in-depth analysis of the factors affecting the profitability of non-life insurance companies operating in Nepal. This study aims to bridge the existing knowledge gap by

investigating the relationships between solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio, premium retention ratio., GDP, inflation and profitability (ROA and ROE) within the unique context of the Nepalese non-life insurance sector. Mainly the following research questions are raised for this study:

- What is the existing scenario of non-life insurance companies operating in Nepal in terms of solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio and profitability (ROA and ROE)?
- Is there any relationship exists between solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP, inflation and profitability (ROA and ROE) of non-life insurance companies operating in Nepal?
- In what ways does solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP and inflation rate affect the profitability (ROA and ROE) of non-life insurance companies operating in Nepal?

1.3 Objectives of the study

The main aim of the study is to examine the factors affecting profitability of non-life insurance companies in Nepal. However, the specific objectives of the study are as follows:

- To assess the existing scenario of non-life insurance companies operating in Nepal, focusing on key financial indicators such as solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio and profitability (ROA and ROE).
- To examine the relationships between various financial and economic factors, including solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio, premium retention ratio, GDP, inflation and profitability (ROA and ROE) of non-life insurance companies operating in Nepal.
- To analyze the impact of solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio, premium

retention ratio, GDP and inflation rate on the profitability (ROA and ROE) of non-life insurance companies operating in Nepal.

1.4 Rationale of the study

The study is significance for various ways. Firstly, Nepal represents a distinctive market with its own economic, regulatory, and demographic characteristics, making it essential to understand the specific determinants impacting the profitability of non-life insurance firms within this context. The study is motivated by the need to provide actionable insights to executives of non-life insurance companies operating in Nepal, aiding them in formulating strategic decisions to enhance profitability. Additionally, policymakers in Nepal can benefit from a nuanced understanding of these factors to design regulatory frameworks that foster a conducive environment for the sustainable growth of the non-life insurance sector. Investors, both domestic and international, seeking opportunities in the Nepalese insurance market require a comprehensive analysis of the factors influencing profitability to make informed investment decisions. Furthermore, as Nepal undergoes economic development and structural changes, examining the determinants of profitability in the non-life insurance sector can contribute to the broader discourse on financial inclusion and risk management in emerging markets. Methodologically, the study can offer insights into effective research approaches applicable to the Nepalese context, adding value to the existing academic literature on the global insurance industry. Beyond the immediate focus on non-life insurance companies in Nepal, the rationale for encouraging further studies in this domain is multifaceted. The global insurance industry is continually evolving, influenced by changes in technology, regulatory landscapes, and socio-economic conditions. A deeper exploration of the determinants of profitability in non-life insurance can contribute to a more comprehensive understanding of industry dynamics, facilitating cross-country comparisons and insights applicable to diverse markets. The study's importance lies in its potential to contribute valuable knowledge to enhance the performance, regulation, and attractiveness of the non-life insurance sector in Nepal.

1.5 Limitations of the study

While this study contributes valuable insights into the factors influencing the profitability of non-life insurance companies in Nepal, it is essential to acknowledge several limitations that may impact the interpretation and generalization of the

findings. This study basically prepared for the fulfillment of Master degree at Tribhuvan university. The limitations of the study are as follows:

- The study relies on a dataset spanning ten years, from 2012/13 to 2021/22. The temporal scope may not capture shorter-term fluctuations or recent market dynamics that could influence non-life insurance profitability.
- The study focuses on eight out of the 14 non-life insurance companies in Nepal. While the selected companies are representative, the exclusion of the remaining companies may limit the generalizability of the findings to the entire sector.
- The study primarily employs descriptive and correlation analysis tools. While these tools offer valuable insights into relationships between variables, they may not provide a comprehensive understanding of causation or the intricate dynamics influencing profitability.
- While regression analysis is a robust statistical tool, the study's reliance on this method for uncovering relationships between variables has inherent limitations. Causality cannot be definitively established, and other unexplored factors may influence the observed correlations.
- The study may not comprehensively account for all industry-specific nuances influencing non-life insurance profitability in Nepal. Factors unique to the Nepalese regulatory and economic environment may not be fully captured.
- External economic factors, such as global economic trends or geopolitical events, are not explicitly considered in the study. These factors can impact the financial performance of non-life insurance companies but are beyond the study's immediate scope.
- The regulatory environment governing the insurance sector in Nepal may have evolved over the study period. The study may not capture real-time adaptations in regulatory frameworks that could impact non-life insurance profitability.
- The study assumes a stable market environment. Unforeseen market disruptions, technological advancements, or shifts in consumer behavior, not accounted for in the analysis, may influence non-life insurance profitability.

- The study predominantly relies on quantitative measures. Qualitative factors such as management practices, customer satisfaction, or competitive strategies, which could be influential, are not explicitly explored.

CHAPTER II

LITERATURE REVIEW

The literature review serves as a critical component of any research study, offering a comprehensive survey of existing knowledge on the chosen topic. In the context of this study on the factors affecting the profitability of non-life insurance companies in Nepal, the literature review encompasses both theoretical and empirical dimensions, shedding light on established theories and empirical findings relevant to the subject matter.

2.1 Theoretical review

The theoretical review explores key paradigms and theories that have shaped the understanding of factors influencing the profitability of non-life insurance companies. Within the structure-conduct-performance (SCP) paradigm, scholars have traditionally investigated how the structure of an industry, such as market concentration and competitive behavior, impacts the performance of firms. The efficient structure hypothesis, on the other hand, posits that a well-structured market enhances efficiency, leading to improved firm performance. Additionally, the resource-based view (RBV) theory emphasizes the role of internal resources and capabilities in determining firm profitability. Lastly, the market power hypothesis examines the extent to which firms possess market power, impacting their ability to influence prices and consequently affect profitability.

2.1.1 Structure-conduct performance (SCP) paradigm

The structure-conduct-performance (SCP) Paradigm is a foundational theory in industrial economics, providing a framework for understanding the interplay between market structure, firm conduct, and economic performance. In the realm of non-life insurance companies, the SCP paradigm asserts that the specific characteristics of the market, such as the number of firms, the level of competition, and entry barriers, shape the behavior of individual firms within that market. This, in turn, has a direct impact on the economic performance or profitability of these firms (Fergusan, 1988).

To apply the SCP paradigm to the study of factors affecting the profitability of non-life insurance companies, it is crucial to consider how the market structure influences the conduct of these firms. The number of firms in the industry may determine the intensity of competition, prompting firms to adopt various conduct strategies such as pricing mechanisms, product differentiation, and innovation to gain a competitive edge (Panhans, 2023). In a highly competitive market, non-life insurance companies may be compelled to innovate and differentiate their products to attract customers, affecting their profitability.

Moreover, the SCP paradigm provides theoretical justification for industry policies, particularly those related to competition policy. It suggests that the market structure can impact the behavior of firms in ways that may or may not be conducive to the public interest. Policies derived from the SCP paradigm aim to modify or prevent the development of market structures that could lead to detrimental behavior and performance. This is particularly relevant in the context of non-life insurance companies, where ensuring fair competition and preventing monopolistic tendencies are essential for the well-being of consumers and the overall health of the industry (Fergusan, 1988).

Empirical studies further support the applicability of the SCP paradigm to non-life insurance. Research conducted in Turkey identified firm-specific factors such as company size, age, loss ratio, current ratio, and premium growth rate as influential factors affecting the profitability of non-life insurance companies (Kaya, 2015). Similarly, another study emphasized organizational-specific factors like leverage ratio, tangibility ratio, size, liquidity ratio, risk, and growth rate in influencing the profitability of non-life insurance companies (Ofori-Boatent et al., 2022).

In essence, the SCP paradigm serves as a valuable lens through which to analyze the factors affecting the profitability of non-life insurance companies. By understanding how market structure shapes firm conduct and, consequently, economic performance, researchers and policymakers can formulate informed strategies to promote fair competition, prevent anti-competitive behavior, and ensure the sustained profitability and stability of the non-life insurance industry.

2.1.2 Efficient structure hypothesis

The efficient structure (ES) hypothesis is a theory that posits that firms that operate at the efficient frontier of the production possibility set are more profitable than those that do not. In the context of non-life insurance companies, this theory suggests that firms that operate with optimal levels of inputs (e.g., capital, labor, technology) are more likely to achieve higher profitability than those that do not. The efficient structure hypothesis (ESH) is a theory that suggests that the organizational structure of a firm can affect its overall efficiency and profitability. The hypothesis posits that a firm with an efficient structure will be better equipped to allocate resources effectively, adapt to changing market conditions, and ultimately generate higher levels of profitability. This theory was initially developed by economists Williamson (1967) and Jensen and Meckling (1976) in the context of transaction cost economics.

In relation to the study of factors affecting profitability of non-life insurance companies, the ESH can be utilized as a framework for understanding how the organizational structure of these companies can influence their financial performance. Previous empirical studies have explored the relationship between firm structure and profitability in various industries. Majeed et al. (2016) examined the impact of corporate governance mechanisms on the profitability of non-life insurance companies in Pakistan. The research found that certain governance mechanisms, such as board independence and audit committee effectiveness, had a positive influence on profitability. These findings suggest that an efficient organizational structure, characterized by strong corporate governance practices, can enhance the profitability of non-life insurance companies.

Yadav and Phani (2018) investigated the impact of firm size and capital structure on the financial performance of non-life insurance companies in India. The researchers found that larger firms and those with a higher level of leverage tended to be more

profitable. This implies that the size and capital structure of non-life insurance companies can be important elements in determining their efficiency and profitability. Regmi (2020) examined the influence of the ownership structure on the profitability of non-life insurance companies in Nepal. The research revealed that companies with a higher proportion of foreign ownership tended to exhibit higher profitability levels. This suggests that the ownership structure of non-life insurance companies can also play a significant role in determining their efficiency and profitability.

The efficient structure hypothesis provides a valuable theoretical framework for understanding how the organizational structure of non-life insurance companies can influence their profitability. Previous empirical studies have shown that factors such as corporate governance mechanisms, firm size, capital structure, and ownership structure can significantly impact the financial performance of these companies. By utilizing the ESH and considering these factors, researchers can gain insights into the key determinants of profitability in the non-life insurance industry in Nepal. The ES hypothesis is a useful framework for understanding the factors that affect the profitability of non-life insurance companies, particularly in relation to the optimal use of inputs.

2.1.3 The resource-based view theory

Resource-based theory is a theoretical framework that focuses on the internal resources and capabilities of a firm in order to understand its sustained competitive advantage (Barney, 1991). This theory suggests that a firm is able to achieve higher performance and profitability if it possesses valuable, rare, inimitable, and non-substitutable resources (Barney, 1991; Wernerfelt, 1984). The theory was initially proposed by Penrose (1959) and later expanded upon by other scholars such as Rumelt (1984) and Barney (1991).

In the context of non-life insurance companies, resource-based theory can be used to examine the factors that affect their profitability. Non-life insurance companies face various challenges, such as intense competition, changing customer demands, and regulatory constraints. Therefore, the ability of these companies to effectively manage their resources and capabilities can be crucial for their long-term success.

Several empirical studies have applied resource-based theory to investigate the factors affecting the profitability of non-life insurance companies. Park and Yoon (2009)

examined the impact of intellectual capital on the profitability of non-life insurance firms and found a positive relationship. They argued that intellectual capital, including human capital and structural capital, contributes to the creation of competitive advantage and improved financial performance.

Darrat et al. (2001) explored the effects of internal resources, such as capital, leverage, and liquidity, on the profitability of non-life insurance companies. They found that capital adequacy positively influences profitability, indicating that companies with higher levels of capital are better positioned to absorb losses and generate higher returns.

Furthermore, Josiam et al. (1996) investigated the impact of investment policies on the performance of non-life insurance companies. They argued that resource allocation decisions, including investment choices, can significantly affect profitability. They found that non-life insurance companies that focus on long-term investments, such as stocks and bonds, tend to achieve higher profitability compared to those with a short-term investment focus.

Additionally, Babbel and Merrill (1995) examined the effects of underwriting and investment risks on the profitability of non-life insurance companies. They found that companies that effectively manage and mitigate underwriting risks are more likely to achieve higher profitability. Similarly, they found that companies that adopt a conservative investment strategy, targeting lower-risk assets, tend to have higher profitability.

Resource-based theory provides a valuable framework for understanding the factors affecting the profitability of non-life insurance companies. By analyzing the internal resources and capabilities of these firms, researchers have identified various factors that influence their financial performance. Findings from previous empirical studies have highlighted the importance of intellectual capital, capital adequacy, investment policies, as well as underwriting and investment risks in determining the profitability of non-life insurance companies. Further research in this area can contribute to a deeper understanding of how non-life insurance companies can effectively manage their resources to achieve sustainable competitive advantage and improved financial performance.

2.1.4 The market power hypothesis

The market power hypothesis is a concept in economics that suggests firms with market power are able to influence market conditions, pricing, and ultimately generate higher profits than their competitors (Stigler, 1957). This hypothesis was initially proposed by George J. Stigler, a Nobel laureate economist, and has since been studied extensively in various industries, including the non-life insurance sector.

In the study of factors affecting the profitability of non-life insurance companies, the market power hypothesis has been used to analyze the impact of market concentration on their earnings. Market concentration refers to the extent to which a few large firms dominate the market, potentially leading to higher levels of market power. Previous empirical studies have provided evidence on the relationship between market concentration and profitability in the non-life insurance industry.

Cummins and Tennyson (1992) examined the U.S. non-life insurance market and found that market concentration had a positive impact on profitability. They concluded that larger firms with higher market share were able to exert market power, leading to increased profitability. This finding supports the market power hypothesis, suggesting that firms with higher market power can generate higher profits.

Another empirical study by Barros and Sarmento (2008) focused on the European non-life insurance market and found a similar relationship between market concentration and profitability. They concluded that higher market concentration led to increased profitability, indicating the existence of market power. These findings further support the market power hypothesis and emphasize the importance of market structure in determining the profitability of non-life insurance companies.

Furthermore, a study by Bikker and Haaf (2002) explored the relationship between market structure and profitability in the non-life insurance industry across countries. They found that higher market concentration was associated with higher profitability, suggesting the presence of market power. This study provided additional empirical evidence for the market power hypothesis and highlighted the importance of cross-country analysis in understanding the factors influencing profitability.

The market power hypothesis suggests that firms with market power can influence market conditions and generate higher profits. When studying the profitability of non-life insurance companies, previous empirical studies have shown that market concentration, as a measure of market power, is positively related to profitability. The

findings of these studies by Cummins and Tennyson (1992), Barros and Sarmento (2008), and Bikker and Haaf (2002) support the market power hypothesis and highlight the significance of market structure in determining profitability in the non-life insurance industry.

2.2 Empirical review

Kaya (2015) investigated firm-specific factors influencing the profitability of non-life insurance companies in Turkey by analyzing panel data from 24 companies over the period 2006–2013. Eight independent variables, including company size, age, loss ratio, insurance leverage ratio, current ratio, premium growth rate, motor insurance, and premium retention ratio, were examined through panel data regression. The study employs two profitability measures: technical profitability ratio and sales profitability ratio. Findings indicate that the size of the company, age, loss ratio, current ratio, and premium growth rate significantly impact the profitability of Turkish non-life insurance companies. Larger companies exhibit higher profitability, emphasizing the importance of growth strategies and considering merger and acquisition options. Lower underwriting risk is associated with increased profitability, urging companies to manage exposure to underwriting risk effectively. Moreover, non-life insurance companies with lower liquidity demonstrate higher profitability, emphasizing the delicate balance between liquidity risk and profitability. The results offer valuable insights for non-life insurance managers and academics, prompting considerations for growth, risk management, and liquidity optimization strategies in the industry.

Ullah et al. (2016) analyzed the determinants influencing the profitability of non-life insurance firms in Bangladesh, a crucial aspect in the service-based economy. Using panel data from eight insurance companies over the period 2004-2014, selected through a convenience sampling method, the study employs an Ordinary Least Squares (OLS) regression model to explore relationships between profitability (ROA) and independent variables such as underwriting risk, expense ratio, solvency margin, premium growth, asset growth, and company size. The findings reveal a significant inverse relationship between underwriting risk and size with profitability, while a positive relationship is observed between expense ratio, solvency margin, growth, and profitability. This study offers financial managers insights into key internal factors that impact profitability, aiding them in strategic decision-making to maximize the market value of their respective insurance companies. The implication is that a

nuanced understanding of these determinants can guide financial managers toward optimizing their company's profitability in the dynamic context of the Bangladeshi non-life insurance market.

Kramaric et al. (2017) examined the factors influencing the performance of insurance markets in selected Central and Eastern European countries, specifically analyzing the insurance industry in Croatia, Slovenia, Hungary, and Poland from 2010 to 2014. Utilizing return on assets (ROA) and return on equity (ROE) as performance variables and a range of insurance company-specific, industry-specific, and macroeconomic variables, the research employs a static panel model. The findings reveal that the age of insurance companies has a positive and significant impact on performance, measured by both ROA and ROE. Additionally, real GDP per capita growth significantly influences performance in terms of ROE, with a positive correlation. The study contributes to the understanding of the determinants of insurance market performance in the specified region, providing insights for practitioners and policymakers. The implication is that fostering the growth and maturity of insurance companies positively affects their performance, and economic development in terms of GDP per capita growth has a favorable impact, particularly on return on equity.

