## Introduction

Commercial banks are financial institutions and are key providers of financial information to the economy. They play an even more critical role in emergent economies where borrowers have no access to capital markets (Cornett and Saunders, 1999). There is evidence that well-functioning commercial banks accelerate economic growth, while poorly functioning commercial banks impede economic progress and exacerbate poverty (Barth, Caprio, and Levine, 2004). Even though one of the major causes of serious banking problems continues to be ineffective credit risk management and high non-performing loans, the provision of credit remains the primary business of banks. Credit creation is one of the core income-generating activities for commercial banks in Sierra Leone. As a result, adequate credit risk management is critical for the growth and survival of banks otherwise the credit activity may negatively affect their financial performance as it is crucial to attaining its going concern issue. This chapter presents the background of the study, the statement of the problem, the objectives of the study, the research questions, and the significance and scope of the study.

The institution of public debt was formalized with the establishment of the Bank of England, to support the War of the Grand Alliance (1689 – 1713), City merchants in 1694 formed the Bank of England, and thenceforth the City’s money market became a prime factor in the affairs of state. A royal charter allowed the bank to operate as a joint-stock bank with limited liability Its headquarters are in the central financial district of the City of London. It was formed for the immediate purpose of raising funds for the war. No other joint-stock banks were permitted in England and Wales until 1826. This special status and its position as the government’s banker gave the bank considerable competitive advantages The bank was privately owned until 1946, when it was nationalized The new bank, though private, had government permission to discount bills and print as much money as it wanted. To top it all, the National Debt was established. The government secured from the Bank a large source of spending power in return for the promise to pay interest on a long-term basis. A specific portion of tax revenues was allocated to pay the interest It funds public borrowing, issues banknotes, and manages the country’s gold and foreign reserves. It is an important adviser to the government on monetary policy and is largely responsible for implementing the chosen policy through its dealings in the money, bond, and foreign exchange markets.

Credit creation is one of the core income-generating activities for commercial banks in Sierra Leone. As a result, adequate credit risk management is critical for the growth and survival of banks otherwise the credit activity may negatively affect their financial performance.

Credit risk is the exposure faced by banks when a borrower (customer) defaults in honoring debt obligations on the due date or at maturity (Coyle, 2000). When banks collect deposits and on-lend them to another customer, they put customers’ savings at risk. Similarly, the risk of a borrower not fulfilling his or her obligation as per the contract on the due date or anytime thereafter can greatly jeopardize the smooth functioning of a bank’s business.

 Loans are the dominant asset for commercial banks as they generate the largest share of operating income and represent the bank’s greatest risk exposure This means, the default of a small number of borrowers may result in large losses which can lead to massive financial distress affecting the whole economy because the banking sector is considered the backbone of the economy.

 Also, credit risk may result in bank failure and the failure of a bank leads to confidence disruptions within the non-financial private sector such as households and firms.

The banks are inevitably exposed to credit risk because they grant credit facilities as they accept the deposits (Muriithi et al. 2016). Hence, credit risk management is critical in the banking sector because the poor management of credit risk adversely affects profitability and the quality of assets.

The objective of the Credit Risk Management (CRM) process is to maximize the cost-adjusted rate of return by maintaining exposure to credit risk that is acceptable to shareholders.

Corporate governance may also have a large effect on the risk management strategies used by banks for reducing credit risks. Research suggests that banks must engage in prior planning to avoid future problems (Andrews, [1980](https://jfin-swufe.springeropen.com/articles/10.1186/s40854-019-0159-8#ref-CR3)).

Financial performance is crucial for a commercial bank to attain its going concern issue, banks being at the center of the financial sector can disrupt the entire economy if their inherent challenge, credit management is not handled properly. The immediate cause of the last financial crisis of 2007–2008 is coined by many as the bankruptcy of Lehman Brothers, a global bank that took advantage of securitization to start granting credits to low-income and underscored borrowers (Mike, 2016).

Banks' performance is considered very important as well as a necessary mechanism for the survival of the financial sector of any economy of the world. And also, the soundness of a banking system is the most crucial pillar for economic development (Ongore and Kusa, 2013). Hence, banks are the most involved financial institutions in the financing of the economy. Bank performance is of dynamic significance to researchers, policymakers, and economic planners for economic development, stakeholders, and investors because the real sector depends on the bank’s efficiency in performing its financial intermediation function (Sharma and Mani, 2012).

