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THE STUDY OF CREDIT RISK IN THE BANKING SECTOR AND ITS EFFECT ON FINANCIAL PERFORMANCE CASE STUDY OF THE ZENITH BANK SIERRA LEONE

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Abstract:
Credit risk refers to the probability of financial loss resulting from a borrower's failure to repay a loan. Essentially, it encompasses the risk that a lender may not receive the owed principal and interest, leading to disrupted cash flows and increased collection costs. Lenders can mitigate credit risk by analyzing factors related to a borrower's creditworthiness, such as their current debt load and income. In the last decade, many banks have started to make use of models to assess the risks of lending credit. The credit risk models are very complex and include algorithm-based methods of assessing credit risk. Such a model aims to help banks quantify, aggregate, and manage credit risk. Despite the method, the focus of credit risk assessment stays on credit quality and risk exposure. Strategies to reduce losses and manage risks are pertinent in credit risk management. However, banks have to organize and manage the lending function professionally and proactively and use advanced techniques to measure and manage risks. Credit risk management has become a hot topic due to the ongoing global economic crises, the rapid digital transformation, the recent technological innovations, and the growing use of artificial intelligence in banking. Regulators expect banks to have a clear and comprehensive understanding of their customers and their credit risk and to be transparent and capable in this area. As the Basel regulations change, banks will face more regulatory pressure. To meet the changing regulatory demands and to manage risk better, many banks are changing their credit risk practices. However, banks that see this as only a compliance issue are missing the point. The research findings indicate that the bank's credit management practices have strongly influenced its profitability. In brief, manoeuvring through the complex risk terrain poses a significant hurdle for financial organizations. This requires ongoing adjustments and strategic choices to ensure both

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stability and profitability. Consequently, persistent academic research is essential to guide management, governments, and regulators.

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1. Introduction

Credit risk refers to the probability of financial loss resulting from a borrower's failure to repay a loan. Essentially, it encompasses the risk that a lender may not receive the owed principal and interest, leading to disrupted cash flows and increased collection costs. Lenders can mitigate credit risk by analyzing a borrower's creditworthiness factors, such as their current debt load and income. While it is impossible to predict precisely who will default on obligations, properly assessing and managing credit risk can help lessen the severity of potential losses (Conford, 2000; Coyle, 2000).

When lenders offer mortgages, credit cards, or other loans, there is always a risk that the borrower may not repay the loan. Similarly, when a company extends credit to a customer, there is a chance that the customer may not pay their invoices. Credit risk can also describe the likelihood that a bond issuer may fail to make payment when requested or that an insurance company will not be able to pay a claim. To assess credit risk on a consumer loan, lenders often consider the five Cs of credit:

1) **Credit History:** Examining the borrower's past credit behaviour,
2) **Capacity to Repay:** Evaluating the borrower's ability to meet payment obligations,
3) **Capital:** Assessing the borrower's financial reserves,
4) **Loan Conditions:** Considering the terms and conditions of the loan,
5) **Associated Collateral:** Reviewing any assets pledged as security.

Some companies have dedicated departments responsible for assessing the credit risks of both current and potential customers. Technological advancements allow businesses to analyze data to determine a customer's risk profile quickly. Additionally, bond credit-rating agencies, such as Moody's Investors Service and Fitch Ratings, evaluate the credit risks of corporate bond issuers and municipalities, assigning credit ratings based on the likelihood of default. Investors often review these credit ratings when considering bond purchases. A low rating indicates a relatively high risk of default, while a stronger rating implies a lower risk. The reduction of loan defaults and nonperforming loans is a critical objective, as emphasized in the Bank Supervision Annual Report (2006), Laker (2007), and Sandstorm (2009).

Credit risk management is based on key principles such as clear structure, assigned responsibility and accountability, prioritized and disciplined processes, and effective communication (Lindergren, 1987). Bank credit risk management faces two major challenges: the tendency to underestimate the losses after they happen and the pressure to compete with non-bank alternatives that offer cheaper financing options to large and stable firms (Demirguc-Khunt and Huzinga, 1999). To reduce the losses from the risks they take, banks need to organize and manage their lending function professionally and proactively and use advanced techniques to measure and manage risks (Gill, 1989). The important principles of credit risk management are clear structure, assigned responsibility and accountability, prioritized and disciplined processes, and effective communication (Lindergren, 1987). The challenges of credit risk management, on the other hand, involved underestimation of losses after they occur and competition with non-bank alternatives offering cheaper financing options to large and stable firms (Demirguc-Khunt and Huzinga, 1999). These principles and challenges underscore the need for a systematic and proactive approach to credit risk management. Acknowledging the challenges, such as underestimating losses and competition from non-bank alternatives, emphasizes the importance of staying vigilant and competitive in the financial landscape.

In the last decade, many banks have started to make use of models to assess the risks of lending credit. The credit risk models are very complex and include algorithm-based methods of assessing credit risk. Such a model aims to help banks quantify, aggregate, and manage credit risk. Despite the method, the focus of credit risk assessment stays on credit quality and risk exposure. Strategies to reduce losses and manage risks are pertinent in credit risk management. However, banks have to organize and manage the lending function professionally and proactively and use advanced techniques to measure and manage risks (Gill, 1989).

The models for credit risk are very sophisticated and involve algorithms to measure credit risk. The purpose of such a model is to assist banks in estimating, combining, and controlling credit risk. No matter the method, the primary concern of credit risk evaluation remains on creditworthiness and risk exposure. Hence, this research aims to know whether Zenith Bank Sierra Leone maintains credit risk, which has a positive impact on its profitability. In addition, in 2022, Zenith Bank Sierra Leone exhibited remarkable resilience, substantially increasing Profit After Tax (PAT). PAT grew by NLe68.85 million, reflecting the bank's ability to navigate challenges and maintain financial stability. This research aims to explore the potential relationship between this profit surge and the bank's credit management practices. By analyzing these factors, the researcher seeks insights into how effective credit management contributes to profitability.

2. Research Aim, Objectives, and Questions

2.1 Research Aim

To evaluate the credit risk management practices of Zenith Bank Sierra Leone and understand the influence on profitability.

2.2 Research Objectives

1) Assess the credit risk management strategies employed by Zenith Bank Sierra Leone.
2) Investigate the effect of the strategies on the bank's profitability.
3) Assess the relationship between credit management and profitability.