Hasan et al. (2018) analyzed the impact of selected macroeconomic variables on the performance of non-life insurance companies in Bangladesh, analyzing 32 companies over a 7-year period (2009-2015) with 224 panel observations. Using return on assets (ROA) and return on equity (ROE) as dependent variables and macroeconomic factors (inflation rate, GDP growth rate, interest rate, exchange rate) and firm-specific factors (age, size, loss ratio, solvency margin, assets tangibility, liquidity ratio, debt ratio, management competence index) as explanatory variables, the research employs panel data regression. The findings reveal that, contrary to economic theories, only the interest rate among the macroeconomic variables significantly influences non-life insurance companies' performance. Conversely, firm-specific factors such as age, size, loss ratio, solvency margin, tangibility of assets, and management competence index exhibit statistically significant impacts on performance. The study's results offer valuable insights for stakeholders in the Bangladeshi non-life insurance sector, aiding investors in making informed decisions and providing policymakers with information to formulate sound policies for economic growth and stability in the nation.

Chideh and Sorayaei (2019) focused on studying the profitability of the insurance industry in Iran over a 20-year period from 1993 to 2013. Employing an analytical and inductive post-event research method, the study utilizes data encompassing premium figures for life and non-life insurance, gross domestic product (GDP), inflation, and the profitability of Iranian insurance companies. The analysis employs a regression model and Autoregressive Distributed Lag (ARDL) time series technique. The findings indicate that the premium of life insurance positively influences the profitability of insurance companies in Iran. However, the premium of non-life insurance does not show a significant impact on profitability. Economic indicators, specifically GDP and inflation, are found to have a positive and negative impact on the profitability of Iranian insurance companies, respectively. The implication is that understanding the differential impact of life and non-life insurance premiums, along with economic indicators, can guide strategic decisions for improving the profitability of insurance companies in Iran.

Hamal (2020) analyzed the impacts of liquidity ratio, leverage ratio, firm size, firm age, and total debt on the profitability of non-life insurance companies in Nepal, using return on assets (ROA) as the dependent variable. The research spanned a decade, from 2066/67 to 2075/76, and involved nine non-life insurance companies, relying on secondary data extracted from their annual financial statements. The methodology encompassed descriptive statistics, correlational analysis and regression models to scrutinize the significance of the independent variables on ROA. The findings revealed a positive correlation between liquidity and profitability, while an inverse relationship was observed with leverage. Firm size, age, and total debt, however, were insignificantly associated with profitability in the sector. The study underscores the importance for non-life insurance companies in Nepal to prioritize effective management of liquidity for improved profitability and advocates for maintaining a lower leverage ratio to mitigate above-average losses. The research emphasizes practical implications for companies in the sector to optimize their capabilities in paying liabilities, thereby enhancing overall profitability.

Ozen and Cankal (2020) explored the most crucial firm-specific and macroeconomic variables influencing the profitability of non-life insurance companies in Turkey over the period 2006 to 2017, encompassing 21 companies. Using Return on Assets (ROA)

as the measure of profitability and employing a fixed effects panel data model, the research aims to shed light on the factors impacting the financial performance of these insurance entities. The results indicate statistically significant positive relationships between profitability and variables such as size, liquidity, investment yield, age, GDP growth rate, and interest rate. Conversely, negative relationships were observed with premium growth rate, loss ratio, leverage ratio, and solvency. The findings provide valuable insights for non-life insurance companies in Turkey, guiding them to consider and manage these identified variables for enhancing their profitability. The implication is that attention to size, liquidity, and effective risk management practices can contribute positively to the financial performance of non-life insurance companies in the Turkish market.

Risal (2020) assessed the relationship between financial performance and company size, liquidity, leverage, and underwriting risk in non-life insurance companies in Nepal, utilizing ten years of published data from five non-life insurance companies. Adopting a descriptive and analytical research design, the study employs regression and correlation analysis to analyze the cause-and-effect relationships. The dataset comprises fifty firm-years observations. The findings indicate that the size of non-life insurance companies has a significant positive impact on profitability, while liquidity fluctuations do not affect their performance. Moreover, non-life insurance companies with higher leverage exhibit lower financial performance. The study further notes that changes in benefits paid and net premium do not impact the Return on Assets (ROA) of non-life insurance companies. Overall, the size of companies and leverage are identified as the most influential variables affecting the financial performance of non-life insurance companies in Nepal. The implication is that non-life insurance companies in Nepal should prioritize managing their size and leverage to optimize financial performance.

BenDhiab (2021) addressed the gap in existing literature by investigating the determinants of profitability in the Saudi insurance sector, considering the crucial role of insurance in risk transfer, indemnification services, and financial intermediation for households, companies, and economies. The empirical analysis is conducted on a sample of 20 Saudi insurance companies from 2009 to 2017, employing various econometric techniques such as fixed-effects model, random-effects model, Feasible

Generalized Least Squares, Ordinary Least Squares with panel-corrected standard errors, Difference GMM, and System GMM for robustness checks. The findings reveal that the growth rate of written premium, tangibility ratio, and fixed-assets ratio significantly and positively impact the profitability of Saudi insurance companies. Company size and liquidity ratio also show positive associations with profitability, although not statistically significant. Conversely, the loss ratio, liabilities ratio, insurance leverage ratio, and to a lesser extent, the company age have negative effects on profitability. The implication is that understanding and managing these determinants can aid Saudi insurance companies in formulating strategies to enhance their profitability and overall financial performance.

Muchie and LiJuan (2021) explored the critical variables influencing the profitability of the insurance sector in Ethiopia over the period 2005 to 2020. Emphasizing the significance of insurance companies in contributing to economic prosperity by compensating for losses and reducing fear and uncertainty, the study focuses on microeconomic or firm-level variables, including firm size, leverage, liquidity, premium growth, loss ratio, market share, tangibility of assets, and age of the company. The researchers employ data from the World Bank Data Center for macroeconomic variables and the audited financial statements of the National Bank of Ethiopia for microeconomic variables. Utilizing a fixed-effect model based on the Hausman test results, the study analyzes a sample of 17 insurance companies over 16 years. The regression analysis reveals that firm size, leverage ratio, liquidity ratio, market share, premium growth, tangibility of assets, and age of the company significantly impact profitability, while liquidity ratio and insurance dependency show insignificant effects. The study's implication is that insurance company executives and policymakers should consider these influential factors when formulating policies and strategies to enhance overall profitability in the Ethiopian insurance sector.

Ahmeti and Iseni (2022) analyzed the impact of specific company factors on the profitability of insurance companies in Kosovo, with profitability measured by return on assets (ROA) and net profit margin (NPM). The examined independent variables include liquidity, company size, company age, tangible assets, leverage, company capital, and company growth. Using a sample of eleven insurance companies over the period 2015-2020, the study employs regression analysis to explore the relationships

between these factors and profitability measures. The findings reveal that, for ROA, company size, leverage, and age significantly influence profitability, while for NPM, the size of the company and firm growth have significant effects. This study contributes to understanding the specific determinants of profitability in the context of insurance companies in Kosovo. The implication is that insurance firms in the region should pay attention to company size, leverage, age, and growth strategies to enhance their profitability.

Debala et al. (2022) explored the driving factors of profitability in the non-life insurance sector in Ethiopia, acknowledging the centrality of profitability in contributing to overall operational activities and the economic development of the country. Utilizing panel data from audited financial statements of twelve insurers over a six-year period (2011-2016), amounting to 72 observations, the study employs Ordinary Least-Square (OLS) regression analysis. The panel least square regression results reveal that industry concentration ratio and leverage exhibit statistically significant and positive impacts on non-life insurance companies' profitability, while diversification, underwriting risk, and reinsurance dependence show negative and statistically significant relationships. However, the study does not find support for the impact of firm liquidity, real GDP growth rate, and inflation on the profitability of non-life insurance companies in Ethiopia. The implication of these findings is that non-life insurance companies in Ethiopia should prioritize risk management strategies and internal controls to enhance profitability in a market characterized by low revenues.

Kumar et al. (2022) explored the determinants of profitability in Fiji's insurance sector, a reference country experiencing growth in its insurance industry. Employing a financial evaluation approach, the research utilizes return on assets and return on equity as measures of profitability. Regression models, including a fixed-effects model and a balanced panel, are developed using financial data from eight insurance companies spanning the years 2010–2015, sourced from the key disclosure statements mandated by the Reserve Bank of Fiji. The study reveals that premium income, underwriting expenses, administrative expenses, and the volume of capital positively influence profitability, while leverage (total liability over equity) and contingent liability exhibit negative associations. The inclusion of interaction effects in

sensitivity analysis aligns with the base model's outcomes. The findings hold significance for both the insurance sector and policymakers, guiding the formulation of strategies for revenue enhancement and cost management.

Msomi (2023) investigated the determinants of financial performance in African non-life insurance companies by analyzing a panel dataset of 121 listed firms from 48 countries over the period 2008–2019. Utilizing ordinary least squares and two-step System Generalized Method of Moments estimators on 1452 observations, the study identifies lagged return on assets, equity capital, operational efficiency, leverage, investment capability, and gross domestic product as statistically significant determinants of financial performance. Notably, equity capital, operational efficiency, and leverage exhibit an inverse relationship with financial performance. The study underscores the importance of these factors for decision-making by insurance industries, policymakers, government, and investors, advocating for restructuring capital structures to maintain a favorable balance between equity and debt. Additionally, recommendations include adopting automated systems to reduce operational costs, ultimately enhancing financial performance in the non-life insurance sector in Africa.

Siopi and Poufinas (2023) investigated the influence of internal and external factors on the profitability and financial strength of insurance groups across the European Union, with a particular focus on the unexplored impact of the European sovereign debt crisis and the Solvency II Directive. Utilizing a comprehensive set of factors, the study employs an analytical approach to assess their effects on insurance groups. The findings highlight that the efficiency of accounts receivable management and the state of the economy positively impact both profitability and financial strength, while underwriting risk and size have negative effects. Long-term interest rates positively influence profitability, while the purchase of reinsurance, size of the domestic market, market structure, and inflation exert negative influences. The European sovereign debt crisis negatively impacts profitability and insignificantly influences financial strength, and Solvency II does not show a statistically significant impact on either variable. The implication is that insurers and policymakers can benefit from a nuanced understanding of these factors in making strategic decisions to enhance profitability and financial strength in the dynamic European insurance landscape.

Horvey et al. (2024) investigated the factors influencing the profitability of life insurers in South Africa, with a focus on exploring non-linear impacts. Using a panel dataset covering 62 life insurers from 2013 to 2019, the researchers employ the generalized method of moments and dynamic panel threshold estimation technique to estimate the relationship between determinants and profitability. The empirical results indicate that investment income and solvency significantly predict profitability positively, while underwriting risk, reinsurance, and size have a negative impact. The dynamic panel threshold analysis reveals non-linearities in these relationships, highlighting that factor such as insurance size, investment income, and solvency have a propelling effect on profitability beyond a certain threshold level. Below the threshold, adverse effects are observed. Conversely, underwriting risk, reinsurance, and leverage show reduced impact on profitability above the threshold level. The study's practical implications underscore the importance for insurers to allocate resources to maintain solvency, manage assets, and control underwriting risk effectively to enhance profitability.

Table 1 *Review Summary Table*

S.N.	**Author(s) and Year**	**Objectives**	**Methodology and Tools**	**Major Findings**
1	Kaya (2015)	To investigate firm-specific factors influencing the profitability of non-life insurance companies in Turkey.	Panel data regression	Size, age, loss ratio, current ratio, and premium growth rate significantly impact profitability. Larger companies exhibit higher profitability. Lower underwriting risk is associated with increased profitability. Non-life insurance companies with lower liquidity demonstrate higher profitability. Valuable insights for non-life insurance managers and academics,

				emphasizing growth, risk management, and liquidity optimization strategies.
2	Ullah (2016)	To analyze the determinants of non-life insurance firms' profitability in Bangladesh.	Ordinary Least Squares (OLS) regression model, Panel data	Inverse relationship between underwriting risk and size with profitability. Positive relationship between expense ratio, solvency margin, growth, and profitability. Insights for financial managers to focus on internal factors for greater profitability.
3	Kramaric et al. (2017)	To analyze the factors affecting the performance of insurance markets in Central and Eastern European countries.	Static panel model, Return on Assets (ROA), Return on Equity (ROE)	Age and real GDP per capita growth positively influence performance. Insightful findings for insurance market performance in selected countries.
4	Hasan et al. (2018)	To investigate the impact of macroeconomic variables on non-life insurance companies in Bangladesh.	Panel data regression, Return on Asset (ROA), Return on Equity (ROE)	Limited impact of macroeconomic variables; only the interest rate significantly influences performance. Firm-specific factors, including age, size, loss ratio, solvency margin, tangibility of assets, and management competence index, significantly impact the non-life insurance sector. Valuable information for investors and policymakers to make informed decisions.

5	Chideh and Sorayaei (2019)	To study the profitability of the insurance industry in Iran during a 20-year period.	Regression model, Autoregressive Distributed Lag (ARDL) time series technique	Premium of life insurance positively affects profitability. Premium of non-life insurance has no significant effect. GDP and inflation have positive and negative impacts on profitability, respectively. Valuable insights for stakeholders in the Iranian insurance sector.
6	Hamal (2020)	To analyze the impacts of liquidity ratio, leverage ratio, firm size, firm age, and total debt on the profitability of non-life insurance companies in Nepal, using return on assets (ROA) as the dependent variable.	Descriptive statistics, correlational analysis, regression models	Positive correlation between liquidity and profitability observed. Inverse relationship found with leverage. Firm size, age, and total debt insignificantly associated with profitability. Emphasis on effective liquidity management for improved profitability. Advocacy for maintaining a lower leverage ratio to mitigate above-average losses. Practical implications for companies in the non-life insurance sector to optimize capabilities in paying liabilities, thereby enhancing overall profitability.
7	Ozen and Cankal (2020)	To identify firm-specific and macroeconomic variables affecting the profitability of	Fixed effects panel data model, Return on Assets (ROA)	Positive relationships with size, liquidity, investment yield, age, GDP growth rate, and interest rate. Negative relationships with premium

		non-life insurance companies in Turkey.		growth rate, loss ratio, leverage ratio, solvency. Insights for financial management in the Turkish non-life insurance sector.
8	Risal (2020)	To assess the relationship between financial performance and company factors in non-life insurance companies in Nepal.	Regression and correlation analysis	Size has a significant positive impact on profitability. Liquidity fluctuations do not affect performance. Higher leverage results in lower financial performance. Changes in benefits paid and net premium do not impact Return on Assets (ROA). Recommendations for companies to optimize size and leverage for improved financial performance.
9	BenDhiab (2021)	To examine the determinants of profitability in the Saudi insurance sector.	Various econometric techniques including fixed-effects model, random-effects model, GMM	Written premium growth rate, tangibility ratio, and fixed-assets ratio positively impact profitability. Size and liquidity ratio also positively associated but not statistically significant. Loss ratio, liabilities ratio, insurance leverage ratio, and company age negatively affect profitability. Insightful findings for Saudi insurance companies to enhance profitability.
10	Muchie and	To examine the variables	Fixed-effect model,	Firm size, leverage ratio, liquidity ratio, market share,

	LiJuan (2021)	influencing the profitability of the insurance sector in Ethiopia.	Econometric panel data	premium growth, tangibility of assets, and age of the company significantly impact profitability. Liquidity ratio and insurance dependency show insignificant impact. Guidance for insurance company executives and policymakers in Ethiopia.
11	Siopi and Poufinas (2023)	To study the impact of internal and external factors on profitability and financial strength of EU insurance groups.	Regression model, ARDL time series technique	Efficiency of accounts receivable management and state of the economy positively impact profitability and financial strength. Underwriting risk and size have negative impacts. European sovereign debt crisis negatively impacts profitability. Solvency II has no statistically significant impact. Novel insights for insurance groups across the European Union.
12	Ahmeti and Iseni (2022)	To investigate the effects of specific company factors on profitability of insurance companies in Kosovo.	Regression analysis	Size, leverage, and age significantly affect return on assets (ROA). Size of company and firm growth significantly affect net profit margin (NPM). Implications for optimizing profitability through attention to size, leverage, age, and growth strategies.

13	Debala et al. (2022)	To investigate the driving factors of profitability in the non-life insurance sector in Ethiopia.	Panel least square regression analysis, Ordinary Least-Square (OLS)	Industry concentration ratio and leverage have positive impacts on profitability. Diversification, underwriting risk, and reinsurance dependence have negative impacts. Firm liquidity, real GDP growth rate, and inflation show no significant impact. Implications for risk management and internal control to achieve superior profitability.
14	Kumar et al. (2022)	To examine the determinants of profitability in Fiji's insurance sector.	Financial evaluation approach, Return on Assets (ROA), Return on Equity (ROE), Fixed-effects regression model, Balanced panel	Premium income, underwriting expenses, administrative expenses, and volume of capital positively influence profitability. Leverage and contingent liability negatively impact profitability. Interaction effects consistent with base model. Valuable insights for financial management and policy formulation.
15	Msomi (2023)	To analyze the determinants of financial performance in African non-life insurance companies.	Ordinary least squares, System Generalized Method of Moments	Lagged return on assets, equity capital, operational efficiency, leverage, investment capability, and gross domestic product identified as determinants of financial performance. Equity capital, operational efficiency,

				and leverage exhibit an inverse relationship with financial performance. Recommendations for restructuring capital structures and adopting automated systems.
16	Siopi and Poufinas (2023)	To investigate the influence of internal and external factors on the profitability and financial strength of insurance groups across the European Union.	Analytical approach	Efficiency of accounts receivable management and state of the economy positively impact both profitability and financial strength. Underwriting risk and size have negative impacts. Long-term interest rates positively influence profitability. Purchase of reinsurance, size of the domestic market, market structure, and inflation exert negative influences. European sovereign debt crisis negatively impacts profitability. Solvency II does not show a statistically significant impact. Implications for insurers and policymakers to make strategic decisions for enhanced profitability and financial strength.
17	Horvey et al. (2024)	To investigate the factors influencing	Generalized method of	Investment income and solvency significantly predict

the profitability of life insurers in South Africa, exploring non-linear impacts.	moments, Dynamic panel threshold estimation technique	profitability positively. Underwriting risk, reinsurance, and size have negative impacts. Non-linearities observed in relationships, emphasizing threshold effects. Practical implications for insurers to allocate resources to maintain solvency, manage assets, and control underwriting risk effectively for enhanced profitability.