The performance of banks in Sierra Leone remains of great concern to stakeholders and practitioners in the banking industry. Moreover, the Bank of Sierra Leone affirms that Deposit Money Banks in Sierra Leone are facing many challenges such as liquidity challenges, poor risk management, bank account hackers (fraudulent) due to cyber problems, poor asset quality, inefficient management, and an upsurge in their non-performing loans have contributed in declining the profitability of the Deposit Money Banks.

Credit risk management and its implications on a bank’s performance have been fraught with difficulties and challenges that ultimately result in poor banking performance that incubates tendency and lead to unfavorable banking performance with an unclear balance sheet, bank failure, and crisis in the financial sector leading to systemic risk and thus have a negative functional ramification on economic growth. However, among the risks faced by banks, credit risk plays a crucial role in banks' performance since a huge amount of banks' revenue is from credit through the interest charged on credit. It is important to note that the interest rate charged is directly correlated with credit risk; a high-interest rate may increase the chances of credit default (Ahmed and Ariff (2007).

The importance of credit risk management in banks is due to its ability to affect the banks’ financial performance, existence, and growth.

Credit risk management encompasses the systems, procedures, and controls that a company puts in place to ensure the effective and efficient collection of customer payments thereby minimizing the risk of non-payments (Mokogi, 2003). Weak credit risk management is a major cause of many banks’ failures (Kalui and Kiawa, 2015).

Financial performance is a company’s ability to generate new resources from day-to-day operations over some time and it is measured by net income and cash from operations (Rajkumar and Hanitha, 2015). Organizational researchers generally use either accounting-based measures of profitability such as ROA, return on sales (ROS), and ROE or stock market-based measures such as return to assess financial performance

For this purpose, three different commercial banks will be chosen for the research study to examine their financial performance. These Banks were selected based on their ownership such as indigenous, international, and foreign banks to determine the best performer, average performer, and comparatively weak performer in the sample. The banks selected for the study are Access Bank Sierra Leone Limited, Sierra Leone Commercial Bank, and Standard Chartered Bank. The selected commercial banks represent the study population as they are the dominant banks in the industry.

## 1.1 **Overview of the Case Studies**

**Access Bank Sierra Leone Limited**

Access Bank Sierra Leone is a subsidiary and component of the Access Bank Group, a financial conglomerate with headquarters in Nigeria. It started operation in Sierra Leone in November 2007. It has its headquarters in Freetown and a total of six branches across the country. The Bank offers universal banking services to institutional, corporate, and retail customers and women and private banking. Its corporate banking business provides financial services to multinationals and large domestic clients in several industries. Its oil and gas and airline business focuses on corporate customers in the downstream, midstream, and upstream segments. Its commercial banking business focuses on local corporates, such as fast-moving consumer goods (FMCG), general commerce, wholesalers, manufacturing, frozen foods, pharmaceuticals, and automobiles. Its investment banking business is made up of the treasury and financial institutions segments. The retail banking business focuses on small and medium-scale enterprises.

As part of its continued growth strategy, Access Bank is focused on mainstreaming sustainable business practices into its operations. The Bank strives to deliver sustainable economic growth that is profitable, environmentally responsible, and socially relevant.

It has a balance sheet size of 590 billion. Interest on loans and contingencies form 75% of the bank’s profitability. The total loan portfolio of the bank in 2021 is 96 billion Leones. A non-performing ratio of 0.2 and a return on asset of 6.3.

The Bank has a moderate risk appetite, hence managing credit risk is a fundamental part of its operations. At Access Bank, risks are managed as part of a long-term strategy of resilience. The risk management function is embedded in all levels of the Bank and it is part of the daily business activities and strategic planning to have a sustainable competitive advantage. In achieving its risk management objectives, the bank relies on a risk management framework that comprises risk policies and procedures formulated for the assessment, measurement, monitoring, and reporting of risks including limits set to manage the exposure to quantifiable risks. The Bank recognizes that effective risk management is based on a sound risk culture, which is characterized, amongst others, by a high level of awareness concerning risk and risk management in the Bank.