2.3 Research Question

RQ1: Does Zenith Bank Sierra Leone maintain credit risk management practices that positively impact its profitability?
RQ2: Does the bank maintain adequate Capital as a strategy for liquidity risk management?
RQ3: Has the Bank's Financial Performance Improved?
RQ4: What is the relationship between net profit margin and customer deposit levels?

3. Research Methodology

Research in the social and health sciences can be complex and multifaceted, requiring a holistic approach incorporating diverse perspectives. Depending solely on qualitative or quantitative methods may not fully unravel the intricacies of such research problems (Kamara, 2023). This is where mixed methods research comes in, as it utilizes the unique strengths of both qualitative and quantitative approaches. It has become increasingly popular due to its ability to harmonize these two methodologies. In this particular study, data was collected through structured questionnaires and follow-up interviews. The follow-up interviews allowed qualitative insights to be gathered through in-depth conversations with selected participants. Additionally, data was sourced from various online resources, articles, the Zenith Bank website, online newspapers, and audited financial statements. Mixed methods research is an approach that utilizes both quantitative and qualitative data collection techniques, providing a more nuanced and comprehensive understanding of research inquiries. Teddlie and Yu's typology (2007) outlines five sampling strategies - Basic, Sequential, Concurrent, Multilevel, and Combined that researchers can adapt to meet their specific objectives and data requirements. In this study, purposive sampling and concurrent strategy were employed.

The concurrent triangulation approach was employed to analyze data and inform discussions and interpretations. This method simultaneously collects quantitative and qualitative data to compare and contrast the two datasets, identifying similarities, differences, or a combination. Data integration occurs during the interpretation or discussion phase (Crewell, 2009; Greene, Caracelli, Graham, 1989; Steckler *et al.*, 1992). Purposive sampling was used to select participants based on their experience with the central phenomenon. The study included 30 participants, all of whom completed questionnaires. Descriptive statistics (such as mean, median, and mode) were used to determine the average or typical responses to variables. Inferential statistics were employed to conclude the data. Quantitative findings were presented in tables and graphs, aiding the researcher in summarizing, describing, and explaining the data related to the research questions.

The mixed research methods approach has gained traction for its adaptability, capacity to tackle complexity, and holistic approach. By synergizing qualitative and quantitative methodologies, researchers can gain deeper insights and arrive at more robust conclusions in the social and human sciences. Therefore, a mixed-method research approach was selected for use in this study

3. Literature Review

3.1 Introduction

Financial institutions encounter diverse risks that significantly impact their operations and performance. These risks include interest rate fluctuations, foreign exchange volatility, political uncertainties, market dynamics, liquidity constraints, operational vulnerabilities, and credit exposure (Lagat, 2017). Scholars such as Kithinji (2010), Yusuf, 2003, and Cooperman, Gardener, and Mills (2000) have extensively studied these multifaceted risks. Commercial banks and other financial entities occasionally make decisions without thorough verification, leading to adverse consequences. These repercussions include loan defaults, nonperforming loans, and unwarranted credit expansions. Such unverified choices pose significant challenges to the stability and profitability of financial institutions (Lagat, 2017).

Policymakers and industry stakeholders have implemented strategic measures to mitigate the adverse effects of risk exposure. These include:

a) **Mergers and Collaborations:** Encouraging bank mergers and partnerships with non-bank financial institutions (NBFIs) to enhance resilience and risk diversification.
b) **Enhanced Banking Practices**: Strengthening lending practices by enforcing rigorous standards to minimize risk exposure.
c) **Legal Revisions**: Aligning regulatory frameworks with global standards to ensure prudent risk management.
d) **Capitalization:** Promoting well-capitalized banks that can weather economic fluctuations and remain profitable.
e) **Liquidity Management:** Ensuring that banks maintain adequate liquidity to meet depositors’ demands, even if it means holding less cash in reserve (Lagat, 2017).

Despite these efforts, the pursuit of risk mitigation has had unintended consequences. Commercial banks and financial institutions have experienced a decline in interest income, leading to reduced profitability. Scholars such as De Young and Roland (2001), Dziobek (1998), and Uyemura and Van Deventer (1992) have documented this phenomenon, emphasizing the delicate balance between risk management and financial performance (Lagat, 2017).

In summary, navigating the intricate risk landscape remains a critical challenge for financial institutions, necessitating continuous adaptation and strategic decision-making to safeguard stability and profitability.

3.2 Literature Review

Credit risk management has become a hot topic due to the ongoing global economic crises, the rapid digital transformation, the recent technological innovations, and the growing use of artificial intelligence in banking. Regulators expect banks to have a clear and comprehensive understanding of their customers and their credit risk and to be transparent and capable in this area. As the Basel regulations change, banks will face more regulatory pressure. To meet the changing regulatory demands and to manage risk better, many banks are changing their credit risk practices. However, banks that see this as only a compliance issue are missing the point. Effective credit risk management can also enhance their overall performance and give them a competitive edge.

A performing loan carries credit risk, which is the possibility that the borrower will default or fail to repay the loan. If this happens, the bank has to write off the loan as a bad debt, which lowers the bank's assets base and affects its profitability. A study by Siddique (2022) found that operating efficiency and profitability indicators are negatively related to non-performing loans (NPLs), which are overdue or unlikely to be repaid. A performing loan also influences the bank's capital adequacy, which is the proportion of the bank's capital to its risk-weighted assets. Capital is the buffer that the bank has to absorb losses from its assets. Risk-weighted assets are the assets that are adjusted for their risk levels, such as credit risk, market risk, and operational risk. A performing loan has a lower risk weight than a non-performing loan, which means that it needs less capital to back it up. However, if the bank has too many performing loans, it may also face the risk of over-lending, which can worsen the loan quality and increase the NPLs. Therefore, the bank has to balance its performing loan portfolio with its capital adequacy requirement, which is usually set by the regulator.

In summary, performing loans has both positive and negative effects on the assets base of the bank. It can increase the value and income of the bank's assets, but it also exposes the bank to credit risk and capital adequacy risk. The bank has to manage its performing loan portfolio carefully to optimize its assets base and profitability.

3.2.1 Basel Guidance

The Basel Committee on Banking Supervision (BCBS) has updated its 2000 guidance on liquidity risk management and supervision based on the lessons from the recent financial crisis. The new principles aim to establish a strong framework for managing liquidity risk that is consistent with the overall risk management framework of the bank. The new principles emphasize the need for:

1) A clear governance structure and a firm-wide liquidity risk appetite.