2.3 Research gap

Despite the extensive theoretical and empirical research on factors influencing profitability in the insurance industry globally, a notable research gap exists concerning the specific context of Nepal. Limited scholarly attention has been devoted to understanding how the unique economic, regulatory, and market conditions in Nepal interact with established theoretical frameworks. This study seeks to bridge this gap by providing a focused investigation into the factors affecting the profitability of non-life insurance companies in Nepal, contributing to both the theoretical and empirical dimensions of the existing body of knowledge. The research aims to offer a understanding of the factors at play in the Nepalese context, thereby filling a crucial void in the literature and providing valuable insights for academics, practitioners, and policymakers alike.

CHAPTER III

RESEARCH METHODOLOGY

The research methodology is carefully adopted to investigate the factors affecting profitability in non-life insurance companies. This chapter include research design, population and sample and sampling design, nature and sources of data, data collection procedures, research framework and definition of variables and method of analysis.

3.1 Research design

This study employs a research design that strategically integrates descriptive and causal research elements. Descriptive research serves as the foundational pillar, facilitating a comprehensive characterization of crucial financial indicators within the non-life insurance sector. The variables under scrutiny encompass solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP, inflation, and the dependent variable,

return on assets (ROA). This descriptive phase involves the examination of each variable's individual characteristics, offering insights into their trends, central tendencies and variations over the selected time period. The subsequent causal research component endeavors to delve into the intricate relationships and causality among the identified variables. This includes understanding how the solvency ratio, indicative of financial stability, may causally influence the profitability of non-life insurance companies. Similarly, the causal linkages between premium growth, company size, tangibility ratio, economic factors such as GDP and inflation, and their impact on ROA are explored.

3.2 Population and sample, and sampling design

This study focuses on an investigation within the realm of non-life insurance companies, comprising a total population of 14 non-life insurance companies operating in Nepal. Recognizing the practical constraints associated with studying the entire population, a judicious approach is adopted through the selection of a sample. In the interest of practicality and ease of access to pertinent data, a sample size of eight insurance companies is strategically chosen. The selection process employs a convenience sampling method, enabling the researchers to gather relevant information efficiently. The chosen sample is thoughtfully considered to be representative of the broader population, ensuring diversity within the non-life insurance sector. By capturing a subset of the population, the study aims to draw meaningful insights that can be extrapolated to provide a nuanced understanding of the financial dynamics prevalent in the entire non-life insurance landscape.

3.3 Nature and sources of data

The study relies on a hybrid dataset that is both secondary and time-series in nature. The primary source of information is the annual financial statements of the selected non-life insurance companies. These documents offer a wealth of data, encompassing key financial indicators such as solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio and profitability measured by return on assets (ROA). The secondary nature of the data implies that it has been previously collected and reported by the companies, providing a snapshot of their financial performance over time. Furthermore, to capture macroeconomic variables, GDP and inflation, the study sources information from authoritative entities. Specifically, GDP and inflation data are derived from the

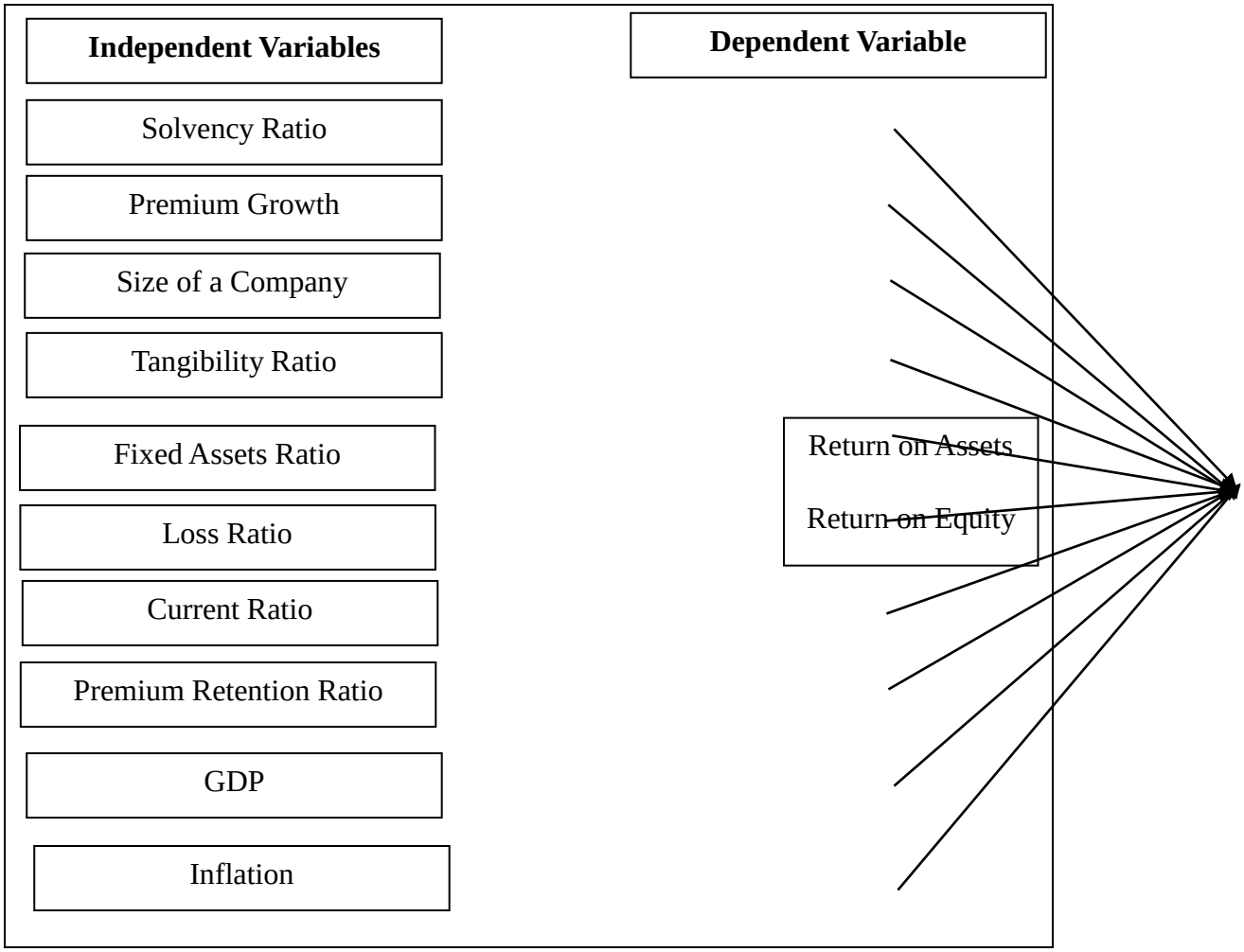
Ministry of Finance and reports from the Nepal Rastra Bank (NRB). This approach ensures the inclusion of robust and reliable macroeconomic indicators, enhancing the comprehensiveness and reliability of the dataset. The time-series aspect of the data enables the examination of trends and variations in the selected variables over the specified duration, allowing for a thorough analysis of their dynamic interplay within the non-life insurance sector.

3.4 Data collection procedures

The data collection procedures are designed to facilitate a comprehensive and systematic extraction of financial information from the annual reports of the selected non-life insurance companies. The systematic approach involves a thorough examination of these reports to identify and extract key variables, including solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio and profitability measured by return on assets (ROA). This process ensures that the dataset is rich in detail, capturing the financial performance over time.

3.5 Research framework and definition of variables

The research framework for examining the factors affecting profitability of non-life insurance companies synthesizes insights from various studies. Drawing from Ozen and Cankal (2020), the solvency ratio is incorporated to assess the companies' ability to meet long-term obligations. Kaya (2015) informs the inclusion of premium growth, emphasizing its role in revenue expansion. The consideration of the size of the company as a determinant, highlighted in studies like Muchie and LiJuan (2021), reflects the importance of market presence and operational scale. Tangibility ratio, inspired by BenDhiab (2021), measures the proportion of tangible assets, contributing to the assessment of asset-related factors. Finally, the integration of macroeconomic indicators GDP and inflation is based on Hasan et al. (2018) findings, offering insights into the broader economic context influencing non-life insurance performance. This comprehensive framework ensures a holistic exploration of factors influencing profitability, leveraging empirical evidence from diverse studies in the field. The framework for the study is presented in Figure 3.1.



Sources: Kaya (2015); Hasan et al. (2018); Ozen and Cankal (2020); BenDhiab (2021) and Muchie and LiJuan (2021)

Figure 1 *Research Framework*

3.5.1 Return on assets

In this study, profitability is measured using Return on Assets (ROA), a key financial metric indicating the efficiency of non-life insurance companies in generating profits from their assets. ROA is calculated by dividing net income by total assets and serves as a crucial indicator of operational effectiveness and financial performance. The choice of ROA as the dependent variable aligns with its widespread adoption in previous research on non-life insurance companies. Scholars such as Hamal (2020) in Nepal, Ozen and Cankal (2020) in Turkey, and Ullah et al. (2016) in Bangladesh have utilized ROA to evaluate and compare the profitability of insurance firms. This metric encapsulates the ability of companies to utilize their assets effectively to generate earnings, offering a comprehensive snapshot of financial viability. By focusing on

ROA as the dependent variable, this study contributes to the existing body of knowledge on non-life insurance profitability.

3.5.2 Return on equity

ROE is a financial ratio used by many investors to gauge, such as the performance of a company in generating profits from the shareholders equity. Calculated as net income divided by shareholders' equity, this ratio provides insight into how efficiently a company is using its equity base to generate profits. Haris et al. (2019) and Hasan et al. (2021) have used ROE to assess profitability for the insurance sector. It is a key metric for stakeholders because high ROE values are indicative of strong financial performance and effective management practices. Including ROE as a variable serves to enhance knowledge of profitability patterns in the non-life insurance sector.

3.5.3 Solvency ratio

The solvency ratio is a major financial metric that gauges the ability of non-life insurance companies to meet their long-term obligations and remain financially stable. It is calculated by dividing a company's net income by its total assets. A higher solvency ratio indicates a greater capacity to cover long-term debts and suggests a lower risk of insolvency. This metric is particularly relevant in the insurance industry, where the nature of liabilities often extends over the long term. Researchers such as Siopi and Poufinas (2023) investigating European insurance groups and Horvey et al. (2024) exploring factors influencing South African life insurers have emphasized the importance of the solvency ratio in understanding financial strength and stability within the sector. By incorporating the solvency ratio as an independent variable, this study aims to contribute to the broader understanding of its impact on the profitability of non-life insurance companies.

3.5.4 Premium growth

Premium growth, another key independent variable in this study, refers to the rate at which a non-life insurance company's premiums or revenue from policyholders increase over a specific period. It serves as a crucial indicator of the company's ability to expand its customer base and market share. High premium growth often suggests effective marketing strategies, successful product offerings, and increased demand for the company's insurance products. Ozen and Cankal (2020) investigating Turkish non-life insurance companies and Kumar et al. (2022) exploring factors influencing

profitability in Fiji's insurance sector both identified premium growth as a significant factor affecting financial performance. Including premium growth as an independent variable in the research framework allows for an examination of its impact on the profitability of non-life insurance companies, contributing to the understanding of how successful revenue generation and market expansion strategies influence overall financial outcomes in the insurance sector.

3.5.5 Size of a company

The size of a company, considered as an independent variable in this study, pertains to the scale and magnitude of the non-life insurance firm, often measured by total assets, total revenue, or market capitalization. Company size is a fundamental factor influencing various aspects of organizational functioning and performance. Larger companies may benefit from economies of scale, diverse product offerings, and increased market presence. Studies by Kaya (2015), Ozen and Cankal (2020) and Msomi (2023) have identified company size as a significant determinant impacting the profitability of non-life insurance companies in Turkey, Fiji, and African countries, respectively. By including company size as an independent variable in the research framework, the study aims to explore the nuanced relationship between the scale of operations in non-life insurance companies and their profitability, thereby contributing to the broader understanding of the industry dynamics.

3.5.6 Tangibility ratio

The tangibility ratio, a key independent variable in this study, measures the extent to which a company's assets are tangible, such as physical properties, equipment, or real estate, compared to intangible assets. It provides insights into the asset composition of a non-life insurance company. Tangible assets often include buildings, vehicles, and machinery. This ratio is significant as it reflects the level of physical collateral or resources that a company possesses, which can influence its financial stability and risk management. The inclusion of the tangibility ratio in the research framework is supported by studies such as BenDhiab (2021) in Saudi Arabia, which investigated the determinants of profitability in the insurance sector. The tangibility ratio is expected to shed light on how the mix of tangible and intangible assets affects the financial performance of non-life insurance companies, offering valuable insights into their risk and asset management strategies.

3.5.7 Fixed assets ratio

The fixed assets ratio plays a crucial role in determining the profitability of insurance companies. Studies have indicated varying impacts of this ratio on profitability across different regions and insurance sectors. BenDhiab (2021) found that the fixed assets ratio significantly and positively affects the profitability of Saudi insurance companies. This suggests that companies with higher investments in fixed assets, relative to their revenue, tend to experience better financial performance. The implication is that maintaining a balanced and optimized level of fixed assets can enhance profitability, as these assets are often tied to essential operations and can contribute to revenue generation.

3.5.8 Loss ratio

The loss ratio, representing the ratio of claims paid out to the premiums earned, is a critical measure of underwriting risk and efficiency in the insurance industry. A lower loss ratio generally indicates better profitability, as it reflects a company's ability to manage risks effectively. Ullah et al. (2016) discovered a significant inverse relationship between the loss ratio and profitability in Bangladeshi non-life insurance firms, emphasizing the need for efficient risk management practices. Similarly, Ozen and Cankal (2020) reported that a high loss ratio negatively impacts profitability in Turkish non-life insurance companies, reinforcing the importance of minimizing losses through careful underwriting and claims management to ensure financial stability and profitability.

3.5.9 Current ratio

The current ratio a liquidity measure calculated by dividing current assets by current liabilities, is essential for assessing a company's ability to meet short-term obligations. Hamal (2020) found that a higher current ratio positively correlates with the profitability of non-life insurance companies in Nepal, highlighting the importance of liquidity in maintaining financial stability. However, Kaya (2015) noted a counterintuitive finding in Turkey, where lower liquidity, indicated by a lower current ratio, was associated with higher profitability. This suggests that while liquidity is vital for covering liabilities, excessive liquidity may lead to underutilized assets, thus

affecting profitability. Therefore, a delicate balance must be maintained to optimize both liquidity and profitability.

3.5.10 Premium retention ratio

The premium retention ratio, which measures the proportion of premiums retained by the insurer after ceding some to reinsurers, is an important indicator of an insurance company's risk retention strategy. Kaya (2015) identified that in Turkish non-life insurance companies; a higher premium retention ratio significantly impacts profitability. This suggests that companies retaining more premiums, while assuming higher risk, can potentially enhance their profitability by relying less on reinsurance. However, this must be balanced against the need for adequate risk management to avoid exposure to excessive losses. Thus, the premium retention ratio serves as a critical factor in determining the financial success of insurance companies, necessitating careful consideration in strategic planning.

3.5.11 Gross domestic product (GDP)

Gross domestic product (GDP) is a crucial economic indicator representing the total market value of all goods and services produced within a country in a specific time period. In the context of this study, GDP serves as an independent variable and is utilized to gauge the macroeconomic environment in which non-life insurance companies operate. The inclusion of GDP aligns with research by Hasan et al. (2018) in Bangladesh, which analyzed the impact of macroeconomic variables on the performance of non-life insurance companies. The GDP variable provides a broader economic perspective, helping to assess the overall economic health of the environment in which non-life insurance firms operate. Changes in GDP can influence consumer spending patterns, regulatory frameworks, and overall market conditions, thereby affecting the profitability of non-life insurance companies. This study aims to examine how fluctuations in GDP correlate with the return on assets (ROA) of non-life insurance companies, contributing to a comprehensive understanding of the macroeconomic factors influencing profitability in this sector.

3.5.12 Inflation

Inflation, as an independent variable in this study, refers to the rate at which the general level of prices for goods and services rises, leading to a decrease in purchasing power. This variable is drawn from the research by Hasan et al. (2018) in

Bangladesh, where the impact of selected macroeconomic variables on the performance of non-life insurance companies was examined. Inflation is a critical factor as it reflects the economic environment's stability and the purchasing power of the currency. Fluctuations in inflation can have implications for interest rates, investment strategies, and overall economic conditions, all of which can influence the financial performance of non-life insurance companies. By incorporating inflation into the research framework, this study aims to explore how changes in the inflation rate correlate with the return on assets (ROA) of non-life insurance companies, contributing valuable insights to the understanding of macroeconomic factors affecting profitability in the insurance sector.

