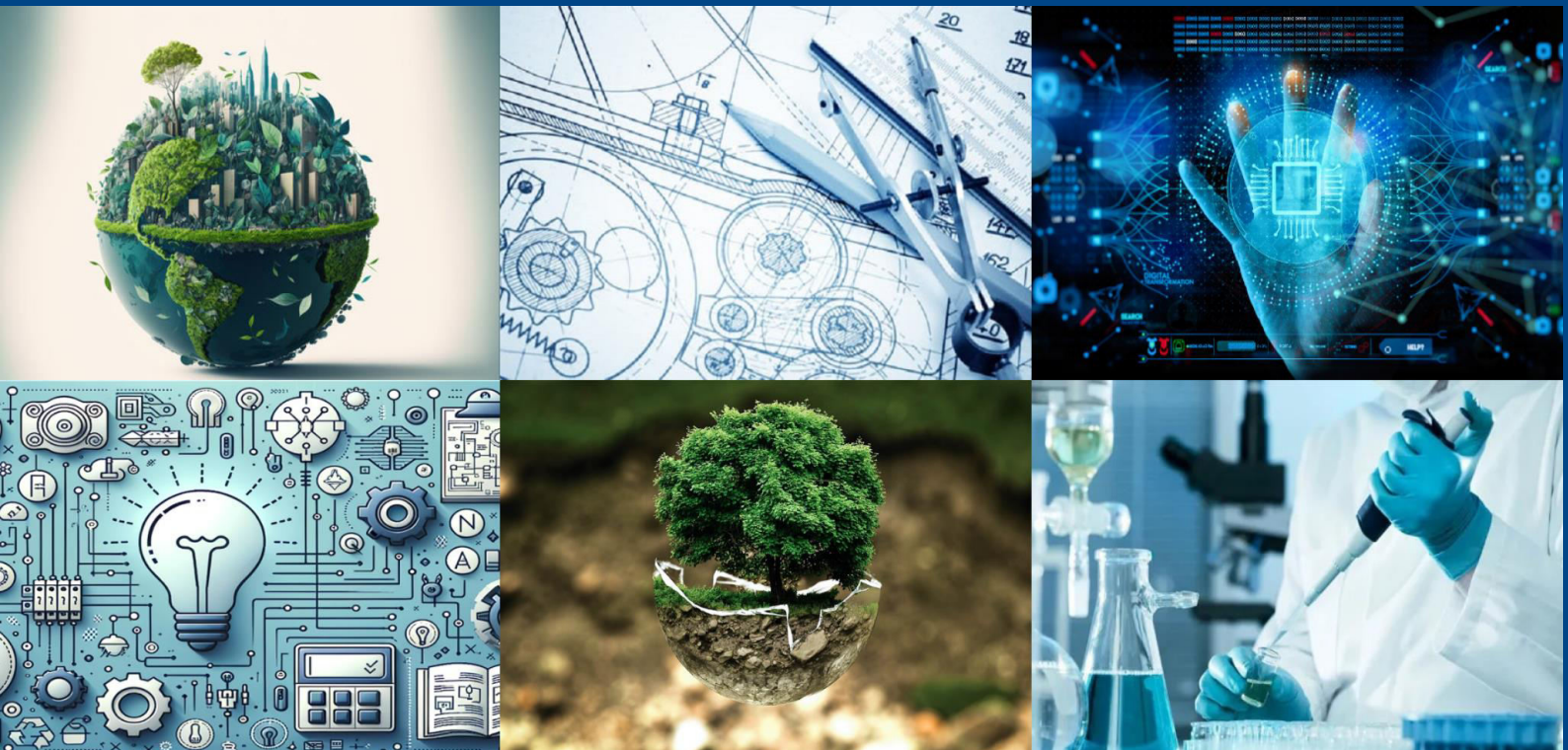




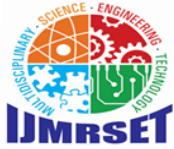
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Impact of Non-Performing Loans on Financial Performance of Insurance Companies of Bhutan