2) A comprehensive measurement of liquidity risk, including off-balance sheet items, securitization activities, and other potential sources of liquidity stress that were overlooked during the crisis.
3) A proper alignment of the incentives of different business units with the liquidity risk they generate for the bank.
4) A range of stress tests that capture both specific and general market conditions and a link to effective contingency funding plans.
5) A rigorous management of intraday liquidity risk and collateral positions.
6) A sufficient buffer of unencumbered, high-quality liquid assets that can withstand prolonged periods of liquidity pressure.
7) A regular and transparent disclosure of both quantitative and qualitative information on the bank's liquidity risk position and management.

The BCBS expects the principles to be applied according to the size and nature of the bank's activities. The new principles also call for a more active role of supervisors in reviewing and intervening in the bank's liquidity risk management.

3.2.2 Liquidity Risk Management

Liquidity risk management is a critical function within banking institutions, necessitating a robust and systematic approach. The following key principles guide effective liquidity risk management:

1) **Risk Identification and Measurement**: Banks must rigorously identify, measure, and monitor their liquidity risk exposure. This involves assessing the availability of liquid assets to meet funding needs across diverse legal entities, business segments, and currencies. Legal, regulatory, and operational constraints related to liquidity transfers must be carefully considered.
2) **Funding Strategy and Diversification**: A well-defined funding strategy is essential. Banks should diversify their funding sources and maturities to ensure resilience. Effective diversification minimizes reliance on specific funding channels and enhances overall liquidity stability.
3) **Intraday Liquidity Management**: Banks must actively manage intraday liquidity positions. Timely fulfillment of payment and settlement obligations, even during stressed scenarios, is crucial for maintaining the smooth functioning of payment and settlement systems.
4) **Collateral Tracking and Encumbrance**: Banks should meticulously track collateral positions. Clear differentiation between encumbered and unencumbered assets is vital for effective liquidity risk management.
5) **Stress Testing**: Regular stress tests are imperative. These tests evaluate institution-specific and market-wide stress scenarios, both individually and in combination. Their purpose is twofold: identifying potential liquidity pressure points and verifying alignment with established liquidity risk tolerance levels.

6) **Contingency Funding Plan (CFP)**: A formal CFP is essential. It outlines strategies for addressing liquidity shortages during crises. Having a well-structured plan ensures timely responses and mitigates adverse effects.
7) **Buffer of High-Quality Liquid Assets**: Banks should maintain a buffer of unencumbered, high-quality liquid assets. This buffer acts as a safeguard against various liquidity stress scenarios, including those resulting from the loss or impairment of unsecured and normally available secured funding sources.
8) **Holistic Risk Management**: Liquidity risk is interconnected with credit, market, and operational risks. Effective management of liquidity risk contributes to overall risk resilience.
9) **Asset Liability Management Framework**: Establishing an asset liability management framework is a prudent starting point. It facilitates daily monitoring of cash inflows and outflows, aiding proactive liquidity management.
10) **Scenario-Based Planning**: Banks overly reliant on market funding should consider scenario-based planning. Anticipating various market conditions helps enhance preparedness and adaptability.

In summary, managing liquidity risk is pivotal, and its effective handling contributes to overall financial stability and risk resilience within banking institutions.

3.2.3 Financial Performance

Financial performance encapsulates the effectiveness of a company's financial activities, reflected through its revenue, costs, profit, assets, debts, and shareholder equity. To evaluate and interpret a company's financial health, one can examine key financial documents, including the balance sheet, income statement, cash flow statement, and annual report. These records reveal the cash inflow and outflow, earnings and expenses, company holdings and obligations, and the value attributed to shareholders' investments.

Assessing a company's financial health involves a variety of financial ratios and indicators that reflect different facets of the business, such as profitability, liquidity, solvency, efficiency, and market valuation. Here are some key financial ratios and what they indicate:

1) **Gross Profit Margin**: This ratio is calculated as **Gross Profit divided by Sales Revenue**. This financial ratio indicates the percentage of sales revenue remaining after the cost of goods sold is subtracted.
2) **Net Profit Margin**: Represented by: **Net Profit divided by Sales Revenue.** This ratio shows the percentage of sales revenue that remains after all expenses, including taxes and interest, are deducted.
3) **Return on Assets (ROA)**: Calculated as **Net Profit divided by Total Assets.** The ROA measures a company's ability to generate profit from its assets.
4) **Return on Equity (ROE)**: This ratio is calculated as **Net Profit divided by Owners' Equity.** This ratio assesses how effectively a company generates profits for its shareholders.

5) **Current Ratio**: The current ratio is calculated as **Current Assets divided by Current Liabilities** . This ratio evaluates a company's capacity to meet short-term obligations with its short-term assets. **Quick Ratio**: Also known as the acid-test ratio, it is expressed as **Current Assets minus Inventory divided by Current Liabilities**. This ratio measures a company's ability to cover short-term obligations with its most liquid assets.
6) **Debt-to-Equity Ratio**: This leverage ratio, **Total Debt divided by Owners' Equity**, indicates the proportion of company financing from creditors versus shareholders.
7) **Asset Turnover**: Represented by **Sales Revenue divided by Total Assets**, this ratio shows how efficiently a company uses its assets to generate sales.
8) **Price-to-Earnings (P/E) Ratio**: The P/E ratio is calculated as **Market Price per Share /Earnings per Share**. This ratio reflects the market's company valuation relative to its earnings.

These ratios provide insights into various aspects of a company's financial performance and are essential tools for investors, analysts, and managers.

3.3 Theoretical Review

The extensive body of literature on credit risk management and its impact on financial performance has undergone significant investigation. In the subsequent theoretical review of carefully curated scholarly articles, we aim to augment existing research in this domain and establish the foundational framework for our methodology.

In their scholarly work titled "*Credit Risk and Bank Performance in Nigeria: A Panel Analysis Approach*", Afolabi, M. A., Adeniyi, S. S. O., Kamar, A., Adeyemi, K., and Susan, O. E. (2021) offer significant insights into the intricate relationship between credit risk and the performance of deposit money banks in Nigeria. The study meticulously examines critical indicators, including non-performing loans, loans and advances, loan loss provisions, and equity/shareholders' funds, to assess their impact on bank profitability. Drawing upon panel data spanning the period from 2009 to 2018 and employing panel econometric techniques, the study's findings and recommendations provide valuable contributions for both practitioners and researchers in the field of banking and finance. Specifically, the study sheds light on credit risk management and its implications for bank performance within the Nigerian context.