**Credit Process**

The Bank has a risk department with divisions such as Credit Risk and Loan Monitoring, Operational Risk, Liquidity Risk, Reputational Risk, Strategic Risk, and Interest Rate Risk. The credit process starts with portfolio planning and target market identification. Within identified target markets, credits are initiated by relationship managers. The proposed credits are subjected to review and approval by applicable credit approval authorities. Further to appropriate approvals, loans are disbursed to beneficiaries.

Ongoing management of loans is undertaken by both the relationship management and Credit Risk Management teams. If a preliminary analysis of a loan request by the account manager indicates that it merits further scrutiny, it is then analyzed in greater detail by the account manager, with further detailed review by Credit Risk Management. The concurrence of Credit Risk Management must be obtained for any credit extension. If the loan application passes the detailed analysis, it is submitted to the appropriate approval authority based on the size and risk rating of the facilities. The standard credit evaluation process is based both on quantitative figures from the Financial Statements and on an array of qualitative factors. Information on the borrower is collected as well as pertinent macroeconomic data, such as an outlook for the relevant sector.

**Credit Risk Management Processes at Access Bank Sierra Leone Limited**

In Access Bank everyone is involved in Risk Management with ultimate responsibility residing with the Board. The Bank operates the 3 line of defense model which enhances the understanding of risk management and control by clarifying roles and duties. The risk management process of the bank is well fortified to mitigate the short- and medium-term threats imposed by the impact of Covid 19 on the bank’s business. The management of the bank took a proactive Risk Management approach to protect its loan book from the impact of Covid 19 on the operating environment by analyzing the extent of the pandemic on different sectors and sub-sectors of the economy. This has enabled us to understand our customer’s challenges and hardships. We have taken steps to lessen the burden of loan repayment on our borrowers and preserve the risk assets quality of the bank. Management anticipated the decline in the value of the local currency and took steps to position the bank to withstand the shock of the devaluation of the Leones. This shows the resilience of their risk management process. The Risk Management Department has continued to take advantage of advancement and innovation in the technology space to automate the management of risk. PowerBI, a credit reporting tool has been deployed to support the decision-making process in the Bank.

The Bank also has a Credit Risk Management Policy to manage its risk. The core objective of this policy is to enable maximization of returns on a risk-adjusted basis from banking book credit risk exposures that are brought under the ambit of Credit Risk Management Policy. This is done by putting in place robust credit risk management systems consisting of risk identification, risk measurement, setting of exposure and risk limits, risk monitoring and control as well as reporting of credit risk in the banking book.

The Credit Risk Rating Policy of the bank ensures reliable and consistent Obligor Risk Ratings (ORRs) and Facility Risk Ratings (FRRs) and provides guidelines for risk rating for retail and non-retail exposures in the banking book covering credit and investment books of the Bank.

 In Access Bank, business units and the credit risk management team have joint responsibility for the overall accuracy of risk ratings assigned to obligors and facilities. Business Relationship Managers are responsible for deriving the Obligor Risk Rating (‘ORR’) and Facility Risk Rating (‘FRR’) using approved methodologies. However, the credit risk management team validates such ratings. Notwithstanding who derives the risk rating, Credit Risk Management is responsible for reviewing and ensuring the correctness of the ORR and FRR assigned to borrowers and facilities. This review includes ensuring the ongoing consistency of the business’ Risk Rating Process with the Bank’s Risk Rating Policy; ongoing appropriate application of the risk rating process and tools review of judgmental and qualitative inputs into the risk rating process; ensuring the timeliness and thoroughness of risk rating reviews, and ensuring that the documentation of the risk rating process is complete and current. Credit Risk Management has the final authority if there is a question about a specific rating.

To reshape the understanding of risk, the bank developed a Credit Officer Risk Rating model which assigns a rating to credit officers based on the quality and performance of the risk asset portfolio managed by the individual officer. This puts the bank in a more disciplined position in the credit appraisal and approval processes.

The highest credit approval authority is the Board of Directors, supported by the Board Credit and Finance Committee and followed by the Management Credit Committee. Individuals are also assigned credit approval authorities in line with the Bank’s criteria for such delegation set out in its Credit Risk and Portfolio Management Plan. The principle of central management of risk and decision authority is maintained by the Bank.