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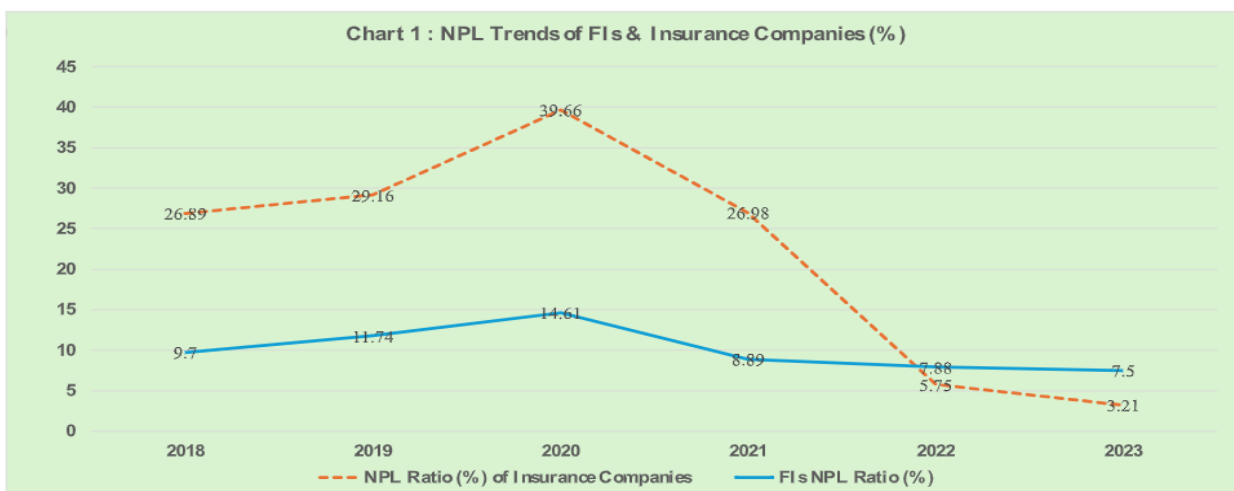
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ABSTRACT: This study investigates the impact of Non-Performing Loans (NPLs) on the financial performance of insurance companies in Bhutan, addressing a critical yet understudied area. Using secondary data from 2009 to 2023, the study analyzes the effects of NPL ratios on key financial metrics, including Return on Equity (ROE), Return on Assets (ROA), Capital Adequacy Ratio (CAR), Profit Before Tax (PBT), and Profit After Tax (PAT). Regression and correlation analyses indicate a significant negative relationship between NPLs and both ROE ($\beta = -2.33$, $p = 0.023$) and ROA ($\beta = -0.138$, $p = 0.024$), suggesting a detrimental impact on profitability and operational efficiency. While NPLs exhibited negative associations with CAR ($p = 0.072$), PBT ($p = 0.146$), and PAT ($p = 0.152$), these effects were statistically insignificant. These findings underscore the need for enhanced credit risk management strategies to ensure the financial stability of Bhutan's insurance sector, offering valuable insights for policymakers and industry stakeholders.

KEYWORDS : Non-Performing Loans (NPLs), Financial Performance, Insurance Companies, Credit Risk Management, Profitability Metrics

I. INTRODUCTION

Non-Performing Loans (NPLs), loans unpaid for over 90 days, threaten financial institutions, particularly in emerging markets with weak credit risk management. While banking sector NPL research is extensive, the insurance sector remains underexplored. In Bhutan, insurance firms like RICBL and BIL, competing with banks in lending, face rising NPL concerns (3.21% in 2023). The Royal Monetary Authority (RMA) reported a peak NPL ratio of 14.61% in 2020, declining to 2.40% by 2023 due to improved credit policies. This study investigates NPLs' impact on Bhutanese insurance companies' financial performance, focusing on profitability, liquidity, and solvency, to inform risk management and policy development. Details given in chart 1.