In the article authored by Kargi (2011), the central focus lies on the pivotal role of credit creation in generating income for banks. The acknowledgement of inherent credit risk associated with lending underscores the significance of prudent credit risk management. Furthermore, the article emphasizes the critical interplay between credit risk exposure and the overall performance and stability of banking institutions in Iran.

In their seminal work, Chen and Pan (2012) delve into the intricate domain of credit risk, a critical aspect of financial markets. They define credit risk as the degree of value fluctuations in debt instruments and derivatives stemming from changes in the underlying credit quality of borrowers and counterparties. This definition aligns seamlessly with the broader understanding of credit risk, emphasizing the profound impact that shifts in credit quality can have on the valuation of financial instruments. Furthermore, Chen and Pan's definition underscores the inherent risk faced by financial institutions when borrowers or counterparties fail to meet their contractual obligations. It highlights the potential for financial loss arising from such defaults. In essence, credit risk is not merely an abstract concept; it directly affects the bottom line of institutions. Coyle (2000), in a succinct formulation, captures the essence of credit risk. His perspective emphasizes the financial losses incurred when credit customers either refuse or are unable to fulfill their payment obligations. Coyle's definition resonates with the practical realities faced by banks and other financial entities. When customers default on credit obligations, the repercussions are tangible, underscoring the critical role of effective risk management in safeguarding financial stability. Credit risk transcends theoretical constructs and permeates financial systems' fabric. Whether through value fluctuations, customer defaults, or risk exposure, institutions must vigilantly manage and monitor credit risk to ensure their resilience in a dynamic economic landscape (Çallı, & Coşkun 2021).

The research conducted by Aigbomian and Akinlosotu (2020) delves into the interplay between credit risk management and the profitability of deposit money banks in West African countries. The study emphasizes the critical significance of effective credit risk management within the banking sector, as it directly impacts financial performance. This aligns with the broader understanding that prudent management of credit risk is pivotal for maintaining stability and ensuring the profitability of financial institutions. The research findings reveal a positive correlation between effective credit risk management practices and improved financial performance among deposit money banks in the specified region. Consequently, the study underscores the potential benefits of enhancing credit-related skills among bank management in Nigeria. By implementing robust credit risk management strategies, these institutions can enhance their overall financial health and contribute to the stability of the banking industry.

Githaiga's study (2015) employs a quantitative approach, analyzing data from a sample of commercial banks operating in Kenya. Financial indicators such as return on assets (ROA), return on equity (ROE), and net interest margin (NIM) serve as proxies for financial performance. Credit risk management practices are assessed through metrics related to loan portfolio quality, provisioning, and risk assessment. The findings from these studies shed light on the positive relationship between effective credit risk management and the financial performance of banks in Kenya during the specified period. The nuanced understanding of specific practices and their varying impact underlines the importance of continuous refinement of risk management strategies in the banking sector.

The research by Kodithuwakku (2015) focused on the impact of credit risk management on the performance of commercial banks in Sri Lanka. This study contributes to the understanding of the link between credit risk management and the performance of commercial banks in Sri Lanka. It provides insights into specific factors affecting profitability and offers recommendations for improving credit risk management. In conclusion, this study adds to the body of knowledge on the significance of credit risk management in maintaining financial stability and performance within the commercial banking sector in Sri Lanka.

The study of Serwadda (2018) underscores the importance of enhancing credit risk management techniques to maintain a high-quality asset portfolio and mitigate credit risks. The study focuses on credit risk measures such as non-performing loans, growth in interest earnings, and loan loss provisions to total loans. The results reveal that credit risk management significantly influences the performance of Ugandan commercial banks, with non-performing loans inversely affecting their performance.

In their empirical investigation, Taiwo *et al.* (2017) explored the quantitative effect of credit risk management on the performance of Nigeria's Deposit Money Banks (DMBs) and bank lending growth over 17 years (1998-2014). The study provides insights into the quantitative effects of credit risk management on the performance of Nigerian Deposit Money Banks and their lending growth. The findings and recommendations contribute to the ongoing discussion on effective credit risk management practices in the banking sector.

The research of Kurawa & Garba (2014), *An Evaluation of the Effect of Credit Risk Management (CRM) on the Profitability of Nigerian Banks*. The study provides valuable insights into the relationship between Credit Risk Management and the profitability of Nigerian banks. The findings underscore the importance of adopting scientific risk evaluation techniques to enhance credit risk management practices and mitigate the impact of non-performing loans on bank profitability.

The article titled "*The Impact of Credit Risk Managing on Bank Profitability: An Empirical Study During the Pre- and Post-Subprime Mortgage Crisis: The Case of Swedish Commercial Banks*" by Al-shakrchy (2017) explores the relationship between credit risk management and bank profitability in major commercial banks in Sweden. This study contributes to the understanding of the relationship between credit risk management, bank profitability, and the resilience of banks in the face of financial crises. The findings underscore the importance of implementing effective risk management strategies in the banking sector to ensure financial stability and mitigate the impact of credit-related challenges.

The study titled "*The Effect of Credit Risk Management on Profitability: An Empirical Study of Private Banks in Syria*" was conducted by Yousuf and Felföldi (2018). The research aimed to investigate the impact of credit risk management on profitability in private banks in Syria. The study focused on two main criteria for credit risk management: the capital adequacy ratio (CAR) and non-performing loans (NPL). The findings revealed a statistically significant relationship between capital adequacy and profitability, with the capital adequacy ratio negatively affecting profitability. However, non-performing loans did not significantly impact profitability. Overall, credit risk management accounted for approximately 19% of the profitability of the studied banks. Furthermore, the study provides insights into the complex relationship between credit risk management and profitability in private banks in Syria. The findings emphasize the need for banks to carefully consider the impact of capital adequacy and non-performing loans on their overall profitability.

This article by Saleh and Afifa (2020) investigates the impact of credit risk, liquidity risk, and bank capital on bank profitability over nine years (2010–2018) in an emerging market. The study utilizes econometric panel data and employs GMM methods to analyze empirical evidence. The results reveal that these factors significantly influence bank profitability. Understanding the Basel requirements and their importance for local and foreign bank managers is crucial, as enforcing them can enhance bank efficiency and increase profitability while mitigating risk.