It is the Group’s policy that all credit exposures are adequately collateralized. Credit risk mitigation is an activity of reducing credit risk in exposure or transferring it to a counterparty, at the facility level, by a safety net of tangible and realizable securities including approved third-party guarantees/ insurance.

At the portfolio level, asset securitization, credit derivatives, etc. are used to mitigate risks in the portfolio. However, the primary consideration for approving credits is hinged largely on the obligor’s financial strength and debt-servicing capacity. The guidelines relating to risk mitigant as incorporated in the guidance note of Basel Committee on Banking Supervision (‘BCBS’) on “Principles for the Management of Credit Risk” are to be taken into consideration while using a credit risk mitigant to control credit risk. The Bank utilizes transaction structure, collateral, and guarantees to help mitigate risks (both identified and inherent) in individual credits but transactions should be entered into primarily on the strength of the borrower’s repayment capacity.

Collateral cannot be a substitute for a comprehensive assessment of the borrower or the counterparty, nor can it compensate for insufficient information. It is recognized that any credit enforcement actions (e.g. foreclosure proceedings) can eliminate the profit margin on the transaction. In addition, the Bank is mindful that the value of the collateral may well be impaired by the same factors that have led to the diminished recoverability of the credit.

 The range of collaterals acceptable to the Bank include:

Mortgage on the landed property (Legal Mortgage/Mortgage Debenture)

Debenture/Charge on assets (Fixed and/or Floating)

Cash/Money Market Investment (Letter of lien and Set-Off over fixed deposits/money market investments)

Treasury bills and other government securities.

Chattel/vessel Mortgage.

Legal ownership of financed Asset.

The highest credit approval authority is the Board of Directors, supported by the Board Credit and Finance Committee and followed by the Management Credit Committee. Individuals are also assigned credit approval authorities in line with the Bank’s criteria for such delegation set out in its Credit Risk and Portfolio Management Plan. The principle of central management of risk and decision authority is maintained by the Bank.

Following the outbreak of the COVID-19 pandemic, the Incident Management Team (IMT) activated the Bank’s Business Continuity Plan (BCP) to protect the employees, customers, locations, and service Infrastructure while providing critical services. One of the business continuity actions taken by the bank in response to the global covid 19 pandemic includes staff and customer awareness, adequate provision of hygiene care kits in all branch locations, frequent team meetings, monitoring of critical services availability, travel restrictions, use of split team’s arrangement and alternate locations, staff working from home, the practice of social distancing and use of online and virtual collaborations for meetings.

The Bank actively promotes a strong risk culture where employees are encouraged to take accountability for identifying and escalating risks. Expectations on risk culture are regularly communicated by senior management, reinforced through policies and training, and considered in the performance assessment and compensation processes. The Executive Director for Risk Management coordinates the process of monitoring and evaluation

**Sierra Leone Commercial Bank**

Sierra Leone Commercial Bank Limited (SLCB) is the largest commercial bank in Sierra Leone. Established in February 1973, SLCB provides a full range of banking and financial services to corporate institutions and the general public. SLCB has its headquarters in Freetown and has thirteen branches across the country. The Bank is 89% owned by the Government of Sierra Leone and 11% by NASSIT. This means that the Bank is an indigenous Bank and it is state-owned.

SLCB is one of the banks with the largest branch network operating in all regions across the country. The bank is strategically positioned to address the banking and financial service needs of the Sierra Leonean community. Its dynamic management team is made up of professionally qualified individuals with combined banking experience. Sierra Leone Commercial Bank has a sound financial performance as the bank with the largest profit, largest deposit base, and balance sheet size with a staff strength of over 500. Its target customers are the public sector, corporate, commercial, and retail customers.

The bank has been undergoing digital transformation to ease transaction processing. They recently introduced a state-of-the-art customer call center to address customer queries and inquiries.

 In 2021, Sierra Leone Commercial Bank recorded a capital adequacy of 29.3, a return on assets of 5.4, and a non-performing loan of 7.3.

**Credit Risk Management Framework at Sierra Leone Commercial Bank**

The Bank has an appropriate credit risk environment and well-defined credit-granting criteria. These criteria include a clear indication of the bank’s target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment. It also provides guidelines for staff to ensure that the information it receives is sufficient to make proper credit-granting decisions. The information serves as the basis for rating the credit under the bank’s internal rating system.