Source 1: Author's Illustration



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II. PROBLEM STATEMENT

Non-Performing Loans (NPLs) threaten financial stability by reducing profitability and liquidity. In Bhutan, rising NPLs highlight systemic credit risks, particularly for insurance companies that compete with banks in lending due to limited investment options. Despite regulatory measures, high NPL ratios persist, raising concerns about financial health. However, their impact on key metrics like ROE, ROA, PBT, PAT, and CAR remains understudied. This study examines the relationship between NPLs and the financial performance of Bhutanese insurers, providing insights for risk management and policy development.

III. LITERATURE REVIEW

The study of Non-Performing Loans (NPLs) and their impact on financial performance has evolved over time, with earlier research focusing primarily on banking institutions before extending to the insurance sector. In the early 2000s, research primarily concentrated on the determinants of NPLs and their implications for banking stability. For instance, Fofack (2005) analyzed macroeconomic factors influencing NPLs in Sub-Saharan Africa, highlighting how economic downturns and poor credit policies contributed to rising NPL levels. Similarly, Messai and Jouini (2013) examined the impact of GDP growth and unemployment rates on NPLs in Southern European banks, emphasizing the role of economic stability in reducing credit risk. Subsequent studies expanded the analysis to incorporate institutional and operational factors affecting NPLs. Gezu and Beyene (2014) identified capital adequacy and inflation as key determinants of NPL levels in financial institutions. Their findings aligned with those of Irawati et al. (2019), who emphasized the role of Good Corporate Governance (GCG) in mitigating NPL risks and improving profitability in Indonesian banks. These studies underscored the significance of effective credit management and institutional policies in maintaining financial stability. More recent research has explored the effects of NPLs on various financial performance indicators across different financial sectors. Gautam (2018) and Shrestha and Khadka (2024) analyzed the relationship between NPLs and profitability in Nepalese banks, demonstrating that higher NPL levels negatively impact Return on Assets (ROA) and Return on Equity (ROE). This pattern was further corroborated by Sharma (2024), who linked NPL ratios to declining operational efficiency, thereby affecting overall profitability. In the Bhutanese context, Dorji (2023) identified credit growth and deposit rates as primary contributors to rising NPLs, advocating for stronger regulatory measures to address credit risk. With growing concerns over financial resilience, researchers such as Budiarto (2021) introduced innovative models like "empathy credit risk" to improve loan collectability and mitigate NPLs. Meanwhile, Dubey et al. (n.d.) emphasized the importance of intellectual capital in reducing non-performing assets, highlighting strategic risk management approaches. The literature indicates a clear trend toward integrating economic, institutional, and regulatory perspectives in understanding and managing NPLs, providing a foundation for assessing their impact on the financial performance of insurance companies in Bhutan.

Research Objectives

1. To investigate the relationship between Non-Performing Loans (NPLs) and financial performance metrics of insurance companies in Bhutan.
2. To evaluate the impact of the NPL Ratio on profitability indicators (ROE and ROA) of Bhutanese insurance companies.
3. To assess the effect of Non-Performing Loans on Profit Before Tax (PBT) and Profit After Tax (PAT).
4. To analyze the influence of the NPL Ratio on the Capital Adequacy Ratio (CAR) of insurance companies.

Hypotheses Framing

The following hypotheses are formulated:

- H1: Null Hypothesis (H0): The NPL Ratio does not have a significant impact on ROE.
- H2: Null Hypothesis (H0): The NPL Ratio does not have a significant impact on ROA.
- H3: Null Hypothesis (H0): The NPL Ratio does not have a significant impact on CAR.
- H4: Null Hypothesis (H0): The NPL Ratio does not have a significant impact on PBT.
- H5: Null Hypothesis (H0): The NPL Ratio does not have a significant impact on PAT.