3.4 The Role of the Basel Committee in the Bank Sector

The Basel Committee on Banking Supervision (BCBS) occupies a pivotal position in influencing the global banking landscape. As a key international body, the BCBS focuses on several critical aspects related to the prudential regulation of banks. Below are the key areas of its supervision:

1) **Standard Setting:** The BCBS is the primary global standard setter for the prudential regulation of banks. It develops and establishes standards that guide how banks operate, ensuring their stability and resilience.
2) **Cooperation and Forum:** The committee provides a forum for cooperation among central banks and bank supervisors from 28 jurisdictions. Through regular collaboration, they address critical banking supervisory matters.
3) **Enhancing Financial Stability:** The BCBS aims to strengthen the regulation, supervision, and practices of banks worldwide. By doing so, it contributes to enhancing financial stability on a global scale.
4) **Work Program:** The BCBS outlines its strategic priorities through a two-year work program. This program covers policy formulation, supervision, and implementation activities.

The BCBS's work contributes to a safer and more resilient global banking system, benefiting both financial institutions and the broader economy. In addition, the BCBS plays an indispensable role in shaping the global banking sector by setting standards, fostering cooperation, ensuring stability, and promoting financial resilience.

The banking industry has witnessed extensive scholarly investigation into credit risk management and financial performance, as unveiled in theoretical reviews. However, navigating the intricate landscape of risks presents a formidable challenge for financial institutions. This necessitates continuous adaptations and strategic decision-making to safeguard both stability and profitability. As a result, ongoing academic research plays a critical role in guiding management, government bodies, and regulatory authorities.

4. Results and Discussion

In this section, the researcher analyzed the findings and discussed the results. The analysis was conducted in alignment with the research aim, research objectives, research questions, methodology, and literature review. The primary focus was to evaluate the credit risk management practices of Zenith Bank Sierra Leone and understand the influence on profitability.

RQ1: Does Zenith Bank Sierra Leone maintain credit risk management practices that positively impact its profitability?

To manage credit risk effectively, banks need to have a comprehensive view of their overall credit risk exposure, both at the individual and portfolio levels. However, many banks face the challenge of integrating data from different sources and business units. Without a proper risk assessment, banks cannot ensure that their capital and loan loss reserves are sufficient to cover the potential losses. This exposes them to regulatory and market pressures, as well as financial losses. Therefore, banks should adopt an integrated, quantitative credit risk solution that can help them reduce loan losses and align their capital reserves with their risk profile. This solution should enable banks to quickly implement simple portfolio measures, as well as to advance to more complex credit risk management techniques as their needs change. The solution should also provide Improved model management throughout the modeling life cycle. Timely scoring and limit monitoring. Strong stress-testing capabilities. Data visualization and business intelligence tools that deliver relevant information to the right people at the right time (PwC, 2019). The Zenith Bank has implemented a robust credit management system that significantly contributes to enhancing the bank's financial performance. This research sheds light on the fundamental controls within the credit management system as follows:

A. Credit Risk Management

The bank conducts regular evaluations to determine whether the credit risk associated with its financial instruments has significantly increased since its initial recognition. To determine the significance of any increase in credit risk, the Bank considers various factors, such as the characteristics of the instrument and the borrower. Additionally, to ensure maximum safety, the Bank considers any asset that is more than 30 days past due to have a significant increase in credit risk. The number of days past due is counted from the earliest elapsed due date for which full payment has not been received. To comprehensively assess credit risk, the Bank incorporates forward-looking information and formulates five economic scenarios, including a base case and four other scenarios. The bank considers external sources of economic data and forecasts published by governmental bodies and monetary authorities in the country. Moreover, the Bank periodically carries out stress testing to determine representative scenarios for extreme shocks. The bank has identified and documented key drivers of credit risk and credit losses for each portfolio of financial instruments. After analyzing historical data, the Bank has estimated the relationship between macroeconomic variables and credit risk and credit losses. Additionally, the Bank monitors concentrations of credit risk by sector and geographic location. It analyses the concentration of credit risk from loans and advances, lending commitments, financial guarantees, and investment securities to ensure maximum safety and security.

B. Risk Management Framework

The bank's Board of Directors has established a comprehensive risk management framework to identify and analyze potential risks. To oversee the development and monitoring of risk policies, the Board has formed the Board Credit Committee, which consists of both executive and non-executive members. Regular reports are presented to the Board of Directors to keep them apprised of the Committee's activities. The bank's risk management policies are designed to establish appropriate limits and controls and to regularly monitor and analyze risks faced by the bank. These policies and systems are reviewed periodically to ensure they reflect changes in market conditions, products, and services offered. The Bank is committed to developing a disciplined and constructive control environment through its training and management standards and procedures, ensuring that all employees understand their roles and obligations. The Audit Committee is responsible for monitoring compliance with risk management policies and procedures, regularly reviewing the adequacy of the risk management framework to the risks faced by the bank. Internal Audit supports this function by conducting regular and ad-hoc reviews of risk management controls and procedures, with results reported to the Audit Committee. The bank's risk management framework is overseen by the Board of Directors, who are responsible for its establishment and monitoring

RQ2: Does the bank maintain adequate capital as a strategy for liquidity risk management?

To enable market participants to evaluate the soundness of its liquidity risk management framework and liquidity position, a bank should regularly share information with the public. The role of supervisors is crucial to bank requirements; hence, supervisors should:

1) Conduct periodic and thorough evaluations of a bank’s liquidity risk management framework and liquidity position, and ensure that they are sufficiently resilient to liquidity stress, considering the bank’s function in the financial system.
2) Complement their evaluations by tracking internal reports, prudential reports, and market information on a bank’s liquidity risk management framework and liquidity position. Supervisors should take prompt and effective corrective measures when a bank fails to meet the standards of liquidity risk management processes or liquidity position.

3) Coordinate with other supervisors and public authorities, such as central banks, within and across countries to foster efficient collaboration on the supervision and oversight of liquidity risk management.

The recent market instability exposed the banks' liquidity risk management framework gaps. Liquidity risk has been recognized as a critical issue that requires immediate attention by regulators worldwide. Illiquidity can affect the bank's daily operations and damage its reputation.