The board of directors has the responsibility for approving and reviewing the credit risk strategy and significant credit risk policies of the bank. The credit risk strategy reflects the bank’s tolerance for risk and the level of profitability the bank expects to achieve for incurring various credit risks.

All senior management staff have responsibility for implementing the credit risk strategy approved by the board of directors and for developing policies and procedures for identifying, measuring, monitoring, and controlling credit risk. Such policies and procedures should address credit risk in all of the bank’s activities and at both the individual credit and portfolio levels.

The Banks have a system for identifying and managing credit risk inherent in all products and activities. Banks should ensure that the risks of products and activities new to them are subject to adequate risk management procedures and controls before being introduced or undertaken, and approved in advance by the board of directors or its appropriate committee.

The Bank has created overall credit limits at the level of individual borrowers, Politically Exposed Persons, counterparties, and groups of connected counterparties that aggregate in a comparable and meaningful manner.

Establishment of a detailed process in place for approving new credits as well as the amendment, renewal, and re-financing of existing credits.

It has an internal risk rating system for managing credit risk. The rating system is consistent with the nature, size, and complexity of the bank’s activities.

Implementation of a system that is responsible for monitoring the overall composition and quality of the credit portfolio.

The credit policy of the Bank includes a system of independent, ongoing assessment of the bank’s credit risk management processes, and the results of such reviews are communicated directly to the board of directors and senior management.

The board ensures that senior management is fully capable of managing the credit activities conducted by the bank and that such activities are done within the risk strategy, policies, and tolerances approved by the board. The board also regularly (i.e. at least annually), either within the credit risk strategy or within a statement of credit policy, approve the bank’s overall credit granting criteria

**Standard Chartered Bank Sierra Leone Limited**

Standard Chartered is a market-leading financial service brand in Sierra Leone. The bank has been operating in Sierra Leone since 1894. In Sierra Leone, it serves two client segments in three regions, supported by six global functions. They have operated in the country for over 125 years operating in Freetown, with the country’s first Agency Branch in Cline Town. Standard Chartered aspires to be the best international bank for its customers in Sierra Leone. Their heritage and values are expressed in the brand promise, Here for Good.

Standard Chartered Bank's operations reflect the company’s purpose, which is to drive commerce and prosperity through its unique diversity. They are present in 60 markets, have a sustainable approach to business, and strive to achieve the highest standards of conduct. Its business model and strategy are built to capture the opportunities inherent in its unique footprint through deep relationships with clients in the Sierra Leone market. Developing these relationships means using both tangible and intangible resources sustainably and responsibly, deploying them to achieve profit and returns.

The Bank has an unparalleled international network, connecting companies, institutions, and individuals, to and in some of the world’s fastest-growing and most dynamic regions. Standard Chartered also has a unique international footprint which enables the Bank to facilitate the growth of international trade corridors between Africa and the rest of the world. The Bank derives more than 70 percent of its operating income and profits from FX income and has been rewarded with the Best Consumer Digital Bank from Global Finance in 2017. Leading by example to be the right partner for its stakeholders, the Bank is committed to building a sustainable business over the long term and is trusted in Sierra Leone for upholding high standards of corporate governance, social responsibility, environmental protection, and employee diversity.

It employs 151 people, 53% of which are women. Standard Chartered Sierra Leone Ltd employees are of 4 nationalities all of which are represented among senior management.

Standard Chartered in Sierra Leone remains well-capitalized. Currently, its capital position is above the regulatory minimum. It has a balance sheet size of over 928 billion Leones and a non-performing loan of 0.5.

**Credit Risk Management Process at Standard Chartered Bank**

The Bank has positioned itself to be in operation for the long term hence they have effective risk management structures in place to promote sustainable business.

One of these processes includes the application of Group Risk Management standards in Sierra Leone. This provides the Bank with a strong and sustainable foundation for well-managed growth.

The Board of Directors has delegated the responsibilities for the management of credit risk to its Board Credit Committee. Which is responsible for oversight of the Bank’s credit risk as detailed below:

Formulating credit policies covering collateral requirements, credit assessment, risk grading, reporting documentaries, legal procedures, and compliance with regulatory and statutory requirements.