3.6 Method of analysis

The method of analysis employed in this study involves a comprehensive approach, utilizing descriptive statistics, correlation analysis and regression analysis, with all statistical computations conducted through SPSS 25.0 software. The following tools are used in this study to analyze the data as per the objectives of the study.

3.6.1 Descriptive statistics

Descriptive statistics is employed in this study to provide a comprehensive overview of key variables, including profitability (ROA), solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP and inflation. These descriptive statistics collectively form the foundation for a detailed exploration of the relationships among variables through subsequent correlation and regression analyses, enhancing the understanding of the factors influencing non-life insurance company profitability.

3.6.2 Correlation analysis

Correlation analysis is a crucial component of this study, facilitating the exploration of relationships among key variables. Using statistical techniques, particularly Pearson's correlation coefficient, the study assesses the strength and direction of linear associations between pairs of variables. The correlation analysis specifically examines how the solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP and inflation correlate with the dependent variable, profitability (ROA). A positive correlation

suggests a direct relationship, while a negative correlation implies an inverse relationship. By quantifying these associations, the study aims to discern which independent variables exhibit significant relationships with the profitability of non-life insurance companies. The insights gained through correlation analysis lay the groundwork for further investigation using regression models, allowing for a more nuanced understanding of the factors influencing the financial performance of the selected insurance entities.

3.6.3 Regression analysis

Regression analysis plays an important role in this study, serving as a powerful statistical tool to investigate the relationship between the dependent variable, profitability (ROA), and the chosen independent variables i.e., solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP and inflation. By employing regression model, the study aims to quantify and understand the impact of these independent variables on the profitability of non-life insurance companies. The analysis allows for the identification of potential predictors and the determination of the strength and nature of their influence. The regression model of the study is as below:

$$ROA=\beta_0+\beta_1 SR+\beta_2 PG+\beta_3 SIZE+\beta_4 TR+\beta 5FAR+\beta 6LR+\beta 7CR+\beta_8 PRR+\beta_9 GDP+\beta_{10} INF+\varepsilon \ldots\ldots\ldots (i)$$

$$ROE=\beta_0+\beta_1 SR+\beta_2 PG+\beta_3 SIZE+\beta_4 TR+\beta 5FAR+\beta 6LR+\beta 7CR+\beta_8 PRR+\beta_9 GDP+\beta_{10} INF+\varepsilon \ldots\ldots\ldots (ii)$$

Where,

β_0 = Constant Term

ROA= Return on Assets

ROE= Return on Equity

SR= Solvency Ratio

PG = Premium Growth

SIZE = Size of a Company

TR = Tangibility Ratio

FRR = Fixed Assets Ratio

LR = Loss Ratio

CR = Current Ratio

PRR = Premium Retention Ratio

GDP = GDP Growth

INF = Inflation Rate

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}$ = Regression Coefficients of Independent Variables Respectively

ε = Error Terms

CHAPTER IV

RESULTS AND DISCUSSION

The chapter that contains the results and discussion is the most important part since it is where the findings are presented and discussed in research study. Results offers a presentation of the data that was gathered that is both clear and objective. Tables and statistical analyses are often used in this area. The interpretation of these data is

explored in depth in the discussion section, which also establishes connections between them and the research topics, the current literature, and the theoretical framework. In this section, the researcher provides an explanation of the relevance of the results, draws attention to the unexpected outcomes, recognizes the limits of the study, and makes suggestions for the routes that future research should go.

4.1 Results

In results the findings of the research study are presented in a truthful manner. Now is the time when the data that has been evaluated enters the spotlight. There is an emphasis placed on providing the results of statistical tests and any other analyses that are pertinent in a manner that is both clear and succinct. In this part, there should be no room for interpretation; the idea is to provide the results in the most objective manner possible, enabling the reader to create their own first perspective before going on to the discussion section for further in-depth analysis. In this phase, the primary focus is on doing an analysis of each variable for each sample company ratio. This is followed by a study of panel data, which includes descriptive analysis, correlation analysis, and regression analysis.

4.1.1 Return on assets

The return on assets (ROA) ratio is an important profitability statistic that evaluates how well a firm uses its assets to create profits compared to other companies. The calculation for it involves dividing the net income of a firm by the total assets of the company. If a corporation has a higher ROA, it means that it is creating a greater amount of profit for each dollar of assets that it has invested. When it comes to non-life insurance firms, return on assets (ROA) is a key measure of overall financial success and the efficacy of management. The return on assets of sample insurance companies during the ten years of the study period is presented in Figure 2.

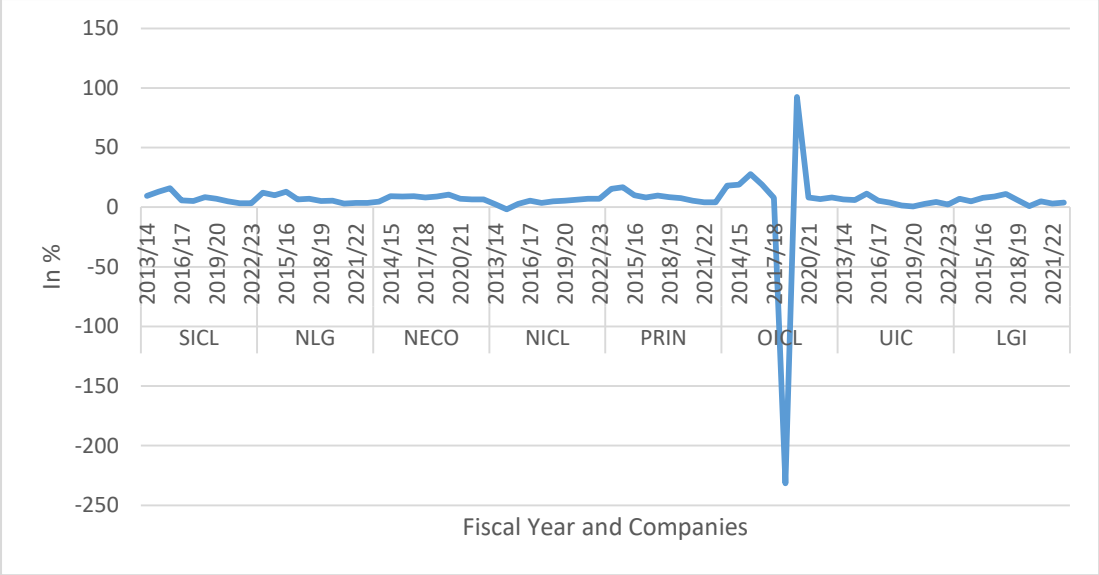


Figure 2 *Return on Assets*

Figure 2 shows return on assets (ROA) which is fluctuating trends across companies, which can indicate variations in profitability and operational efficiency. The Return on Assets (ROA) trends for the insurance companies over the past decade reveal several key insights. SICL experienced a peak ROA of 15.9% in 2015/16 but has since seen a steady decline, reaching 3.21% in 2022/23. NLG showed fluctuations, with a high of 13.1% in 2015/16 and a low of 2.97% in 2020/21, stabilizing around 3.62% in recent years. NECO maintained relatively stable ROA values, peaking at 10.5% in 2019/20 and slightly decreasing to just above 6.5% in recent years. NICL recovered from a negative ROA of -1.71% in 2014/15 to around 7% in the last few years. PRIN started with a high ROA of 15.34% in 2013/14 but gradually declined to 4.10% in 2022/23. OICL exhibited extreme volatility, with a peak of 27.63% in 2015/16 and a dramatic drop to -231.60% in 2018/19, recovering to positive values and stabilizing around 8.08% in 2022/23. UIC's ROA has generally been low and fluctuating, peaking at 11.25% in 2015/16 but dropping to 2.35% in 2022/23. LGI showed moderate fluctuations, peaking at 11% in 2017/18 and dropping to 1% in 2019/20, with a slight recovery to 4% in 2022/23. Overall, most companies exhibit volatility in their ROA, with several experiencing significant declines over the decade, indicating challenges in maintaining asset efficiency and profitability. However, some companies, like NICL and OICL, show recovery patterns after periods of poor performance, suggesting efforts to improve operational efficiency and profitability.

4.1.2 Return on equity

Return on equity (ROE) indicates how well a company is using investments to generate earnings growth, there are additional methods. Return on equity is calculated by dividing net income by shareholders' equity and provides insight into the financial performance and efficiency of the company's operations. Determinants of profitability pertaining to underwriting performance, investment income and expense management are thus considerably related with ROE for non-life insurance companies. It also involves effective risk management as well as competitive premium pricing. High ROE suggests a company can turn equity investments into profits, a key factor in garnering investors and sustaining growth in a competitive market growing in part from insurance. While ROE provides information to stakeholders, it is especially important to the company itself because it shows how well management is boosting earnings and profits. The return on assets of sample insurance companies during the ten years of the study period is presented in Figure 4.2.

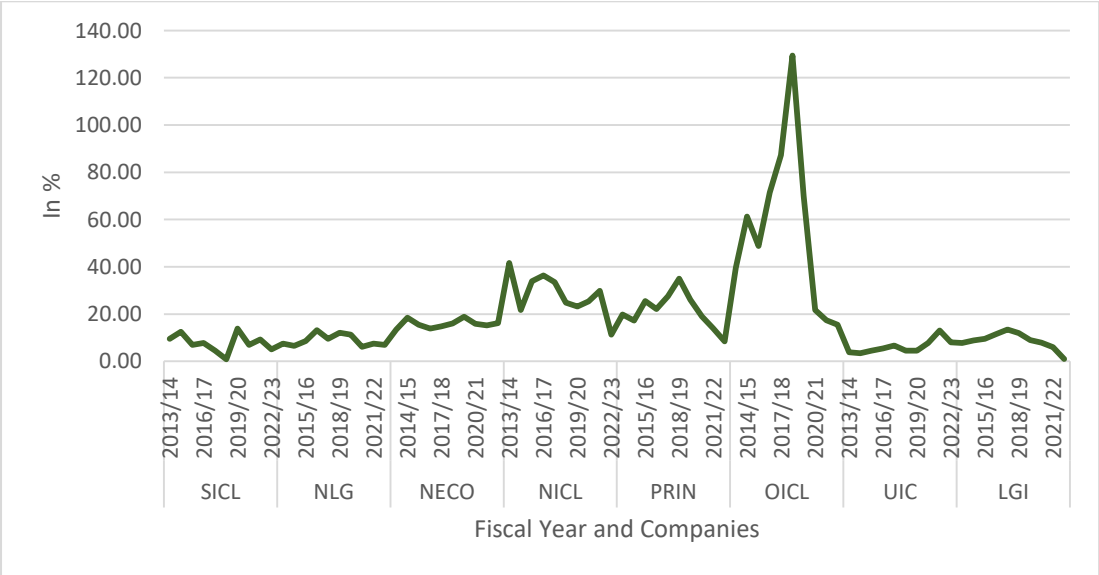


Figure 3 *Return on equity*

Figure 3 depicts the trend of return on equity (ROE) for the sample non-life insurance companies over the period from 2013/14 to 2022/23 show significant variability, reflecting the diverse financial performance and strategic adjustments made by each company. The ROE for SICL fluctuated considerably, peaking at 13.91 in 2019/20 before dropping to 5.00 in 2022/23. This indicates a volatile performance, possibly due to varying profit margins or changes in equity. NLG exhibited a generally stable ROE with some fluctuations, reaching its highest at 13.25 in 2016/17 and

experiencing a decline to 6.97 in 2022/23. The trend suggests periods of stable profitability interspersed with more challenging years. NECO demonstrated consistent performance with ROE values generally remaining high, peaking at 18.87 in 2019/20 and remaining strong at 16.14 in 2022/23. This indicates robust financial health and efficient equity utilization. NICL's ROE showed significant peaks and troughs, with a high of 41.58 in 2013/14 and substantial declines in subsequent years, reaching 11.25 in 2022/23. This suggests periods of high profitability followed by years of reduced financial efficiency. PRIN maintained high ROE values with a peak of 35.00 in 2018/19 but faced a steady decline thereafter, down to 8.47 in 2022/23. This pattern reflects strong initial profitability that waned over time. OICL showed remarkable ROE values, especially in the mid to late years, peaking at 129.40 in 2018/19 but declining to 15.52 in 2022/23. The early peak indicates exceptional profitability, followed by more stabilized but lower performance. UIC had modest ROE values initially, with gradual improvement over the years, peaking at 13.00 in 2021/22 before slightly dropping to 8.00 in 2022/23. This reflects steady financial improvement and increased profitability. LGI showed a peak ROE of 13.47 in 2017/18, followed by a steep decline to 1.00 in 2022/23. This suggests significant challenges in maintaining profitability and efficient equity use in recent years. The trends indicate that while some companies like NECO and PRIN have managed relatively stable and high ROE, others like SICL, NICL, and LGI have experienced more volatility and declining performance. This variability underscores the diverse financial strategies and market conditions impacting non-life insurance companies in Nepal.

4.1.3 Solvency ratio

The solvency ratio is an important financial parameter that determines whether or not an insurance business is able to fulfill its significant financial commitments over the long term. When the solvency ratio is greater, it suggests that the financial condition is stronger. There is a possibility that businesses with greater solvency ratios will have a better return on assets (ROA) because they are able to take on more measured risks in their investments and underwriting methods without putting their capacity to pay compensation at danger. Additionally, a healthy solvency ratio may contribute to increased consumer trust and the attraction of new business, which in turn can further improve profitability. The solvency ratio of sample insurance companies during the ten years of the study period is presented in Figure 4.

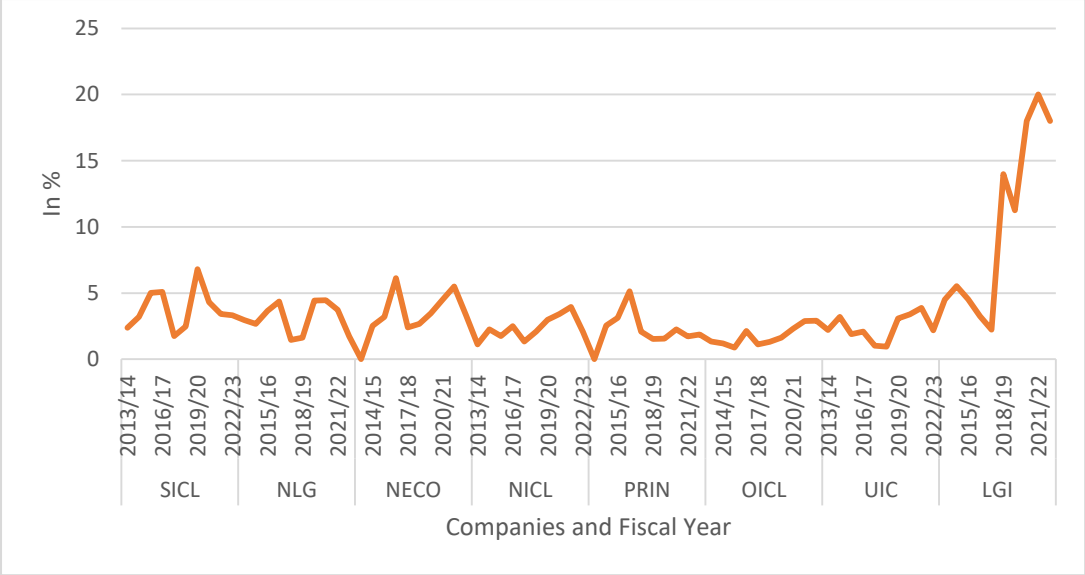


Figure 4 *Solvency Ratio*

Figure 4.3 the solvency ratio (SR) shows varied stability, reflecting the financial health and risk levels of companies. The solvency ratio (SR) trends for the insurance companies over the past decade provide valuable insights into their financial stability and ability to meet long-term obligations. SICL showed a peak SR of 6.8 in 2019/20, with fluctuations over the years, ending at 3.33 in 2022/23. NLG experienced a high of 4.45 in 2020/21 but saw a significant drop to 1.73 in 2022/23. NECO had a notable increase, peaking at 6.12 in 2016/17, and then stabilizing around 3.32 in 2022/23. NICL maintained a relatively stable SR, peaking at 3.96 in 2021/22 before dropping to 2.08 in 2022/23. PRIN showed a peak of 5.13 in 2016/17 but declined to 1.87 in 2022/23. OICL had a steady increase, reaching 2.92 in 2022/23. UIC experienced fluctuations, peaking at 3.88 in 2021/22 and dropping to 2.19 in 2022/23. LGI showed significant volatility, with a peak of 20 in 2021/22, and a slight decrease to 18 in 2022/23. The solvency ratios indicate varying degrees of financial health among these companies, with some showing stability and others experiencing significant fluctuations. Higher solvency ratios generally suggest better financial health and a greater ability to meet long-term obligations.

4.1.4 Premium growth

It is referred to as premium growth, and it is the pace at which the written premiums of an insurance business rise over the course of time. The fact that the firm has been successful in growing its client base and developing new income sources is reflected in this phenomenon. Because larger premiums often translate into better profitability

and, thus, a higher return on assets, there is a good chance that there is a positive link between premium growth and ROA. This is because this is the case even if claims expenditures do not rise accordingly.