The study indicates that Zenith Bank has consistently upheld a robust capital adequacy ratio, surpassing the required threshold to effectively manage liquidity pressures. The gathered data presents the following insights: a) For the year 2019, Zenith Bank was obligated to sustain a minimum capital adequacy ratio of 15% relative to its total adjusted assets. By the end of the year on December 31, 2019, the bank's capital adequacy stood at 74.5%, a decrease from the previous year's 120.4%. b) Similarly, in 2020, the bank adhered to the same capital adequacy requirement of 15%. The ratio improved to 86.5% as of December 31, 2020, up from 74.5% in 2019. c) The year 2021 saw the bank's prudential ratios, including liquidity and capital adequacy, remain well above the regulatory benchmarks, recorded at 274.84% and 104.3%, respectively. This demonstrates Zenith Bank's strong liquidity position and its adherence to prudent operational standards. The upward trajectory in capital adequacy ratios reflects the bank's solid liquidity and its capacity to withstand liquidity-related stresses.

RQ3: Has the bank's financial performance improved?

The financial performance data for 2019 indicates a 31% increase in net interest income, reaching Le 62 billion, up from Le 47.4 billion in 2018. This growth is the result of a Le 15.7 billion interest income (a decrease from Le 57.6 billion in 2018) and a Le 11 billion interest expense (up from Le 10.1 billion in 2018). The primary sources of interest income were Le 4.6 billion from customer loans and advances (up from Le 1.8 billion in 2018) and Le 68 billion from treasury bill investments (up from Le 55 billion in 2018). The majority of the interest expense, Le 11.3 billion, was due to savings account deposits. Net fees and commission income rose by 15% to Le 13 billion, compared to Le 175 billion in 2018. This increase is largely due to a 20% rise in Commission on Turnover, amounting to Le 1 billion, driven by higher customer transaction volumes, and a Le 422 million hike in credit-related fees and commissions. Conversely, net trading income fell by 3% to Le 11.6 billion, down from Le 12 billion in 2018, primarily because of reduced foreign currency trading by the bank amid a foreign currency shortage. Operating expenses surged by 32% to Le 55 billion from Le 42 billion in 2018, influenced by a 16% inflation rate and the opening of two new bank branches. This expansion led to higher operational costs, including a Le 1 billion increase in repairs and maintenance, Le 2 billion in consumables, Le 2.9 billion in staff costs, Le 800 million in advertising, Le 516 million in other expenses, and Le 600 million in security costs. As of December 31, 2019, the bank's cash and cash equivalents stood at Le186 billion, marking a 7% rise from the previous year's Le175 billion. This growth mirrors a 19% surge in deposit liabilities, a testament to the effectiveness of the bank's strategy to increase deposits. The year-end figures for loans and advances showed a substantial leap to Le52 billion, up from Le14 billion in 2018, indicating a 262% year-over-year growth. The notable increase of Le38 billion in loans was primarily fueled by the issuance of additional loans to customers, predominantly secured by cash collateral. In terms of regulatory compliance, the bank successfully met the capital adequacy and liquidity standards mandated by the Bank of Sierra Leone. With a capital adequacy ratio of 74.5% at the close of 2019, the bank comfortably exceeded the regulatory minimum requirement of 15%.

In 2020, Zenith Bank Sierra Leone reported a significant rise in profits, reaching Le28.12 billion from Le22.1 billion the previous year, marking a Le6.01 billion and 27% increase. Despite the global disruptions caused by the COVID-19 pandemic, which saw the world economy shrink by 3.50% according to the IMF's January 2021 World Economic Outlook—a less severe contraction than the 4.40% initially forecasted in October 2020—the bank's performance improved. This improvement was attributed to ongoing fiscal and monetary policy support, along with the relaxation of COVID-19 restrictions across various countries. The banking sector remained stable and robust, well-capitalized, liquid, and profitable, even amidst the pandemic's challenges. Notable enhancements were observed in the capital adequacy ratio, the ratio of liquid assets to deposits, and the non-performing loan ratio within the industry. The non-performing loan ratio, in particular, saw a marked improvement, dropping from 18.50% in September 2020 to 12.70% by December 2020. This positive shift was largely due to the government's clearance of outstanding arrears to contractors, enabling them to settle their debts with the bank. In the face of operational challenges, Zenith Bank has demonstrated remarkable resilience and growth in 2020. Interest income saw a modest increase of 1%, amounting to Le0.83 Billion, while interest expenses saw a more substantial decrease of 22%, or Le2.45 Billion. This led to a net interest income surge of 5%, totaling Le3.2 Billion. Additionally, net fees and commission income rose by 34%, reaching Le4.46 Billion, despite a 23% reduction in net trading income, which fell by Le2.6 Billion. The bank's profitability soared, fueled by an uptick in deposits, investments, loans, and advances, which collectively boosted net yields in a challenging economic climate. Financially, Zenith Bank stood strong with a liquidity ratio of 158.74% at the close of 2020, far surpassing the Bank of Sierra Leone's statutory requirement of 36.32%, indicating robust liquidity and sound financial practices. The loan-to-deposit ratio was recorded at 11.15%, down slightly from 11.52% at the end of 2019, suggesting ample room for loan portfolio expansion. The bank's capital adequacy ratio, a measure of financial strength, was well above the 15% benchmark set by the Bank of Sierra Leone, coming in at 100.19%. This robust ratio positions the bank to handle larger transactions confidently. Despite the tumultuous period marked by the COVID-19 pandemic, Zenith Bank's total assets grew from Le614.24 Billion in 2019 to Le703.29 Billion in 2020, marking a significant increase of over Le89.056 Billion, or 14.50%. This growth was primarily driven by a substantial rise in securities investments, which jumped from Le329.29 Billion in 2019 to approximately

Le404 Billion. Moreover, the bank's quality risk assets experienced growth, climbing from Le52.86 Billion in 2019 to Le59.37 Billion in 2020.