Establishing the authorization process for the approval and renewal. All facilities require the prior approval of the Bank's Credit Committee. Larger Facilities require approval by the Board of Directors as appropriate.

The Bank’s Credit Committee assesses all credit exposures before facilities are committed to customers. Renewals and reviews of the facilities are subject to the same process.

Limiting concentrations of exposure to counterparties and industries (for loans and advances)

Developing and maintaining the Bank's risk grading to categorize exposures according to the degree of risk of financial loss faced and to focus management on the attendant risks. The risk grading system is used in determining where impairment provisions may be required against specific credit exposures. The current risk grading framework consists of five grades reflecting varying degrees of risk of default and the availability of collateral or other credit risk mitigation. The responsibility for setting risk grades lies with the final approving executive/ committee as appropriate. Risk grades are subject to regular reviews by the Credit Policy Committee/Credit Risk Committee.

Reviewing compliance with agreed exposure limits, including those for selected industries, and product types. Regular reports are provided to the Credit Issues Committee on the credit quality of loan/ advances portfolio and appropriate corrective action is taken.

Providing advice, guidance, and specialist skills to promote best practices throughout the Bank in the management of credit risk.

## 1.2 Problem Statement

Commercial banks are key providers of financial information to the economy. They play an even more critical role in emergent economies where borrowers have no access to capital markets (Cornett and Saunders, 1999). There is evidence that well-functioning commercial banks accelerate economic growth, while poorly functioning commercial banks impede economic progress and exacerbate poverty (Barth, Caprio, and Levine, 2004).

In Sierra Leone, deposit money banks play an important role in mobilizing financial resources for investment by extending credit to various businesses and investors. Lending represents the heart of the banking industry and loans and advances are the dominant assets as they generate the largest share of operating income. Loans however expose the banks to the greatest level of risk. This has been witnessed in the banking sector in Sierra Leone in recent times. In the 2019 Bank of Sierra Leone Annual Supervision Report on the banking sector, it was revealed that credit risk among banks continues to be high with more than one-sixth of loans in the industry being non-performing thus further highlighting the enormity of credit risk that banks face.

In recent times, Credit risk has also been cited as a cause of the collapse of some banks in the world. Many failed banks in Sierra Leone were a result of the poor management of the facility.

The Bank of Sierra Leone has made a lot of strides in fulfilling its long-term commitment to credit risk management. Strategies like the establishment of the Credit Reference Bureau, credit risk management policy that elaborates the products that banks should be offered and all activities that have to be performed to manage the risk, review of banks credit policy, and constant training of staff in the field of credit management have been implemented. However, despite all of the above measures applied by the Bank of Sierra Leone to mitigate credit risk, it is unfortunate that most commercial banks in the country continue to experience increasing bad debts and declining profitability levels.

The increases in non-performing loans and bad debts have had an adverse effect of reducing the revenue and profitability of the banks. This problem if unaddressed could lead to a high insolvency risk for the bank given the fact that credit is the biggest line of business for commercial banks. It is on this basis that this study was undertaken to examine the importance of credit risk management on the financial performance of commercial banks in Sierra Leone.

## 1.3 Aims and Objectives of the Study

This study aims to examine the importance of credit risk management on the financial performance of commercial banks in Sierra Leone. We anticipate determining if the credit risk management strategies of banks are effective enough in achieving profitability and continuity.

To achieve this, four specific research objectives were developed.

To assess how the management of credit risk affects the financial performance of commercial banks.

To investigate the relationship between Credit Risk Management and financial performance of commercial banks in Sierra Leone.

To determine the impact of capital adequacy on the profitability of commercial banks.

To examine the effect of non-performing loans on total loan ratio on the profitability of commercial banks.

###  1.4 Research Questions

The following Research questions have been designed to effectively carry out the study:

1. What is the importance of credit risk management on the financial performance of commercial banks in Sierra Leone?
2. What is the relationship between Credit Risk Management and the financial performance of commercial banks in Sierra Leone?
3. What is the impact of the capital adequacy ratio on the financial performance of banks?
4. What is the effect of non-performing loans on the profitability of commercial banks?

## 1.5 Significance of the study

The main purpose of the study is to examine the significance of credit risk management on the financial performance of banks. The research will also examine the impact of each risk management strategy individually to understand the importance of each strategy.