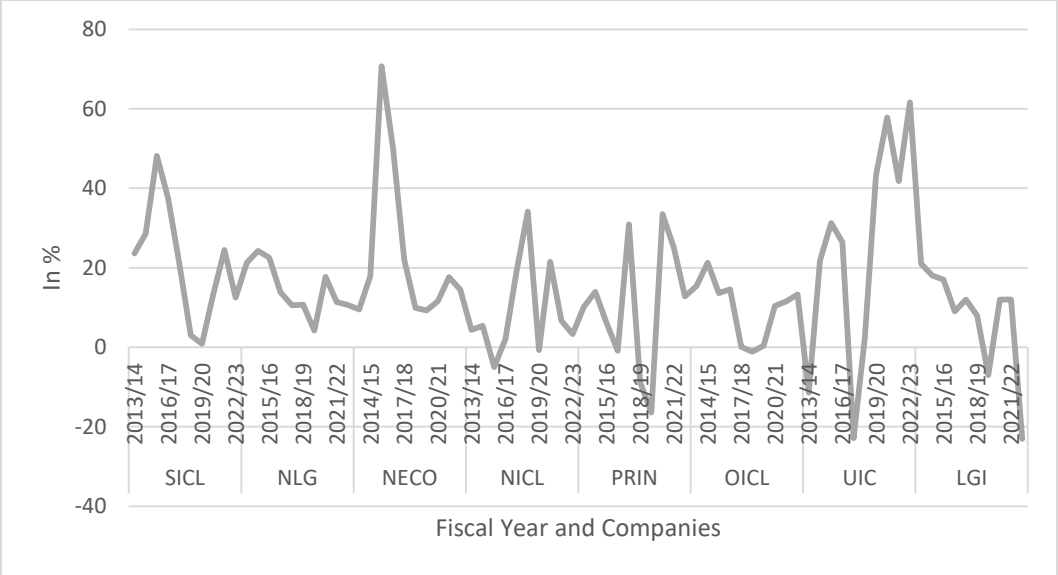


Figure 5 *Premium Growth*

Figure 5 shows the premium growth (PG) trends for the insurance companies over the past decade highlight significant variations in their performance. SICL experienced a peak PG of 48.15% in 2015/16, followed by a decline, with notable lows of 0.87% in 2019/20 and a slight recovery to 12.48% in 2022/23. NLG showed relatively stable growth, peaking at 24.2% in 2014/15, but saw a decline to 10.63% in 2022/23. NECO had a dramatic peak of 70.68% in 2015/16, followed by fluctuations, ending at 14.48% in 2022/23. NICL showed inconsistent growth, with a significant peak of 34.14% in 2018/19, but also negative growth in some years, ending at 3.34% in 2022/23. PRIN had a volatile performance, with a peak of 33.52% in 2020/21, but also experienced negative growth in several years, ending at 12.80% in 2022/23. OICL showed moderate growth, peaking at 21.22% in 2014/15, with some negative growth years, ending at 13.27% in 2022/23. UIC had significant fluctuations, with a notable low of -11.41% in 2013/14 and a peak of 61.57% in 2022/23. LGI showed a peak of 21% in 2013/14, but experienced negative growth in some years, ending at -23% in 2022/23. The premium growth data indicates varying degrees of performance among these companies, with some showing consistent growth and others experiencing significant volatility. This variability reflects the different strategies and market conditions faced by each company over the decade.

4.1.5 Size of a company

A common method for determining the size of an insurance firm is to look at its total assets. Economies of scale are sometimes advantageous to larger non-life insurance firms because they enable these organizations to distribute their fixed expenses over a larger client base. In addition to this, they could have a higher level of brand awareness and more bargaining power with suppliers. Due to the fact that bigger companies may have lower operational expenses per policy and may be able to invest in a more diverse portfolio, these variables contribute to a possibly positive effect on ROA. This is because larger companies may be able to increase their profitability and improve their returns on their assets.

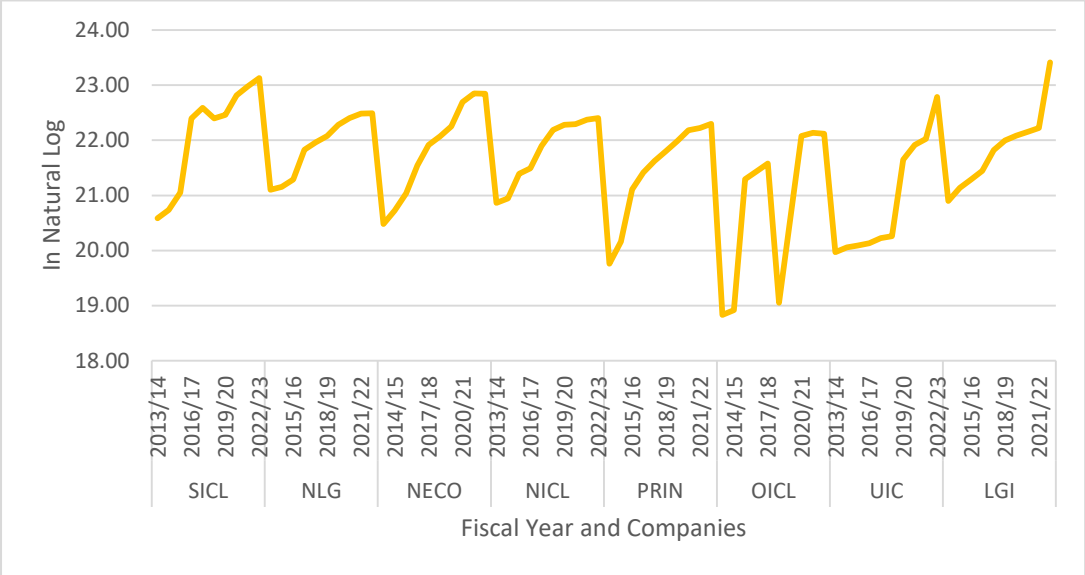


Figure 6 *Size of a Company*

Figure 6 shows the size of various insurance companies measured by the natural log of their total assets, reveals consistent growth across most firms over the past decade. SICL exhibited steady growth, increasing from 20.58 in 2013/14 to 23.13 in 2022/23, with a slight dip in 2018/19. NLG also showed a consistent upward trend, growing from 21.10 to 22.49, although it plateaued in the last two years. NECO demonstrated a steady increase from 20.48 to 22.84, with a notable rise in 2020/21. Similarly, NICL experienced gradual growth from 20.86 to 22.40, indicating stable expansion. PRIN saw its size increase from 19.76 to 22.30, maintaining a steady upward trajectory. OICL had more fluctuations compared to other companies, with a significant drop in 2018/19 but overall growth from 18.83 to 22.12. UIC showed steady growth from 19.97 to 22.79, with a significant jump in 2019/20. LGI displayed the most significant

growth, increasing from 20.90 to 23.41, indicating detailed tracking and substantial asset growth. The trend indicates that most companies have experienced growth in their total assets over the past decade, reflecting their financial health and expansion capabilities. The variations in growth rates and occasional fluctuations highlight the different strategies and market conditions faced by each company.

4.1.6 Tangibility ratio

The tangibility ratio is a crucial metric for non-life insurance companies, as it highlights the proportion of their assets that are tangible, such as real estate and equipment, compared to intangible assets like goodwill. A higher tangibility ratio suggests a more solid asset base, which can enhance a company's return on assets (ROA) by providing a stable foundation for generating income. This stability can lead to a reduction in perceived risk among investors, as tangible assets are often seen as more reliable and less volatile than intangible ones. Consequently, companies with a higher tangibility ratio may enjoy improved access to capital, as lenders and investors are more willing to provide funding to businesses with a robust asset base. This access to capital can further drive profitability, as it allows companies to invest in growth opportunities and manage financial obligations more effectively. The tangibility ratio serves as an indicator of financial health and stability, influencing both investor confidence and the company's ability to leverage its assets for enhanced performance. The Figure 7 shows the tangibility ratio of sample insurance companies during the ten years of the study period.

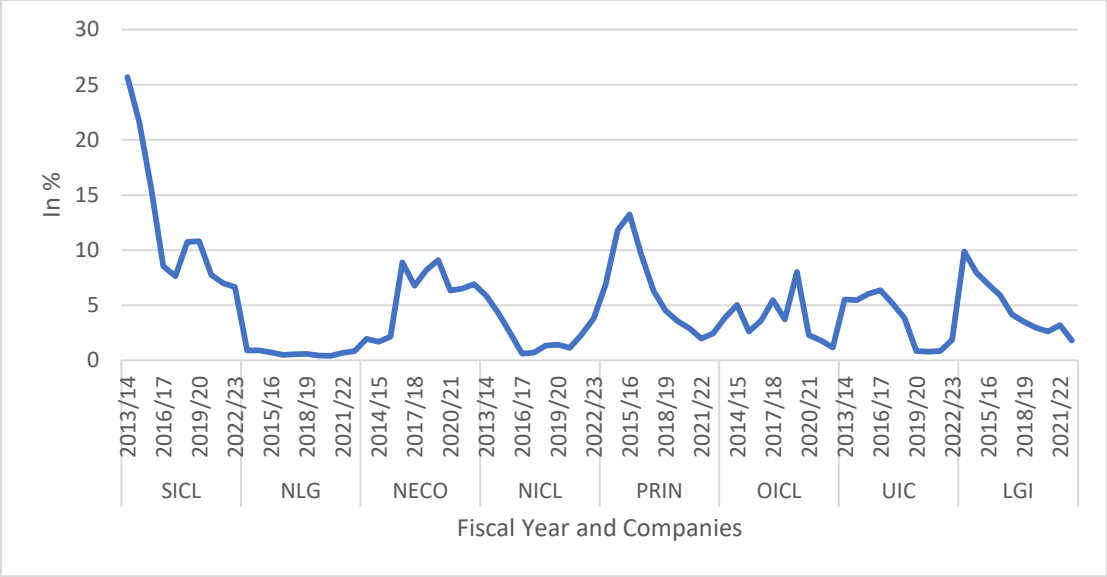


Figure 7 *Tangibility Ratio*

Figure 7 depicts the tangibility ratios (TR) for various companies over the fiscal years from 2013/14 to 2022/23 reveal interesting trends. SICL shows a significant decline in its TR, dropping from 25.71 in 2013/14 to 6.66 in 2022/23, indicating a reduction in tangible assets relative to total assets. NLG maintains a generally low TR, with a slight increase in recent years, moving from 0.41 in 2020/21 to 0.85 in 2022/23. NECO exhibits fluctuations, peaking at 8.89 in 2016/17 and stabilizing around 6.51 to 6.92 in recent years. NICL experiences a sharp decline from 5.88 in 2013/14 to 0.61 in 2016/17, followed by a gradual increase to 3.80 in 2022/23. PRIN sees a significant reduction in its TR, decreasing from 13.25 in 2015/16 to 2.46 in 2022/23. OICL shows high variability, with a peak of 8.01 in 2019/20 and a decline to 1.16 in 2022/23. UIC also experiences a decrease from 6.38 in 2016/17 to 0.80 in 2020/21, with a slight recovery to 1.87 in 2022/23. LGI consistently declines from 9.89 in 2013/14 to 1.80 in 2022/23. Overall, most companies exhibit a general decline in their Tangibility Ratios over the years, indicating a shift towards more intangible assets or a reduction in tangible assets. Some companies, like NECO and OICL, show significant fluctuations, suggesting changes in asset structure or valuation adjustments.

4.1.7 Fixed assets ratio

The fixed assets ratio is a financial metric that evaluates how efficiently a company utilizes its fixed assets to generate sales. Fixed assets typically include long-term investments such as property, plant, and equipment. This ratio is crucial for assessing a company's operational efficiency, as it indicates the effectiveness with which these substantial investments are being used to produce revenue. A higher fixed asset turnover ratio suggests that a company is effectively leveraging its fixed assets to drive sales, which can be a positive indicator of management's ability to maximize asset productivity. Conversely, a lower ratio may signal underutilization of assets or potential inefficiencies in operations. This metric is particularly important in capital-intensive industries where significant investments in fixed assets are necessary for production and service delivery. Figure 8 shows the trend of fixed assets ratio during the ten years of the study period.

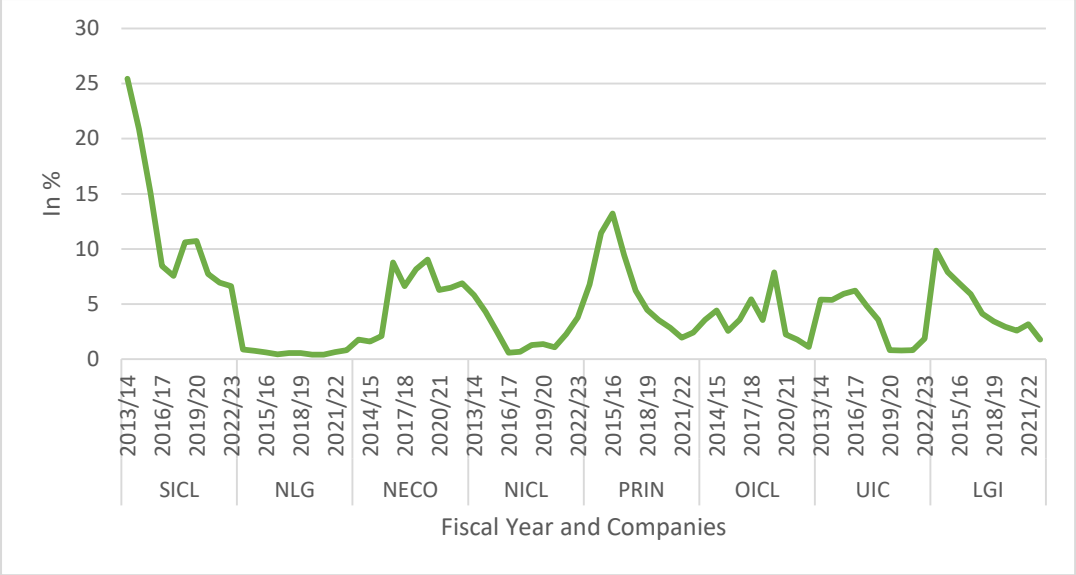


Figure 8 *Fixed Assets Ratio*

Figure 8 the fixed asset ratio (FAR) from fiscal years 2013/14 to 2022/23 reveals diverse trends. SICL shows a significant decline in its FAR, dropping from 25.44 in 2013/14 to 6.63 in 2022/23, indicating a reduction in fixed assets relative to total assets. NLG maintains a consistently low FAR, with a slight increase in recent years, moving from 0.41 in 2020/21 to 0.81 in 2022/23. NECO exhibits fluctuations, peaking at 9.05 in 2019/20 and stabilizing around 6.89 in 2022/23. NICL experiences a sharp decline from 5.81 in 2013/14 to 0.59 in 2016/17, followed by a gradual increase to 3.77 in 2022/23. PRIN sees a significant reduction in its FAR, decreasing from 13.21 in 2015/16 to 2.41 in 2022/23. OICL shows high variability, with a peak of 7.89 in 2019/20 and a decline to 1.12 in 2022/23. UIC also experiences a decrease from 6.22 in 2016/17 to 0.79 in 2020/21, with a slight recovery to 1.86 in 2022/23. LGI consistently declines from 9.85 in 2013/14 to 1.79 in 2022/23. Overall, most companies exhibit a general decline in their Fixed Asset Ratios over the years, indicating a shift towards more intangible assets or a reduction in fixed assets. Some companies, like NECO and OICL, show significant fluctuations, suggesting changes in asset structure or valuation adjustments.

4.1.8 Loss ratio

The loss ratio is a key financial metric used in the insurance industry to assess the profitability and efficiency of an insurance company in managing its claims. It is calculated by dividing the total losses incurred by the insurer, including claims paid and reserved, by the total earned premiums during a specific period. A lower loss ratio

indicates that the company is effectively underwriting policies and managing risk, as it suggests that claims are being kept in check relative to the premiums collected. Conversely, a high loss ratio may signal potential issues, such as inadequate pricing of insurance products or an increase in claims frequency or severity, which can lead to financial instability. Monitoring the loss ratio is essential for insurers, as it directly impacts their overall profitability and ability to remain solvent in a competitive market. Figure 9 shows the loss ratio of sample companies during the ten years of the study period.