Zenith Bank Limited (Sierra Leone) demonstrated robust financial performance for the year ending December 31, 2021, achieving substantial growth in key financial indicators amidst the economic difficulties predominantly brought on by the COVID-19 pandemic. During the 14th Annual General Meeting on May 12th, 2022, in the bank's Conference Room on Rawdon Street, Freetown, stakeholders reviewed the 2021 audited financial statements. The bank reported a 75% surge in profit after tax, climbing from Le28.1 billion at the end of the fiscal year 2020 to Le49.2 billion at the close of the fiscal year 2021. Since its inception in 2008, the bank has experienced remarkable growth. This trend continued with a 23% increase in interest income, amounting to Le17.4 billion, and despite a 23% rise in interest expenses to Le2.0 billion, net interest income still grew by 24%, reaching Le15.3 billion. Additionally, fees and commission income expanded by 29%, adding Le5.1 billion, and net trading gains rose by 46%, an increase of Le4.1 billion. The growth in interest income outpaced the rise in interest expenses, leading to an overall increase in net interest income. Similarly, net fees and commission income saw a notable increase. The bank's profitability significantly improved due to an uptick in deposits, investments, loans, and advances throughout the year, which enhanced net yields even in a challenging operational landscape. The bank has successfully raised its total customer deposits by 26%, culminating in a significant figure of Le671.7 billion, which reflects an increase in its market share. As of December 31, 2021, the bank's total assets experienced substantial growth, reaching Le182.9 billion, up from Le703.3 billion as recorded on December 31, 2020. Despite a difficult operating environment, the bank managed to expand its risk assets, with loans and advances witnessing a 6% increase, climbing from Le59.3 billion to Le62.9 billion throughout 2021. The Bank's prudential ratios, including liquidity at 274.84% and capital adequacy at 104.3%, have consistently stayed well above the regulatory requirements, indicating a strong liquidity position and sound prudential management. The remarkable surge in the bank's performance underscores the vast business potential within Sierra Leone, positioning the bank advantageously to capitalize on these opportunities, which are anticipated to drive growth in 2022. With its robust liquidity and prudent operations, the bank is well-equipped to engage in larger financial transactions. The stellar performance in 2021 strategically positions the bank to leverage the abundant business prospects in the nation, aiming for significant growth and a competitive stance among other commercial banks in Sierra Leone.

For the fiscal year ending on December 31, 2022, the bank's post-tax earnings reached NLe 68.85 million, marking a substantial increase from the NLe 49.2 million recorded in 2021. This represents an impressive expansion of Le 19 million or 40%. The bank witnessed a robust 44.70% surge in customer deposits for 2022, accumulating a total of Le971.78 million, up from NLe671.74 million the previous year, reflecting a healthy increment of Le300 million. Both savings and foreign currency accounts experienced growth, with increments of 12% and 77%, respectively. The bank attributes this financial success to the exceptional selling abilities and service quality delivered by its staff and management. The loyalty and engagement of customers played a pivotal role in enhancing the bank's financial outcomes. Moving forward, the bank should persist with its proactive approach to deposit acquisition.

The data gathered indicates that the bank's performance in 2022 will pave the way for even more remarkable achievements in 2023. Key areas projected for growth include retail operations, digital banking, deposit acquisition, the development of high-quality risk assets, foreign exchange trading, and elevated profit margins.

Despite the hurdles presented by a demanding economic landscape, the bank has managed to flourish, demonstrating exceptional growth and performance in 2022. The outlook for both the global and local economies is optimistic, with anticipated growth rates exceeding 5% in the coming years, a stark contrast to the pessimism experienced three years prior. This positive shift is fueled by ongoing global efforts from governments, institutions, and the private sector aimed at overcoming the economic slump.

The notable rise in profitability can be traced back to an increase in deposits, investments, credit extensions, effective and efficient credit risk management, and trading income while maintaining prudent control over expenses which collectively boosted net yields despite a challenging economic climate. In addition, by adapting to the evolving economic and environmental conditions, the bank is well-positioned to achieve sustained and significant growth.

RQ4: What is the relationship between net profit margin and customer deposit levels?

The relationship between net profit margin and customer deposit levels is multifaceted and can be influenced by various factors. Generally, net profit margin is a measure of a bank's profitability, indicating how much profit a bank can make from its revenue after covering all expenses, including the interest paid on customer deposits.

Customer deposits are a significant source of funds for banks, which they use to generate income through loans and investments. The cost of these deposits, often reflected in the interest rates offered to customers, can affect the bank's net interest margin (NIM), which is the difference between the interest income generated and the interest expense incurred, normalized by average earning assets (FDIC Quarterly 2021; Cruz-García, Fernández de Guevara, Maudos, 2017).

The relationship between net profit margin and customers' deposits can be influenced by the following factors:

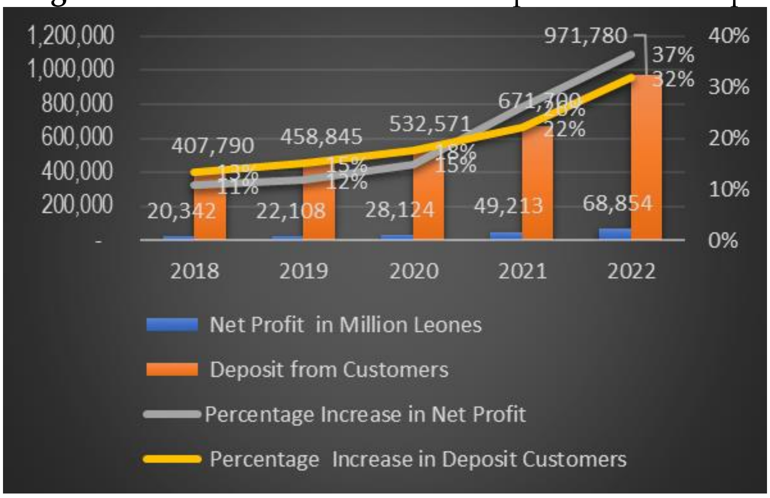
a) **Interest Rates:** The interest rates can affect both the yield on earning assets and the cost of funds. When interest rates rise, banks may have to pay higher rates on deposits, which could increase the cost of funds. Conversely, if the bank's assets, such as loans, are at fixed interest rates, the income from these assets may not increase proportionally, potentially reducing the net profit margin (FDIC Quarterly, 2021).

b) **Bank Strategies:** Banks may employ different strategies regarding the pricing of deposits and the types of assets they hold, which can influence their Net Interest Margin (NIM). For example, banks with a higher number of longer-term loans with floating rates may see their NIM increase as short-term interest rates rise (FDIC Quarterly, 2021).

c) **Economic Conditions:** Broader economic conditions, such as a recession or an economic boom, can impact customer deposit levels and the demand for loans, thereby affecting a bank's profitability (Cruz-García, Fernández de Guevara, Maudos, 2017).