To the best of the author’s knowledge, this study was carried out because there has been no study on credit risk management in Sierra Leone using the described parameters.

The outcome of the research work will have implications for policy practice in the banking sector in Sierra Leone. The study will provide much knowledge on the way various indicators used for managing credit risk impact a bank’s profitability. As a result, commercial banks can measure these indicators over time and respond suitably to improve their performance.

The outcome of the study will be useful to regulators in the banking industry as it can serve as a guide to policy formulation and direction on credit risk management.

From a practical standpoint, the contribution of this study will be of interest to scholars as well as management particularly in the banking sector to make decisions on how to improve the management of credit risk identification, credit risk assessment, and credit risk control to improve their financial performance

Since a copy will be deposited in the university making it available for researchers who are interested in this line of study, the findings of this study will be of immense importance to the would-be researcher.

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## Literature Review

This chapter presents discussions of existing theoretical knowledge on credit risk management and the financial performance of commercial banks. The review of literature is undertaken to situate the study in a broader international context.

## 2.1 Theoretical Literature

The major studies related to the importance of credit risk management on the financial performance of commercial banks have been reviewed as follows:

This study was supported by the moral hazard or adverse incentives first proposed by (Vaubel, 1983) which suggests the adverse incentives on bank owners to act in ways that are contrary to the interests of the bank's creditors mainly depositors or the government explicitly or implicitly insures deposits- by undertaking risky investment/lending strategies such as lending at high-interest rates to high-risk borrowers which, if unsuccessful, would jeopardize the solvency of the bank.

While offering a solution to the moral hazard effect, Koch and MacDonald (2000) noted that effective credit risk management begins with oversight of the risk in individual loans. Prudent risk selection is vital to maintaining favorable loan quality. Therefore, the historical emphasis on controlling the quality of individual loan approvals and managing the performance of loans continues to be essential (Comptroller’s Handbook, 2000). Milton (2000) while building on the moral hazard effect observed that there are three processes in the assessment of credit in commercial banks which include; the Loan Approval Process, Loan Monitoring Process, and Loan Termination Process all aimed at effective credit risk management. Although banks today secure their entire loan portfolio, their ability to mitigate loan default has always been a bank’s upsetting experience.

The moral hazard theory guided this study as it suggests the likelihood of management and staff offering risky credit facilities. This calls for effective credit risk identification, assessment, and control to mitigate the bank’s solvency problems leading to the achievement of the bank’s desired sales revenue and profitability.

### 2.1.1 The Concept of Credit

In the field of banking, the term credit represents the loans and advances a bank gives out to its customers or borrowers. similarly, bank credit is a facility that allows an individual or entity that has provided the necessary security to a bank the right to draw from the bank a certain approved amount. It is an arrangement that allows for deferment of payment of a loan or purchase. Credit refers to the provision of, or commitment to provide, funds or their substitutes to a borrower. This includes off-balance sheet transactions, overdrafts, credit lines for customers, finance leases, and bills purchased and discounted (Nyunja, 2011).

### 2.1.2 The Concept of Credit Risk

In the Banking industry, credit risk is considered the most important of all risks. It refers to the customers' inability or unwillingness to pay their debts, and constitutes a major source of loss not only on banks' profitability but also on the initial asset; the loss could be as partial as the total of any amount lent to the counterparty. Banks are faced with credit risk whenever they lend to the deficit side.

### 2.1.3 Credit Risk Management

According to Bert et al. (2003), credit risk management is defined as a process of granting credit, the terms it's granted, and recovering this credit when it's due. Therefore, one of the core functions of a bank is to control credit policies that will improve revenues and reduce financial risks. The Credit Management function incorporates all of a commercial bank’s activities aimed at ensuring that customers pay their loans within the defined payment terms and conditions (Kakuru, 2003).

The growth and survival of banks are centered on credit risk management. Afriyie and Akotey (2012) define credit risk management as an organized approach to the management of uncertainties”. This is done through the assessment of risks, mapping the best strategies to manage them, and implementing managerial skills and resources to ease the burden of its occurrences. The strategies to manage these risks include risk transfers where other parties are contracted to share the burden of the risk in the event of its occurrence. Other strategies include total avoidance of the risk, which is putting in place mechanisms to reduce the impact of the occurrence of a risk or accepting to accommodate the risk.