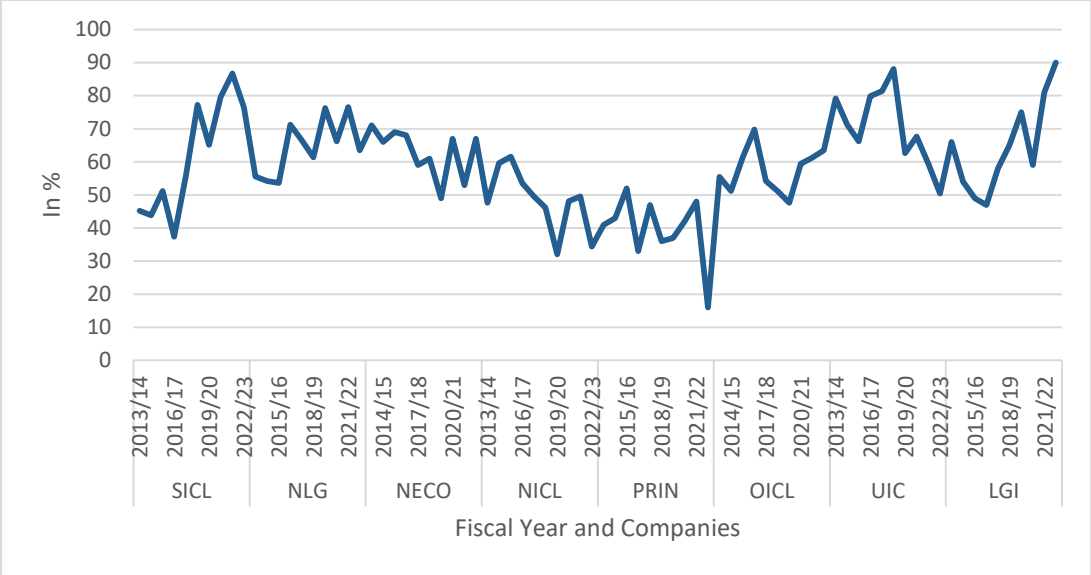


Figure 9 *Loss Ratio*

Figure 9 the loss ratio (LR) from fiscal years 2013/14 to 2022/23 reveals diverse trends. SICL shows an overall increasing trend in its LR, rising from 45.25 in 2013/14 to a peak of 86.68 in 2021/22, before slightly decreasing to 76.43 in 2022/23. This indicates a higher proportion of claims paid relative to premiums earned over time. NLG exhibits fluctuations, with a notable peak at 76.55 in 2021/22, followed by a decrease to 63.51 in 2022/23, suggesting variability in its claims experience. NECO starts with a high LR of 71 in 2013/14, experiences some fluctuations, and ends at 67 in 2022/23, indicating a relatively stable but high claims ratio. NICL shows a declining trend from 61.52 in 2015/16 to 34.41 in 2022/23, suggesting improved claims management or lower claims incidence. PRIN has a significant drop in its LR from 52 in 2015/16 to 16 in 2022/23, indicating a substantial improvement in its claims experience. OICL shows variability with an initial increase to 69.741 in 2016/17, followed by fluctuations and ending at 63.456 in 2022/23. UIC starts with a

high LR of 79.21 in 2013/14, peaks at 88.11 in 2018/19, and then declines to 50.46 in 2022/23, indicating a reduction in claims relative to premiums. LGI shows an increasing trend, starting at 66 in 2013/14 and reaching 90 in 2022/23, indicating a higher proportion of claims paid over time.

4.1.9 Current ratio

The current ratio is a vital liquidity metric that measures a company's ability to meet its short-term obligations using its current assets. It is calculated by dividing total current assets by total current liabilities, providing insight into the financial health of a business. A current asset is defined as any asset that can be converted into cash within one year, while current liabilities are obligations due within the same timeframe. A current ratio greater than one indicates that a company has more current assets than liabilities, suggesting a strong liquidity position and the ability to cover its short-term debts. Conversely, a ratio below one may raise concerns about the company's financial stability and its capacity to manage immediate financial obligations. Figure 10 shows the trend of current ratio during the study period.

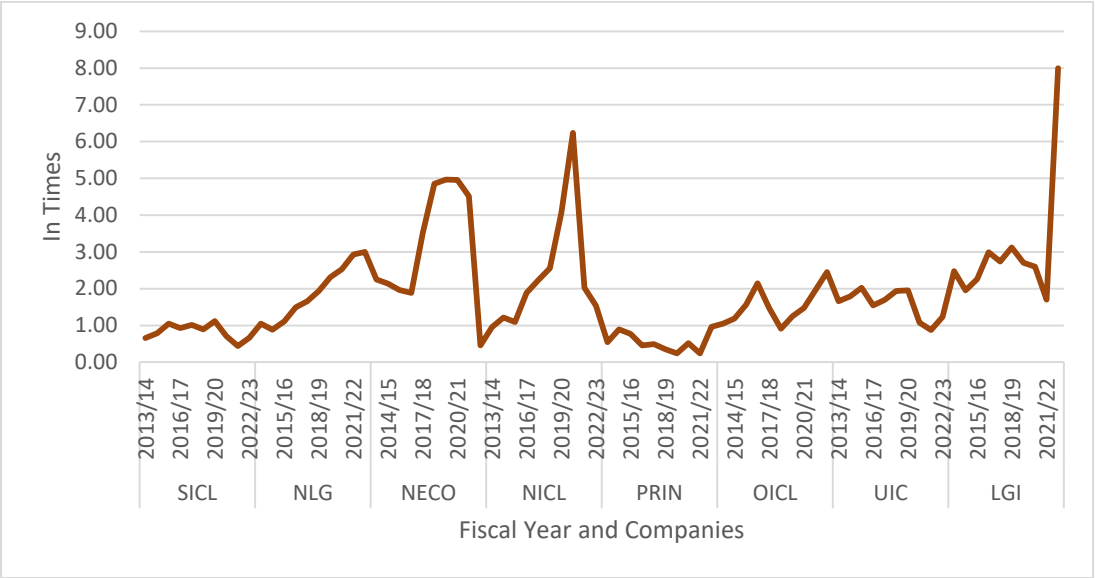


Figure 10 *Current Ratio*

Figure 10 shows the current ratio (CR) from fiscal years 2013/14 to 2022/23 which provides information into their liquidity and ability to meet short-term obligations. SICL shows fluctuations in its CR, peaking at 1.12 in 2019/20 and dropping to 0.44 in 2021/22 before recovering to 0.67 in 2022/23. This indicates varying levels of liquidity, with a significant dip in 2021/22 suggesting potential liquidity challenges during that period. NLG exhibits a steady increase in its CR, starting at 1.05 in

2013/14 and reaching 3.00 in 2022/23. This consistent upward trend suggests improving liquidity and a stronger ability to cover short-term liabilities over time. NECO starts with a high CR of 2.25 in 2013/14, maintains high ratios through 2021/22, but drops sharply to 0.46 in 2022/23. This sudden decline indicates a significant reduction in liquidity, potentially signaling financial distress or a strategic shift in asset management. NICL shows an increasing trend in CR, peaking at 6.24 in 2020/21 before falling to 1.53 in 2022/23. The peak suggests a period of exceptionally high liquidity, possibly due to asset accumulation or reduced liabilities, followed by a normalization in subsequent years. PRIN generally maintains low CR values, with minor fluctuations. It starts at 0.54 in 2013/14 and ends at 0.96 in 2022/23, indicating consistently low liquidity and potential challenges in meeting short-term obligations. OICL shows variability in its CR, with an initial increase to 2.15 in 2016/17, followed by fluctuations and ending at 2.45 in 2022/23. This suggests periods of both high and low liquidity, reflecting changes in asset and liability management. UIC presents a fluctuating CR, starting at 1.66 in 2013/14, peaking at 2.025 in 2015/16, and ending at 1.235 in 2022/23. The overall trend indicates moderate liquidity with some periods of higher financial flexibility. LGI shows significant variability, with its CR peaking at 8 in 2022/23, the highest among the listed companies.

4.1.10 Premium retention ratio

The premium retention ratio is an important metric in the insurance industry that measures the proportion of premiums retained by an insurer after accounting for reinsurance. This ratio is calculated by dividing the net premiums earned by the total gross premiums written, providing insight into how effectively an insurance company is retaining its premium income. A higher premium retention ratio indicates that the insurer is retaining a significant portion of its premiums, which can signal confidence in its underwriting capabilities and risk management practices. Conversely, a lower ratio may suggest that the company is relying heavily on reinsurance to mitigate risk, potentially indicating higher exposure to claims. Monitoring the premium retention ratio is crucial for insurers, as it reflects their competitive positioning in the market and their ability to maintain profitability while managing risk effectively. By evaluating this ratio, stakeholders can gain a clearer understanding of the insurer's financial strength and operational strategy. Figure 11 shows the trend of premium retention ratio during the study period.

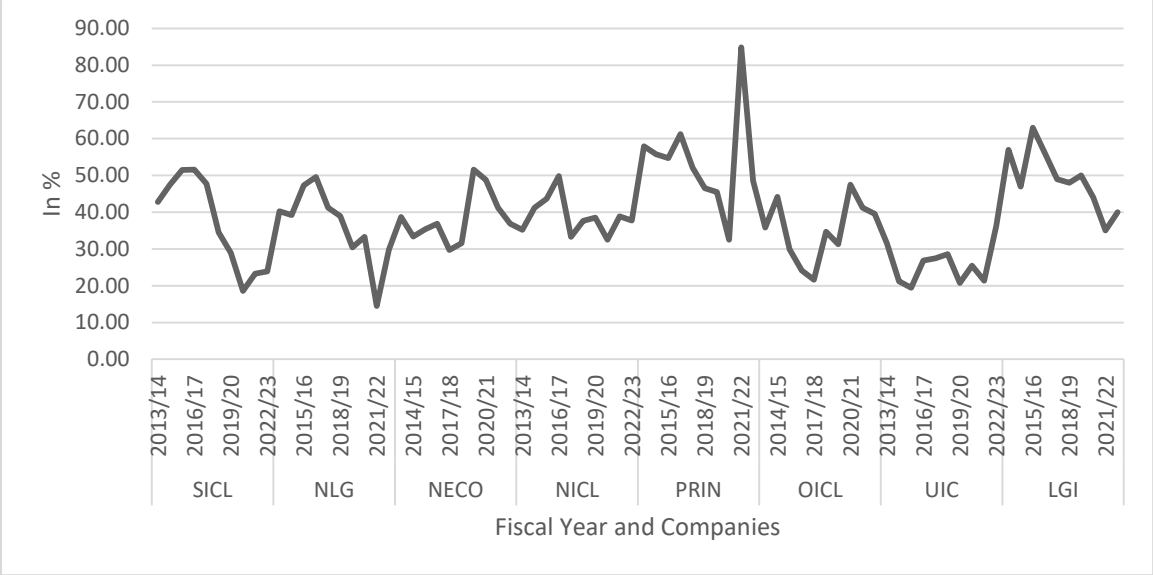


Figure 11 *Premium Retention Ratio*

Figure 11 shows the premium retention ratio (PRR) trends for the listed companies from fiscal year 2013/14 to 2022/23 reveals several key patterns. SICL experienced a peak in PRR during 2015/16 and 2016/17, followed by a significant decline starting in 2017/18, reaching its lowest in 2020/21 before a slight recovery in the subsequent years. NLG showed fluctuations with a notable drop in 2021/22, but it rebounded somewhat in 2022/23. NECO had a relatively stable PRR with a peak in 2019/20, followed by a gradual decline. NICL saw an increase in PRR until 2016/17, after which it generally declined with some fluctuations. PRIN exhibited high volatility, with a significant spike in 2021/22 before dropping again in 2022/23. OICL started with lower PRR values, peaked around 2020/21, and then slightly decreased. UIC had generally lower PRR values but showed an upward trend towards the end of the period. LGI started strong but showed an overall decline over time with minor recoveries.

4.1.11 Gross domestic product (GDP) and inflation

The gross domestic product (GDP) is a macroeconomic statistic that quantifies the total value of goods and services generated within the boundaries of a nation over a certain period of time. There is a correlation between times of robust economic development and an increase in the demand for non-life insurance products, which might possibly result in greater income for insurance firms. The rise in revenue has the potential to have a beneficial effect on ROA.

Inflation refers to the general rise in prices of goods and services over time. High inflation rates can negatively impact the profitability of non-life insurers by eroding the real value of insurance payouts and increasing operating costs. This could lead to a negative relationship between inflation and ROA. Insurance companies need to carefully manage expenses and adjust their pricing strategies to maintain profitability during periods of high inflation. Figure 12 shows the trend of GDP and inflation during the study period.

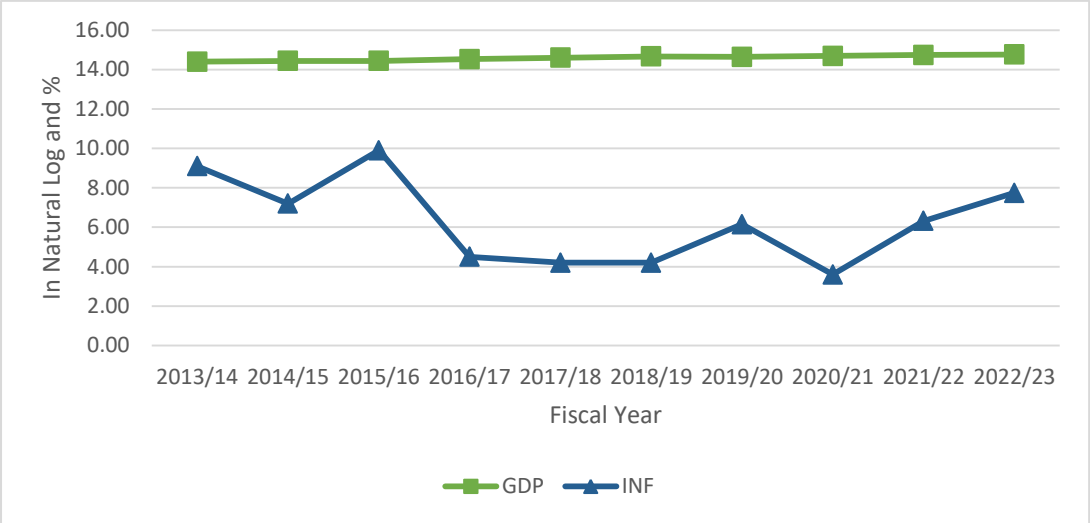


Figure 12 *GDP and Inflation*

Figure 12 shows the Gross Domestic Product (GDP) and inflation trends which provide valuable insights into the economic landscape and its potential impact on the profitability of insurance companies. The GDP, which represents the total monetary value of all finished goods and services produced within a country's borders in a specific time period, showed a general upward trend over the observed years. The GDP increased from 2013/14 to 2022/23, indicating overall economic growth during this period. However, the growth rate experienced fluctuations, with some years showing higher growth than others. Notably, the GDP for 2022 was decline from the previous year.

Inflation, as measured by the consumer price index (CPI), reflects the rate at which the general level of prices for goods and services is rising. The inflation rate fluctuated over the observed years 2020/21 to 2013/14.

The GDP and inflation trends can significantly impact the profitability of insurance companies. Economic growth, as reflected in the GDP, generally correlates with increased consumer spending, business investment, and overall economic activity.

During periods of robust GDP growth, insurance companies may experience higher demand for various insurance products, such as life insurance, health insurance, and property insurance, leading to potential revenue growth. Conversely, inflation can impact insurance companies in several ways. Higher inflation rates may lead to increased insurance claims costs, particularly in areas such as healthcare and property insurance. Additionally, inflation can affect investment returns and the valuation of insurance company assets, potentially impacting their overall financial performance.

The GDP and inflation trends provide important macroeconomic context for understanding the potential impact on insurance companies' profitability. While economic growth can create opportunities for insurance companies, inflation and its associated effects require careful risk management and strategic decision-making to maintain profitability and financial stability.

4.1.12 Descriptive statistics

For the purpose of summarizing and describing the primary trends and variability of the important variables in the research, descriptive statistics provides the necessary information. In the case of return on assets (ROA), solvency ratio, premium growth, firm size, tangibility ratio, gross domestic product (GDP), and inflation, it is computed measurements such as mean, standard deviation, and range. In this way, a basic knowledge of the properties and distribution of the data would be provided. The descriptive statistics of the study variable is presented in Table 2.

Table 2 *Descriptive Analysis*

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	80	-231.60	92.45	5.49	28.85
Return on Equity	80	0.80	129.40	19.16	20.41
Solvency Ratio	80	0.00	20.00	3.64	3.63
Premium Growth	80	-23.00	70.68	15.26	16.91
Size of a Company	80	18.83	23.41	21.59	0.98
Tangibility Ratio	80	0.41	25.44	4.88	4.47
Fixed Assets Ratio	80	0.37	266.66	26.07	38.07
Loss Ratio	80	16.00	90.00	58.70	14.29
Current Ratio	80	-1.43	2.08	0.39	0.71
Premium Retention Ratio	80	2.68	4.44	3.62	0.32
GDP	80	14.40	14.76	14.59	0.13
Inflation	80	3.60	9.90	6.29	2.09

The descriptive statistics presented in Table 2 offer a detailed overview of the key variables related to the financial performance of insurance companies, alongside relevant macroeconomic indicators.

The return on assets (ROA) a crucial indicator of a company's ability to generate profits from its assets, exhibited considerable variability among the insurance companies. The ROA ranged from a striking minimum of -231.60 to a maximum of 92.45, with a mean of 5.49 and a standard deviation of 28.85. This wide range and substantial standard deviation indicate significant differences in the profitability levels across the companies under study, reflecting the diverse financial health and operational efficiency within the insurance sector.

The minimum ROE observed is 0.80, indicating that even the least profitable company managed to generate a return on equity, albeit minimal. The maximum ROE is quite high at 129.40, showing that some companies have been exceptionally successful in leveraging their equity to generate profits. The mean ROE is 19.16, suggesting that, on average, the insurance companies have been able to generate a reasonable return on equity, indicative of overall profitability within the sector. The standard deviation of 20.41 highlights significant dispersion around the mean, reflecting wide variations in financial performance across different companies.

Similarly, the solvency ratio which measures a company's ability to meet its long-term financial obligations, showed variability across the companies. The solvency ratio ranged from 0.00 to 20.00, with a mean of 3.64 and a standard deviation of 3.63. This indicates a moderate degree of variability in the financial stability of the companies, suggesting that while some companies are well-positioned to meet their long-term obligations, others may face challenges in maintaining their solvency.