It is important to note that while higher customer deposit levels can provide more funds for a bank to lend out and potentially increase profits, the relationship with net profit margin is not linear and depends on the factors mentioned above. Additionally, a bank's operational efficiency, risk management, and other income sources also play crucial roles in determining its overall profitability (Wheelock, 2016)

Figure 1: Net Profit and Customer Deposit Relationship



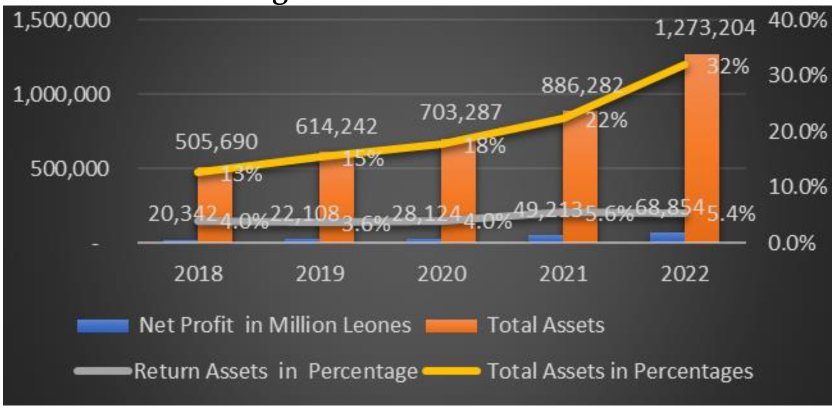
The customer deposit relationship suggests that the link between net profit margin and profit growth is not directly proportional. Nonetheless, a rise in customer deposits, investments, credit extensions, trading income, and prudent control over expenses has a positive impact on the bank's profitability.

Additionally, Return on Assets (ROA) is a financial metric that indicates how profitable a company is relative to its total assets. It measures the efficiency of a company's management in using its assets to generate earnings. Here's the effect of ROA:

a) **Higher ROA**: Indicates that a company is efficiently managing its assets to generate profits. It suggests that the company is making good use of its investment and is likely to be financially healthy.

b) **Lower ROA**: Suggests that a company's assets are not being used as effectively to produce profits. This could signal that the company has made poor investment decisions or is not managing its assets well.

Figure 2: Return on Assets



The Return on Assets (ROA) demonstrates a rising trend for the bank, signifying effective asset management to produce profits.

6. Summary, Limitation Conclusion

Credit risk management is based on several key principles, such as having a clear structure, assigning responsibility and accountability, following disciplined and prioritized processes, and maintaining effective communication. The main challenges associated with credit risk management, on the other hand, include underestimating losses after they have occurred and facing competition from non-bank alternatives that offer cheaper financing options to large and stable firms (Demirguc-Kunt and Huizinga, 1999).

These principles and challenges highlight the importance of taking a systematic and proactive approach to credit risk management. It is crucial to acknowledge these challenges, such as the underestimation of losses and competition from non-bank alternatives, and address them through effective risk management strategies emphasizing the importance of staying vigilant and competitive in the financial landscape. Performing loans has both positive and negative effects on the bank's asset base. It can increase the value and income of the bank's assets, but it also exposes the bank to credit risk and capital adequacy risk. The bank has to manage its performing loan portfolio carefully to optimize its assets base and profitability. However, maneuvering through the complex risk terrain poses a significant hurdle for financial organizations. This requires ongoing adjustments and strategic choices to ensure both stability and profitability. Consequently, persistent academic research is essential to guide management, governments, and regulators.

Financial performance encapsulates the effectiveness of a company's financial activities, reflected through its revenue, costs, profit, assets, debts, and shareholder equity. To evaluate and interpret a company's financial health, one can examine key financial documents including the balance sheet, income statement, cash flow statement, and annual report. These records reveal the cash inflow and outflow, earnings and expenses, company holdings and obligations, and the value attributed to shareholders' investments. Assessing a company's financial health involves a variety of financial ratios and indicators that reflect different facets of the business, such as profitability, liquidity, solvency, efficiency, and market valuation

The notable rise in profitability can be traced back to an increase in deposits, investments, credit extensions, effective and efficient credit risk management, and trading income while maintaining prudent control over expenses which collectively boosted net yields despite a challenging economic climate. In addition, by adapting to the evolving economic and environmental conditions, the bank is well-positioned to achieve sustained and significant growth. The research findings indicate that the bank's credit management practices have strongly influenced its profitability. However, this research did not cover the computations of risk management, liquidity risk, operational risk analysis, and market risk.

7. Recommendations

7.1 Recommendation to Bank Management

Cash and cash equivalents are an important part of any investment strategy. They offer safety and liquidity, which is essential for meeting unexpected expenses and taking advantage of investment opportunities. There are several ways to invest in cash and cash equivalents, including:

a) **Treasury Bills (T-bills):** These are short-term government securities with maturities ranging from a few days to one year. T-bills are considered very safe and highly liquid.
b) **Money Market Funds:** These funds invest in short-term debt securities like T-bills, commercial paper, and certificates of deposit. They provide liquidity and safety.
c) **Bank Accounts:** Holding excess cash in bank accounts provides liquidity and minimal risk.

Fixed-income securities are another type of investment that can provide a steady income stream. They are called "fixed income" because they pay a fixed rate of interest over a specific period. Some examples of fixed-income securities include Corporate Bonds: Banks can invest in investment-grade corporate bonds. These provide higher yields than government securities but come with slightly more risk.

The bank can also consider various forms of investment, including equities, alternative investments, and gold and precious metals. For equities, the bank can invest in publicly traded company stocks, which is a high-risk option due to market fluctuations. Alternatively, the bank can invest in diversified equity mutual funds to participate in the stock market while spreading the risk across multiple stocks. For alternative investments, the bank can invest in Real Estate Investment Trusts (REITs), which invest in income-generating real estate properties, providing diversification and income potential. Hedge funds and private equity are higher-risk investments suitable for well-diversified portfolios with large cash surpluses. Finally, the bank can invest in Gold ETFs, which track the price of gold and act as a hedge against inflation and currency fluctuations. Although it is essential to invest surplus cash, taking into cognizance a balanced approach of safety, liquidity, and returns when managing surplus cash is also recommended.

7.2 Recommendation to Future Researchers

The researcher suggests investigating the following:

1) Analyzing the impact of Liquidity Risk and Credit Risk on bank Financial Performance in the Sierra Leone banking Sector.
2) Comparing Credit Risks Studies in the Banking Banking Sector and their Influence on Financial Performance.

Conflict of Interest Statement

This research is free from any conflict of interest and has no anticipated ethical issues.

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