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IV. RESEARCH METHODOLOGY

Research Design

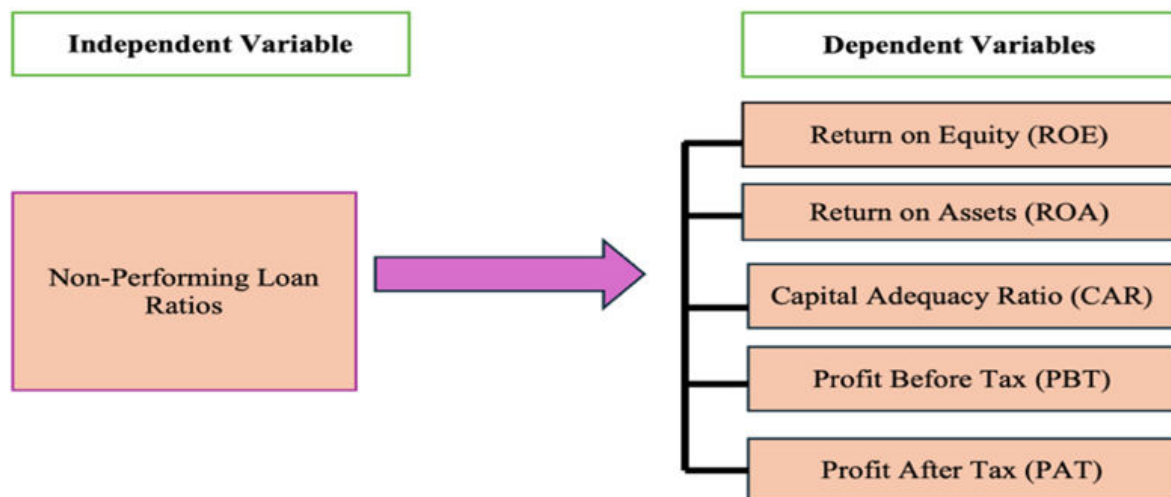
A longitudinal research design was used, examining financial performance over 15 years (2009–2023). A quantitative approach assessed the correlation between NPL ratios and financial indicators. The study focused on Royal Insurance Corporation of Bhutan (RICBL) and Bhutan Insurance Limited (BIL), excluding GIC-Bhutan Reinsurance Ltd. (GICB) due to its non-involvement in credit services. Secondary data was sourced from the Royal Monetary Authority of Bhutan, the Royal Securities Exchange of Bhutan, and annual reports of the selected companies.

Sampling and Sample Size Calculation

The sample was selected using a purposive sampling method, targeting institutions that provide credit services and have substantial historical financial data available. The sample size consisted of two companies observations for 15 years for each company, ensuring sufficient data points for trend analysis and statistical robustness. The selection criteria included the availability of financial records, engagement in credit services, and relevance to the study's objectives. The period from 2009 to 2023 was chosen to capture long-term trends and variations in NPL ratios and financial performance indicators.

Conceptual Framework and Review:

As study examines the impact of the Non-Performing Loan (NPL) ratio on the financial stability and profitability of Bhutanese insurance companies. The NPL ratio, as the independent variable, reflects credit risk, while key financial performance indicators serve as dependent variables. The conceptual framework diagram is given below:



Source 2: Author's Illustration

Limitations of the Research

Despite the valuable insights offered, the study has several limitations:

1. **Limited Sample Size:** The study focused only on two insurance companies in Bhutan, which may not fully represent the broader insurance sector in emerging markets.
2. **Historical Data Constraints:** The analysis relied on past financial data, which may not fully capture the dynamic nature of NPL ratios and real-time economic changes.
3. **Exclusion of Qualitative Factors:** The study focused solely on quantitative indicators and did not incorporate managerial decision-making, regulatory changes, or macroeconomic conditions that could influence financial performance.
4. **Short Time Frame for Impact Analysis:** While a 15-year period was analyzed, long-term effects of NPLs on financial performance may require further longitudinal studies beyond the selected timeframe.



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V. DATA ANALYSIS AND INTERPRETATION

Techniques for Data Analysis: Hypothesis Testing and Analysis

Hypothesis testing used regression (parametric) and Pearson's correlation (non-parametric) analyses to evaluate the impact of Non-Performing Loan (NPL) ratios on financial performance metrics, assuming normality.

Regression Analysis Results:

- H1: Rejected ($p = 0.023$, $\beta = -2.33$); NPLs reduce ROE by 2.33% per 1% increase, indicating lower profitability.
- H2: Rejected ($p = 0.024$, $\beta = -0.138$); NPLs reduce ROA by 0.138% per 1% increase, confirming reduced asset efficiency.
- H3: Failed to reject ($p = 0.072$); NPLs' negative impact on CAR insignificant at 0.05 level.
- H4: Failed to reject ($p = 0.146$); NPLs' negative impact on PBT insignificant.
- H5: Failed to reject ($p = 0.152$); NPLs' negative impact on PAT insignificant, suggesting weak influence on profitability.