The premium growth metric which reflects the increase in premiums written by insurance companies, also demonstrated substantial variability. Premium growth ranged from -23.00 to 70.68, with a mean of 15.26 and a standard deviation of 16.91. These statistics highlight significant fluctuations in premium revenue over the observed period, underscoring the dynamic nature of the insurance market and the varying growth trajectories of the companies involved.

The size of a company, represented by the natural log of total assets, ranged from 18.83 to 23.41 with a mean size of 21.59 and a standard deviation of 0.98. The

relatively moderate variability in the asset sizes of the companies suggests that, while there are differences in scale among the insurance companies, these differences are not as pronounced as those observed in profitability or premium growth.

The tangibility ratio which indicates the proportion of physical assets in a company's total assets, exhibited a wide range, from 0.41 to 25.44. The mean tangibility ratio was 4.88, with a standard deviation of 4.47, reflecting substantial variability in the composition of the companies' assets. This suggests that some companies have a higher proportion of physical assets, potentially indicating different asset management strategies or varying levels of investment in physical infrastructure.

The fixed assets ratio, which in this context is calculated as the ratio of fixed assets to total revenue, also exhibited notable variability among the insurance companies. The ratio ranged from 0.37 to 266.66, with a mean value of 26.07 and a standard deviation of 38.07. This wide range and substantial standard deviation suggest that some companies allocate a significantly higher proportion of their resources to fixed assets relative to their total revenue.

The loss ratio a key measure of the proportion of premiums paid out as claims, ranged from 16.00 to 90.00, with a mean of 58.70 and a standard deviation of 14.29. This variability indicates a wide divergence in the claims experience among the insurance companies, with some companies experiencing higher claims relative to their premium income, which could affect their profitability and risk management strategies.

The current ratio, an important indicator of a company's liquidity position, ranged from -1.43 to 2.08, with a mean of 0.39 and a standard deviation of 0.71. The presence of a negative minimum value suggests that some companies may be facing liquidity challenges, possibly indicating difficulties in meeting short-term obligations.

The premium retention ratio which measures the proportion of premiums retained after reinsurance, showed less variability compared to other variables, ranging from 2.68 to 4.44. The mean retention ratio was 3.62, with a standard deviation of 0.32, suggesting relatively consistent retention practices among the companies.

Regarding the macroeconomic indicators GDP values ranged from 14.40 to 14.76, with a mean of 14.59 and a standard deviation of 0.13. This relatively narrow range

indicates that the economic environment during the study period was fairly stable. However, inflation exhibited more notable variability, ranging from 3.60 to 9.90, with a mean of 6.29 and a standard deviation of 2.09. This suggests that inflation levels fluctuated significantly, which could have impacted the economic conditions under which the insurance companies operated.

These descriptive statistics provide a comprehensive view of the financial performance of insurance companies and the macroeconomic context within which they function. The wide ranges and notable standard deviations observed across several variables highlight the diverse and dynamic nature of the insurance industry, reflecting varying levels of profitability, financial stability, and growth among the companies, as well as the influence of broader economic factors on their operations.

4.1.13 Correlation analysis

Correlation analysis help in examining the relationships between the dependent variable (ROA) and each of the independent variables. In this study, the use of correlation coefficients is to measure the strength and direction of these linear relationships. Understanding correlations can offer initial insights into which factors may have the most significant influence on profitability.

Table 3 *Correlation Analysis*

	ROA	ROE	SR	PG	SIZE	TR	FAR	LR	CR	PRR	GDP	INF
ROA	1	.424**	.012	.083	.164	.099	.100	-.010	.038	.041	-.123	.149
ROE		1	-.269*	-.209	-.364**	-.054	-.059	-.265*	-.127	-.070	-.078	-.104
SR			1	-.101	.340**	-.029	-.024	.290**	.370**	.083	.254*	-.095
PG				1	.017	.053	.053	-.074	-.177	-.077	-.093	.080
SIZE					1	-.213	-.200	.067	.302**	-.035	.734**	-.329**
TR						1	1.000**	-.163	-.206	.207	-.341**	.185
FAR							1	-.162	-.203	.208	-.335**	.183
LR								1	.213	-.491**	.102	-.063
CR									1	-.076	.246*	-.162
PRR										1	-.211	.116
GDP											1	-.500**
INF												1

** Correlation is significant at 5% level of significance

The correlation analysis in Table 3 shows a detailed look at the relationships between Return on Assets (ROA) and various financial performance indicators as well as macroeconomic factors for insurance companies.

The correlation between ROA and the solvency ratio (SR) is positive, with a coefficient of 0.012. This suggests a very weak positive relationship between a company's profitability and its ability to meet long-term financial obligations. Although the relationship is minimal, it implies that companies with better solvency might experience slightly higher profitability. This could be interpreted as a sign that companies with a stronger ability to manage their debts and financial commitments may have the stability needed to generate consistent profits.

Similarly, the correlation between ROA and premium growth (PG) is also positive, with a coefficient of 0.083. This weak positive correlation indicates that as insurance companies experience growth in their premium revenue, their profitability might increase slightly, although the relationship is not strong. This could suggest that companies able to grow their premium income, possibly through effective marketing or competitive pricing strategies, might see modest improvements in their overall profitability.

The correlation between ROA and the size of a company (SIZE) is positive, with a coefficient of 0.165. This suggests that larger companies may exhibit slightly higher profitability, indicating a weak positive relationship between company size and profitability. Larger companies often benefit from economies of scale, enhanced market presence, and greater access to capital, which could explain their slightly better performance in terms of profitability.

The tangibility ratio (TR), which measures the proportion of a company's physical assets, shows a positive correlation with ROA, with a coefficient of 0.100. This weak positive relationship suggests that insurance companies with a higher proportion of physical assets may experience slightly better profitability. Physical assets, such as property and equipment, can provide collateral for loans and reduce financial risk, potentially contributing to better financial performance.

The correlation between ROA and the fixed assets ratio (FAR) is also positive, with a coefficient of 0.037, indicating a very weak relationship. This suggests that a higher proportion of fixed assets relative to total revenue might be associated with slightly better profitability, but the relationship is minimal. Companies with a higher fixed assets ratio might have more stable long-term investments, although the direct impact on profitability appears to be limited.

On the other hand, the correlation between ROA and the loss ratio (LR) is negative, with a coefficient of -0.010. This suggests a very weak negative relationship, indicating that higher loss ratios might be marginally associated with lower profitability. The Loss Ratio represents the proportion of premiums paid out in claims, and a higher ratio typically reflects increased costs for the company, which can detract from overall profitability.

The current ratio (CR), which indicates a company's liquidity, has a positive correlation with ROA, with a coefficient of 0.046. This weak positive relationship implies that companies with better liquidity might have slightly higher profitability. Companies with a strong liquidity position are better able to cover short-term liabilities, which can reduce financial stress and potentially enhance profitability.

The correlation between ROA and the premium retention ratio (PRR) is positive, with a coefficient of 0.032. This very weak positive relationship suggests that companies that retain a higher proportion of their premiums after reinsurance might have marginally better profitability. Retaining more premiums can increase the revenue base, although it also exposes the company to higher risks, which might explain the very slight positive correlation.

In terms of macroeconomic indicators, the correlation between ROA and gross domestic product (GDP) is negative, with a coefficient of -0.127. This weak negative relationship suggests that higher GDP may be slightly associated with lower profitability for insurance companies. This could be counterintuitive, as economic growth generally boosts business activity. However, in this context, it might suggest that during periods of economic expansion, competitive pressures or increased claims could slightly erode profitability for insurance companies.

Lastly, the correlation between ROA and inflation (INF) is positive, with a coefficient of 0.149. This weak positive relationship suggests that higher inflation may be

associated with slightly increased profitability for insurance companies. During inflationary periods, insurance premiums might increase, which could boost revenue and, to some extent, profitability. However, the relationship is weak, indicating that other factors may also play significant roles in determining profitability during such periods.

The correlation between ROE and the solvency ratio (SR) is negative, with a coefficient of -0.269*. This suggests a weak negative relationship, indicating that higher solvency ratios are associated with lower ROE. This could imply that while companies with better solvency are managing their debts well, they may not be leveraging equity as effectively to generate returns.

The correlation between ROE and premium growth (PG) is negative, with a coefficient of -0.209. This weak negative relationship suggests that higher premium growth is associated with lower ROE, indicating that rapid expansion might introduce inefficiencies or higher costs that detract from equity returns.

The correlation between ROE and the size of a company (SIZE) is negative and statistically significant, with a coefficient of -0.364**. This indicates a stronger negative relationship, suggesting that larger companies tend to have lower ROE. This may reflect challenges in managing larger operations efficiently, which can impact equity returns.

The correlation between ROE and the tangibility ratio (TR) is negative, with a coefficient of -0.054. This weak negative relationship suggests that a higher proportion of physical assets does not significantly affect equity returns, indicating that other factors might be more influential in determining ROE.

The correlation between ROE and the fixed assets ratio (FAR) is negative, with a coefficient of -0.059. This weak negative relationship suggests that a higher proportion of fixed assets might be associated with slightly lower ROE, indicating potential inefficiencies or increased costs related to maintaining these assets.

The correlation between ROE and the loss ratio (LR) is negative and significant, with a coefficient of -0.265*. This suggests that higher loss ratios are strongly associated with lower ROE, highlighting the detrimental impact of high claims on equity returns and the importance of effective risk management.

The correlation between ROE and the current ratio (CR) is negative, with a coefficient of -0.127. This weak negative relationship indicates that better liquidity does not necessarily translate to higher equity returns, suggesting that liquidity alone is not a strong predictor of ROE.

The correlation between ROE and the premium retention ratio (PRR) is negative, with a coefficient of -0.070. This weak negative relationship suggests that retaining more premiums does not significantly enhance equity returns, possibly due to the associated risks and costs.

The correlation between ROE and GDP is negative, with a coefficient of -0.078. This weak negative relationship implies that higher GDP growth may be slightly associated with lower ROE, which could be due to competitive pressures or increased operational costs during economic expansion periods.

Finally, the correlation between ROE and inflation (INF) is negative, with a coefficient of -0.104. This weak negative relationship suggests that higher inflation rates might slightly reduce equity returns, possibly due to increased costs and pricing challenges during inflationary periods.

The correlation analysis reveals that while some financial performance indicators and macroeconomic variables have weak negative relationships with ROE, others like the size of a company and loss ratio show stronger negative impacts. These insights provide a nuanced understanding of how different factors influence the profitability of insurance companies, particularly in terms of their equity returns.

The correlation analysis reveals weak but varying relationships between ROA and other financial performance indicators and macroeconomic variables. These insights provide a nuanced understanding of how different factors may influence the profitability of insurance companies, highlighting the complex interplay between company-specific metrics and broader economic conditions.

4.1.14 Regression analysis

Regression analysis allows researchers to build a statistical model to explain and predict ROA based on the independent variables. Multiple regression analysis is used to determine how much variance in ROA is explained by the combination of independent variables. The regression model would also produce coefficients that

illustrate the estimated change in ROA for a one-unit change in each independent variable, holding other factors constant. This could reveal insights into the relative importance of each factor in influencing profitability.

Table 4 *Model Summary with Dependent Variable ROA*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.437	.191	.074	27.77173	2.484

a. Predictors: (Constant), Inflation, Premium Growth, Tangibility Ratio, Solvency Ratio, Size of a Company, GDP

b. Dependent Variable: Return on Assets

Table 4 examines the effect between various factors and a company's return on assets (ROA). The correlation coefficient (R = 0.437) indicates a moderate positive association between the predictor variables (inflation, premium growth, tangibility ratio, solvency ratio, size of a company, fixed assets ratio, loss ratio, current ratio, premium retention ratio, GDP) and ROA. However, only 19.1% of the variation in ROA is explained by the model (R Square = 0.191). This is further adjusted by the number of variables to 7.4% (Adjusted R Square = 0.074), suggesting that other factors not considered in the model also influence ROA. The standard error of the estimate (27.77173) represents the average difference between predicted and actual ROA values.

Table 5 *Analysis of Variance (ANOVA) with Dependent Variable ROA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15794.151	10	1255.804	3.145	.038
	Residual	49806.639	69	771.269		
	Total	65600.790	79			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Inflation, Premium Growth, Tangibility Ratio, Solvency Ratio, Size of a Company, GDP

Table 5 the ANOVA table confirms the model's statistical significance (Sig. = 0.038) in explaining ROA. The F statistic (3.145) signifies that the model explains the variation in ROA better than random chance. Diving deeper, the coefficients table unpacks the impact of each predictor variable on ROA.

Table 6 *Regression Coefficients with Dependent Variable ROA*

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1537.899	637.687		2.412	.019
	Solvency Ratio	-.396	1.047	-.050	-.378	.706
	Premium Growth	-.027	.195	-.016	-.136	.892
	Size of a Company	18.202	5.133	.619	3.546	.001
	Tangibility Ratio	.699	.821	.108	.851	.398
	Fixed Assets Ratio	-.123	.101	-.163	-1.214	.229
	Loss Ratio	-.070	.286	-.035	-.246	.807
	Current Ratio	1.501	4.952	.037	.303	.763
	Premium Retention Ratio	-7.052	12.778	-.078	-.552	.583
	GDP	-130.423	46.982	-.566	-2.776	.007
	Inflation	1.337	1.761	.097	.759	.450

a. Dependent Variable: Return on Assets

Table 6 presents the regression analysis results, showing the effects of the independent variables on the dependent variable, return on assets (ROA), for insurance companies. The analysis focuses on understanding how various financial performance indicators and macroeconomic factors influence ROA.

The unstandardized coefficient for the solvency ratio is -0.396, indicating that a one-unit increase in the Solvency Ratio is associated with a decrease in ROA by 0.396 units. The standardized coefficient (Beta) is -0.050, suggesting a very weak negative effect of the solvency ratio on ROA. However, the p-value for the solvency ratio is 0.706, indicating that this effect is not statistically significant at the conventional level of significance ($\alpha = 0.05$).

For premium growth, the unstandardized coefficient is -0.027, suggesting that a one-unit increase in Premium Growth is associated with a decrease in ROA by 0.027 units. The standardized coefficient (Beta) is -0.016, which implies a very weak negative

effect on ROA. The p-value for premium growth is 0.892, indicating that this relationship is not statistically significant.

The size of a company shows a notable influence on ROA, with an unstandardized coefficient of 18.202. This suggests that a one-unit increase in the size of a company is associated with an increase in ROA by 18.202 units. The standardized coefficient (Beta) is 0.619, indicating a strong positive effect of company size on ROA. The p-value is 0.001, which shows that this effect is statistically significant.

The tangibility ratio has an unstandardized coefficient of 0.699, indicating that a one-unit increase in the tangibility ratio is associated with an increase in ROA by 0.699 units. The standardized coefficient (Beta) is 0.108, suggesting a weak positive effect on ROA. However, the p-value for the tangibility ratio is 0.398, indicating that this effect is not statistically significant. For the fixed assets ratio, the unstandardized coefficient is -0.123, indicating that a one-unit increase in the fixed assets ratio is associated with a decrease in ROA by 0.123 units. The standardized coefficient (Beta) is -0.163, suggesting a weak negative effect on ROA. The p-value is 0.229, which indicates that the effect is not statistically significant.

The loss ratio presents an unstandardized coefficient of -0.070, suggesting that a one-unit increase in the loss ratio is associated with a decrease in ROA by 0.070 units. The standardized coefficient (Beta) is -0.035, indicating a very weak negative effect on ROA. The p-value for the loss ratio is 0.807, showing that the effect is not statistically significant. The current ratio has an unstandardized coefficient of 1.501, indicating that a one-unit increase in the current ratio is associated with an increase in ROA by 1.501 units. The standardized coefficient (Beta) is 0.037, suggesting a very weak positive effect on ROA. The p-value is 0.763, indicating that this effect is not statistically significant.

The premium retention ratio shows an unstandardized coefficient of -7.052, indicating that a one-unit increase in the premium retention ratio is associated with a decrease in ROA by 7.052 units. The standardized coefficient (Beta) is -0.078, suggesting a weak negative effect on ROA. The p-value for the premium retention ratio is 0.583, indicating that this relationship is not statistically significant. The gross domestic product (GDP) has a significant impact on ROA, with an unstandardized coefficient of -130.423. This suggests that a one-unit increase in GDP is associated with a

decrease in ROA by 130.423 units. The standardized coefficient (Beta) is -0.566, indicating a moderate negative effect on ROA. The p-value is 0.007, showing that this effect is statistically significant. Finally, the inflation rate has an unstandardized coefficient of 1.337, indicating that a one-unit increase in Inflation is associated with an increase in ROA by 1.337 units. The standardized coefficient (Beta) is 0.097, suggesting a weak positive effect on ROA. The regression analysis reveals that among the variables studied, the Size of a Company and GDP have statistically significant effects on ROA for insurance companies. The Size of a company shows a strong positive effect, while GDP exhibits a moderate negative effect on ROA.

Table 7 *Model Summary with Dependent Variable ROE*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620[a]	.384	.295	17.13202

a. Predictors: (Constant), Inflation, Premium Growth, Tangibility Ratio, Solvency Ratio, Size of a Company, GDP
b. Dependent Variable: Return on Equity

Table 7 shows the statistical performance of a regression analysis investigating the determinants of profitability in insurance companies, with return on assets (ROA) as the dependent variable. The correlation coefficient (R) of 0.620 suggests a moderate positive relationship between the predictor's inflation, premium growth, tangibility ratio, solvency ratio, size of a company, and GDP and ROA. The R Square value of 0.384 indicates that approximately 38.4% of the variance in ROA can be explained by these independent variables, highlighting their collective influence on the profitability of insurance companies. The Adjusted R Square, slightly lower at 0.295, accounts for the number of predictors in the model and provides a more accurate measure of model fit.