Correlation Analysis Results:

- H1: NPLs and ROE ($r = -0.580$, $p = 0.023$); significant negative correlation, rejecting H0.
- H2: NPLs and ROA ($r = -0.578$, $p = 0.024$); significant negative correlation, rejecting H0.
- H3: NPLs and CAR ($r = -0.477$, $p = 0.072$); insignificant negative correlation, failing to reject H0.
- H4: NPLs and PBT ($r = -0.395$, $p = 0.146$); insignificant moderate negative correlation, failing to reject H0.
- H5: NPLs and PAT ($r = -0.388$, $p = 0.152$); insignificant weak negative correlation, failing to reject H0.

VI. DISCUSSION

The findings of this study reveal significant insights into the impact of Non-Performing Loans (NPLs) on the financial performance of insurance companies in Bhutan:

- Impact of NPLs on Return on Equity (ROE):** The analysis indicates a statistically significant negative correlation between NPLs and ROE ($r = -0.580$, $p = 0.023$), confirming that an increase in NPLs reduces shareholder profitability. Regression results further substantiate this relationship ($\beta = -2.33$, $p = 0.023$), demonstrating that a 1% increase in the NPL ratio decreases ROE by 2.33%.
- Effect of NPLs on Return on Assets (ROA):** A significant negative correlation exists between NPLs and ROA ($r = -0.578$, $p = 0.024$), suggesting that higher NPLs impair asset efficiency in generating income. The regression coefficient ($\beta = -0.138$, $p = 0.024$) confirms that increased NPLs negatively affect operational performance.
- Relationship Between NPLs and Capital Adequacy Ratio (CAR):** The study finds a negative but statistically insignificant correlation between NPLs and CAR ($r = -0.477$, $p = 0.072$). While the regression coefficient ($\beta = -0.176$, $p = 0.072$) suggests a potential weakening of capital adequacy, the results do not provide conclusive statistical evidence of a strong impact on financial stability.
- NPLs and Profitability Measures (PBT and PAT):** The correlation between NPLs and profitability measures—PBT ($r = -0.395$, $p = 0.146$) and PAT ($r = -0.388$, $p = 0.152$)—was negative but statistically insignificant. Regression coefficients for PBT ($\beta = -23.4$, $p = 0.146$) and PAT ($\beta = -19.1$, $p = 0.152$) indicate that while NPLs may adversely impact profitability, their direct effect remains inconclusive.

Stakeholder Implications

- Government and Regulators:** The study emphasizes the need for robust regulatory frameworks to monitor and manage NPLs, encouraging policies that promote transparency and healthy NPL ratios in insurance companies. This helps reduce systemic risks and ensures financial stability.
- Insurance Companies:** Findings highlight the importance of managing NPLs to protect profitability and efficiency. Companies should adopt stricter credit risk practices, improve loan recovery, and maintain capital buffers, focusing on proactive strategies to safeguard ROE and ROA.
- Researchers:** The study provides empirical evidence on NPL impacts in Bhutan's insurance sector, offering a foundation for further research into NPL effects across regions, sectors, and financial contexts, including long-term stability and mitigation strategies.
- General Public:** A strong financial position of insurance firms ensures they can meet obligations to investors and policyholders. Understanding NPL impacts helps the public make informed investment and insurance decisions.