Table 8 *Analysis of Variance (ANOVA) with Dependent Variable ROE*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12642.827	10	1264.283	4.308	.000[b]
	Residual	20251.911	69	293.506		
	Total	32894.738	79			

a. Dependent Variable: Return on Equity

b. Predictors: (Constant), Inflation, Premium Growth, Tangibility Ratio, Solvency Ratio, Size of a Company, GDP

Table 8 ANOVA table for the regression analysis with return on assets (ROA) as the dependent variable indicates a significant model. The F-statistic of 4.308, with a significance level (Sig.) of .000, suggests that the regression model is statistically significant, meaning the independent variables collectively have a meaningful impact on ROA. This finding implies that the chosen predictors are relevant in explaining the profitability of insurance companies.

Table 9 *Regression Coefficients with Dependent Variable ROE*

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-205.157	356.669		-.575	.567
	Solvency Ratio	-.259	.642	-.046	-.403	.688
	Premium Growth	-.244	.120	-.202	-2.031	.046
	Size of a Company	-13.507	3.758	-.649	-3.595	.001
	Tangibility Ratio	-25.345	23.345	-5.633	-1.086	.281
	Fixed Assets Ratio	25.307	23.651	5.543	1.070	.288
	Loss Ratio	-.532	.171	-.373	-3.114	.003
	Current Ratio	-.121	1.598	-.008	-.076	.940
	Premium Retention Ratio	-.343	.203	-.202	-1.688	.096
	GDP	39.597	27.381	.245	1.446	.153
	Inflation	-1.544	1.072	-.158	-1.440	.154

a. Dependent Variable: Return on Equity

Table 9 shows the regression coefficient results for the study. The constant term (-205.157) represents the expected value of ROA when all predictors are zero. However, it is not statistically significant (p = .567), indicating that it does not provide a reliable basis for predicting ROA.

The coefficient for the solvency ratio is -0.259, suggesting a negative relationship with ROE. This means that an increase in the solvency ratio slightly decreases ROE. However, this effect is not statistically significant (p = .688), indicating that solvency ratio does not have a strong impact on profitability in this model.

The coefficient for premium growth is -0.244, indicating a negative impact on ROE. This suggests that higher premium growth is associated with lower ROE. This relationship is statistically significant (p = .046), implying that premium growth plays a meaningful role in influencing profitability.

The size of a company has a coefficient of -13.507, showing a significant negative effect on ROE (p = .001). This indicates that larger companies tend to have lower ROE, reflecting possible inefficiencies or challenges in managing larger scale operations.

The coefficient for tangibility ratio is -25.345, indicating a negative association with ROA. However, this relationship is not statistically significant (p = .281), suggesting that the tangibility ratio does not have a substantial effect on profitability in this study.

The coefficient for the fixed assets ratio is 25.307, suggesting a positive but non-significant relationship with ROE (p = .288). This implies that while higher fixed assets ratio might enhance ROE, it is not a strong predictor in this model.

The loss ratio has a coefficient of -0.532, indicating a significant negative impact on ROE (p = .003). This suggests that higher loss ratios are associated with lower profitability, highlighting the importance of effective risk management and claims control.

The coefficient for the current ratio is -0.121, indicating a slight negative impact on ROE. However, this effect is not statistically significant (p = .940), meaning that the current ratio does not play a major role in determining profitability in this model.

The coefficient for premium retention ratio is -0.343, suggesting a negative relationship with ROE. This relationship is close to significance (p = .096), indicating that higher premium retention might be associated with lower profitability, though not conclusively.

The coefficient for GDP is 39.597, indicating a positive but non-significant relationship with ROE (p = .153). This suggests that while GDP growth might enhance profitability, it is not a strong predictor in this model.

The coefficient for inflation is -1.544, indicating a negative but non-significant impact on ROE (p = .154). This suggests that higher inflation rates might reduce profitability, though it is not a strong predictor in this study.

4.2 Discussions

The main aim of this study is to examined the impact of several variables on profitability of non-life insurance companies in Nepal. The findings of the study provide valuable insights into the financial landscape of non-life insurance companies in Nepal. The assessment of key financial indicators revealed important information about the solvency position of these companies, their premium growth patterns, the size of their operations, and the proportion of physical assets they hold. This assessment serves as a foundation for understanding the current state of non-life insurance companies in Nepal and provides a benchmark for evaluating their financial performance.

The study did not find a statistically significant relationship between the solvency ratio and profitability in non-life insurance companies in Nepal. This implies that the level of solvency, which measures the ability of companies to meet their long-term obligations, does not directly influence profitability in this context. This result is contradicted with the empirical study of Debala et al. (2022) who found that leverage had a statistically significant positive impact on profitability in the non-life insurance sector in Ethiopia. Also, this finding is contradicted with the findings of Horvey et al. (2024) in South Africa, who found solvency predict profitability positively.

The study did not find a statistically significant relationship between premium growth and profitability. This suggests that the rate of growth in premium revenue, which reflects the company's ability to attract and retain customers, does not have a direct

impact on profitability in the non-life insurance sector in Nepal. This finding is contradicted with the empirical findings of Kumar et al. (2022) in Fiji and Muchie and LiJuan (2021) in Ethiopia who found premium income have positive significant relationship with profitability of insurance companies.

The study found a statistically significant positive relationship between the size of non-life insurance companies and profitability. This indicates that larger companies tend to exhibit higher levels of profitability in Nepal's non-life insurance sector. This result is consistent with the empirical findings of Kaya (2015), Ullah et al. (2016) and Risal (2020) who found size of the company have positive significant effect on profitability of insurance companies. Also, this result is contradicted with the empirical findings of Horvey et al. (2024) who found size have negative significant effect on profitability of insurance companies.

The study did not find a statistically significant relationship between the tangibility ratio, which measures the proportion of physical assets held by insurance companies, and profitability. This suggests that the composition of physical assets does not directly impact profitability in the non-life insurance sector in Nepal. This result is contradicted with the empirical findings of Hasan et al. (2018) in Bangladesh, who found asset tangibility significantly influence performance. No statistically significant relationship was found between the fixed assets ratio and profitability in the study. This suggests that the proportion of fixed assets to total revenue does not directly influence profitability in Nepal's non-life insurance sector. The absence of a significant relationship between fixed assets and profitability in this study highlights a potential area where asset management strategies may differ significantly between regions or contexts, warranting further investigation in future studies. This result is consistent with the empirical findings of Kramaric et al. (2017) who found fixed assets ratio have significant relationship with ROA.

The study did not find a statistically significant relationship between the Loss Ratio and profitability. This suggests that the proportion of claims paid out relative to premiums earned does not directly impact profitability in Nepal's non-life insurance sector. This finding is aligned with some previous studies that have questioned the direct impact of loss ratios on profitability, although the lack of significance might also indicate the influence of other moderating factors not captured in this analysis.

The study found no statistically significant relationship between the current ratio and profitability. This implies that short-term liquidity, as measured by the current ratio, does not directly affect the profitability of non-life insurance companies in Nepal. While liquidity is often considered a crucial factor in financial stability, its lack of direct significance in this study suggests that other factors may play a more prominent role in determining profitability in this specific context.

Similarly, the study did not find a statistically significant relationship between the premium retention ratio and profitability. This suggests that the proportion of premiums retained after reinsurance does not directly impact profitability in Nepal's non-life insurance sector. This result may reflect the specific dynamics of the reinsurance market in Nepal or the operational strategies of the companies involved.

The study found a statistically significant negative relationship between GDP and profitability. This implies that higher levels of GDP are associated with lower profitability in the non-life insurance sector in Nepal. This result is contradicted with the empirical findings of Kramaric et al. (2017) and Ozen and Cankal (2020) who found GDP positively influence profitability of insurance companies. However, the study did not find a statistically significant relationship between inflation and profitability.

These comparisons highlight both consistencies and contradictions between this study's findings and the findings of the other empirical studies. While there may be some similarities in terms of the significance of certain variables, there are also notable differences in the specific relationships observed. These variations can be attributed to differences in the contexts, methodologies, and characteristics of the insurance sectors in each country or region.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

The insurance landscape in Nepal has evolved over time, playing a crucial role in risk management, investment, and economic development. Historically, the "Guthi System" provided safety and assistance to families during times of need. However, with the formalization of insurance practices, understanding the determinants of profitability becomes essential. The primary purpose of this study was to examine the variables influencing the profitability of Nepalese non-life insurance companies. To achieve this, the researchers analyzed panel data from eight insurance companies.

The research design of the study strategically integrates descriptive and causal research elements, with descriptive research providing a foundational understanding of key financial indicators within the non-life insurance sector, and causal research delving into the intricate relationships among variables. A sample of eight non-life insurance companies is selected from a population of 14 operating in Nepal, utilizing a convenience sampling method. The study relies on a hybrid dataset comprising secondary data from annual financial statements of selected companies and macroeconomic data sourced from authoritative entities such as the Ministry of Finance and the Nepal Rastra Bank. Data collection procedures involve systematic extraction of key variables, and the research framework synthesizes insights from previous studies to define variables and relationships. The method of analysis encompasses descriptive statistics, correlation analysis, and regression analysis, utilizing SPSS 25.0 software for statistical computations. Correlation and regression analyses are employed to explore relationships among variables and quantify the impact of independent variables on profitability, respectively, as outlined in the regression model.

The regression analysis of insurance companies' return on assets (ROA) reveals that the model explains 19.1% of the variance in ROA ($R^2 = 0.191$), with an adjusted R^2 of 0.074, indicating that other factors not included in the model contribute to the

variation in ROA. The correlation coefficient (R = 0.437) suggests a moderate positive association between the predictor variables (inflation, premium growth, tangibility ratio, solvency ratio, company size, fixed assets ratio, loss ratio, current ratio, premium retention ratio, GDP) and ROA. Among these variables, the size of the company and GDP are statistically significant, with p-values of 0.001 and 0.007, respectively. Specifically, a one-unit increase in company size is associated with an 18.202-unit increase in ROA (Beta = 0.619), while a one-unit increase in GDP is linked to a 130.423-unit decrease in ROA (Beta = -0.566). Other variables, such as the solvency ratio (Beta = -0.050, p = 0.706), premium growth (Beta = -0.016, p = 0.892), tangibility ratio (Beta = 0.108, p = 0.398), fixed assets ratio (Beta = -0.163, p = 0.229), loss ratio (Beta = -0.035, p = 0.807), current ratio (Beta = 0.037, p = 0.763), premium retention ratio (Beta = -0.078, p = 0.583), and inflation (Beta = 0.097, p = 0.450), show weak and statistically insignificant effects on ROA. The standard error of the estimate is 27.77173, indicating the average difference between predicted and actual ROA values. Collinearity statistics show that multicollinearity is not a major concern, with Tolerance values ranging from 0.282 to 0.894 and VIF values between 1.118 and 3.551.

Insurance companies can use this knowledge to optimize their operations, enhance efficiency, and improve profitability. Identifying key determinants allows insurers to manage risks effectively. Profitable companies provide additional security against insolvency, instilling confidence in policyholders. Policymakers can use these findings to shape regulations and foster a healthy insurance industry. In summary, this research contributes valuable insights to the Nepalese insurance sector, paving the way for informed decision-making and sustainable growth

5.2 Conclusion

In conclusion, this study aimed to assess the existing scenario of non-life insurance companies operating in Nepal, with a specific focus on key financial indicators such as the solvency ratio, premium growth, size of the company, tangibility ratio, and profitability (ROA). The first objective of this study was to assess the existing scenario of non-life insurance companies operating in Nepal, with a specific focus on key financial indicators such as the solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, and profitability (ROA). Through the examination of various financial

and economic factors, including the solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP, inflation, and profitability (ROA), the study aimed to understand the relationships between these variables and analyze their impact on the profitability of non-life insurance companies in Nepal.

The second objective of the study was to examine the relationships between various financial and economic factors, including the solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP, inflation, and profitability (ROA) of non-life insurance companies operating in Nepal. The analysis of these relationships revealed interesting insights. The study found a positive relationship between the size of a company and its profitability, indicating that larger insurance companies tend to exhibit higher levels of profitability. Additionally, a negative relationship was observed between GDP and profitability, suggesting that higher GDP levels may be associated with lower profitability for non-life insurance companies in Nepal. However, the study did not find statistically significant relationships between the solvency ratio, premium growth, tangibility ratio, and inflation with profitability. This suggests that factors other than these variables may play a more prominent role in determining the profitability of non-life insurance companies in Nepal.

The third objective of the study was to analyze the impact of the solvency ratio, premium growth, size of the company, tangibility ratio, fixed assets ratio, loss ratio, current ratio and premium retention ratio, GDP, and inflation rate on the profitability (ROA) of non-life insurance companies operating in Nepal. The findings of this analysis suggest that the solvency ratio, premium growth, tangibility ratio, fixed assets ratio, loss ratio, current ratio, premium retention ratio and inflation do not have statistically significant impacts on the profitability of non-life insurance companies in Nepal. However, the size of the company and GDP were found to have significant impacts on profitability.

The significant positive relationship between the size of a company and profitability implies that larger companies may have certain advantages that contribute to their profitability. On the other hand, the negative relationship between GDP and profitability suggests that economic conditions and market dynamics have an

influence on the financial performance of non-life insurance companies in Nepal. The findings of this study revealed important insights into the financial performance and macroeconomic context within which non-life insurance companies operate in Nepal. The assessment of key financial indicators provided a comprehensive understanding of the current state of these companies, highlighting their solvency position, premium growth, asset size, and asset composition.

The regression analysis reveals that profitability, measured by return on equity (ROE), is influenced by several factors in the insurance sector. Notably, premium growth and company size negatively impact profitability, suggesting that rapid expansion and larger scale operations may introduce inefficiencies. The significant negative impact of the loss ratio highlights the critical importance of effective risk management and claims control. While factors such as solvency ratio, tangibility ratio, fixed assets ratio, current ratio, premium retention ratio, GDP, and inflation also play roles, their impacts are less pronounced or non-significant in this study. These findings underscore the multifaceted nature of profitability in insurance companies and the need for strategic management to address both internal efficiencies and external economic factors.

This study contributes to the understanding of the non-life insurance industry in Nepal by providing valuable insights into the financial performance and the impact of various financial and economic factors on profitability. The findings can serve as a foundation for further research and can inform industry stakeholders and policymakers in making informed decisions regarding the growth and sustainability of non-life insurance companies in Nepal. It is important for these companies to carefully manage their solvency position, leverage opportunities for premium growth, consider the impact of size and GDP on profitability, and closely monitor macroeconomic indicators to ensure long-term success in an evolving market.

5.3 Implications

Based on the findings, discussion and conclusion of the study, the following implications were made:

- The study underscores the importance of maintaining a strong solvency ratio for non-life insurance companies in Nepal, emphasizing the need for effective

risk management and capital adequacy to ensure financial stability and meet long-term obligations.

- Although premium growth shows a positive association with profitability, it is not statistically significant. Companies should nonetheless prioritize increasing premium revenue through product innovation, market expansion, and customer acquisition.
- A significant positive relationship exists between the size of non-life insurance companies and profitability, suggesting that larger firms benefit from economies of scale and market advantages. Smaller companies may enhance their performance through strategic partnerships or mergers.
- The study finds a negative relationship between GDP and profitability, indicating that higher GDP is associated with lower profitability for non-life insurance companies. This highlights the need for companies to adapt their strategies to mitigate the impact of economic fluctuations.
- Inflation does not have a statistically significant impact on profitability, but companies should monitor its potential effects on operating costs, investment returns, and pricing strategies.
- Future research could explore additional factors such as technological advancements, regulatory reforms, and customer behavior to provide a more comprehensive understanding of the drivers of profitability.

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Abstract The purpose of this research is to analyze the factors that determine the profitability of life insurance firms in Nepal. The study places particular emphasis on important financial indicators such as the solvency ratio, premium growth, company size, and tangibility ratio. The study uses panel data techniques from eight different insurance companies, as well as descriptive and causal analysis with SPSS 25.0 to analyze the correlations between a variety of financial and macroeconomic aspects. The findings indicate that there is a somewhat favorable link between the size of a firm and its profitability (Return on Assets, or ROA), but the findings also show a negative correlation between GDP and ROA. More specifically, research has shown that larger organizations have higher levels of profitability, suggesting that economies of scale play a significant role. Other factors, including the solvency ratio, premium increase, and inflation, do not have a statistically significant influence on profitability, according to the research findings. It is imperative that non-life insurance companies continue to pursue premium growth plans and maintain solid solvency positions, as the implications of these results highlight the significance of doing so. In addition, the study recommends doing future research to investigate the causal links and other elements that influence profitability. This would result in a deeper comprehension of the non-life insurance business in Nepal. This study provides essential information for industry stakeholders and regulators, which enables informed decision-making and fosters sustainable development in the ever-changing environment of the insurance business. Keywords: Profitability, Non-Life Insurance, Solvency Ratio, Premium Growth, Company Size, Tangibility Ratio, Economic Factors. ii CHAPTER I INTRODUCTION 1.1 Background of the study Non-life insurance is a type of insurance policy that offers coverage for damages or losses to an individual's or entity's assets and properties resulting from unforeseen events such as natural disasters, accidents, theft, or other liabilities. Property and casualty insurance serve as alternative terms for this insurance