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Recommendations

1. **Preventing Credit from Transitioning into NPLs:** To minimize the risk of new loans becoming non-performing, insurance companies should implement loan origination policies and robust credit risk management systems strictly as per regulations issued by the Regulator. Strengthening credit risk assessments, enforcing thorough due diligence, and establishing accurate collateral valuation methodologies will enhance lending practices. Additionally, deploying AI-driven credit monitoring frameworks will help detect early warning signals of potential loan defaults, allowing for proactive intervention.
2. **Strengthening Credit Risk Management:** Given the strong negative impact of NPLs on ROE and ROA, insurance companies should enhance their credit risk assessment processes. This includes adopting more stringent underwriting standards, improving loan screening mechanisms, and utilizing advanced credit risk modeling techniques to minimize loan defaults. Strengthening governance mechanisms will improve transparency and accountability in credit risk management, reducing the likelihood of loan defaults.
3. **Resolving Existing NPLs through Effective Mechanisms:** A structured approach is essential to addressing legacy NPLs. Insurance companies should conduct periodic reassessments of collateral assets to reflect market conditions and optimize recovery rates. Strengthening collaborations with legal and regulatory bodies can expedite judicial proceedings for loan recovery. Exploring securitization options, distressed asset sales to Asset Reconstruction Companies (ARCs), and innovative financial restructuring strategies such as debt-for-equity swaps can also help mitigate NPL exposure. Additionally, greater focus should be placed on off-balance-sheet assets before they deteriorate.
4. **Addressing Economic Sectoral Challenges Contributing to NPLs:** Insurance companies must closely monitor high-risk economic sectors such as tourism, construction, and trade, which have historically contributed to elevated NPL levels. Developing sector-specific credit risk mitigation strategies and establishing tailored restructuring frameworks for businesses affected by macroeconomic disruptions will help reduce sectoral exposure to loan defaults.
5. **Implementing Proactive NPL Reduction Strategies:** Proactive NPL reduction strategies, such as predictive analytics-driven debt collection methodologies and early intervention measures for high-risk accounts, should be prioritized. Strategic loan restructuring initiatives should be promoted to facilitate adherence to repayment schedules and optimize loan recovery outcomes.
6. **Enhancing Capital Adequacy and Financial Resilience:** Insurance companies should adopt risk-based capital management frameworks to ensure adequate financial buffers against credit losses. Regular stress testing and scenario analysis will help assess the potential impact of rising NPL levels on financial performance. Additionally, diversifying revenue streams beyond interest income, such as investment advisory and digital financial services, will enhance overall financial resilience.
7. **Strengthening Regulatory Compliance and Governance:** Ensuring adherence to regulatory mandates on NPL management is crucial for financial stability. Insurance companies should refine corporate governance structures to improve oversight and strategic decision-making. Enhancing transparency in credit risk disclosures will reinforce investor confidence and institutional credibility. Furthermore, strict compliance with the regulations issued by the Royal Monetary Authority of Bhutan must be maintained.

VII. CONCLUSION

This study reaffirms the critical impact of Non-Performing Loans (NPLs) on the financial performance of insurance companies in Bhutan. The findings indicate a strong negative correlation between NPLs and Return on Equity (ROE) and Return on Assets (ROA), demonstrating that higher NPL levels reduce shareholder profitability and operational efficiency. While the effect on the Capital Adequacy Ratio (CAR) was negative, it remained statistically inconclusive, suggesting a potential but unconfirmed risk to financial stability. Similarly, the study found limited impact on Profit Before Tax (PBT) and Profit After Tax (PAT), indicating that profitability may be influenced by other dominant factors. The study underscores the importance of effective NPL management in enhancing financial stability and operational efficiency. It provides actionable insights for insurance companies and policymakers to implement better credit risk management practices, ensuring long-term resilience against rising NPL ratios. Key recommendations include proactive loan recovery strategies, stringent credit assessments, and maintaining adequate capital reserves. By contributing to the understanding of NPLs in emerging markets like Bhutan, this research lays the foundation for future studies on risk mitigation strategies and their role in sustaining financial health in the insurance sector.



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Scope for Further Research:

Future research could explore Non-Performing Loans (NPLs) in the insurance sector by expanding sample sizes across regions for broader insights. A comparative analysis with banks and investment firms could highlight sector-specific impacts. Integrating qualitative methods, such as executive interviews, would offer managerial perspectives on NPL management. Longitudinal studies tracking NPL effects over time could reveal adaptation strategies and financial stability trends. These directions would enhance understanding and provide valuable insights for academics and industry practitioners.

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