Gestel and Baesens (2008) contend that the management of credit risk can take diverse forms, but suggests that it begins with the right selection of products and counterparties. It is suggested further that the risk management strategies should correspond with requisite assessment models and qualified human resources. To reduce default risk, customers with such risk levels must be asked to provide adequate collateral to minimize the risk exposure of the bank. Gestel and Baesens (2008) state further that efforts should be made to match the pricing of the bank’s loan products with the corresponding estimated risk. They further maintain that these strategies among others if adhered to will ensure that banks are not overly exposed to risks whose occurrence exposes banks to liquidity and solvency crises.

Gestel and Baesens (2008) suggest that the credit allocation processes of a bank must provide an opportunity to diversify its risks across diverse borrowers and from different industries and geographical locations. This strategy is intended to spread the bank’s credit risk thereby avoiding credit concentration which can adversely affect the bank. Gestel and Baesens (2008) also suggest that banks adopt the strategy of obtaining guarantees through credit derivatives to enhance their asset quality.

Risk management in banks is a daunting task but comes with many benefits. It is at the heart of all financial institutions and it is involved in all activities of its risk portfolio. The main aim of reducing or managing risk in a financial institution is to reduce its impact on earnings or to avoid incurring large losses.

The Basel Committee on Banking Supervision (1999) established a four-stage approach to managing credit risk in the banking system, these include:

Establishing an appropriate credit risk environment.

Operating under a sound and acceptable credit-granting process.

Maintaining an appropriate credit administration, measurement, and monitoring process.

Adequate control over credit risk. By establishing an appropriate credit risk environment.

Banks are required to implement their systems, policies, and strategies for assessing, approving, issuing, reviewing, and retrieving credit in their firms. There must also be seen to be the existence of sound internal control systems and clear lines of communication and responsibilities in reporting potential risks within the firms. In that regard, management and the board must be seen as key players within the system of managing credit risk, hence the responsibilities of the key players must be spelled out. Under a sound credit granting process, banks are enjoined to establish credit granting criteria with limits of credits to be granted, the authority of loan officers, and a conducted analysis of the creditworthiness of loan applicants. As regards the maintenance of an appropriate credit administration, measurement, and monitoring process, banks are enjoined to develop internal credit risk rating systems and techniques as well as establish credit administration and monitoring systems internally.

 Finally, ensuring adequate control over credit risk requires banks to continuously review credit, properly management of the credit-granting systems as well, and ensure a well-functioning loan workout situation. Miller (1996) also argues that a credit risk management process begins with the decision-making before the allocation of credit thereby ensuring that managers assess the creditworthiness of customers before granting the loans, a follow-up of all credit commitments to ensure customers adhere to the terms and conditions under which the loans are granted such as payments of interest regularly, and monitoring and reporting at each stage of the loan process to ensure that, for example, the collaterals pledged in the event of default are existent and in good condition.

Several researchers have studied and identified the reasons behind bank failures and poor performances (Chirochiga, 1997; Santomero, 1997; Brownbridge and Harvey, 1998). Chief among these reasons is the weaknesses in credit risk management. Loans account for a greater proportion of the credit of the banks, which is usually 10–15 times their equity (Kitua, 1996).

Banks are therefore faced with some difficulties when there is a deterioration in the quality of loans (Boahene, et al., 2012) which is brought about following the information processing mechanism (Liukisila, 1996), and further increased the loan approval, monitoring, and controlling stage. This problem is further exacerbated when credit risk management policies, strategies, and procedures are either non-existent or weak.

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### 2.1.4 Credit Risk Management System of Banks

Numerous researchers have studied the reasons behind bank problems and identified several factors (Chijoriga, 1997, Santomera 1997, Brown, Bridge, and Harvey, 1998). Problems concerning credit especially, weakness in credit risk management have been identified to be the main part of the major reasons behind banking difficulties. Loans form a huge proportion of credit as they normally account for 10 – 15 times the equity of a bank. In this way, the business of banking is potentially faced with difficulties where there is a small deterioration in the quality of loans. Poor loan quality starts from the information processing mechanism (Liuksila, 1996) and then increases further at the loan approval, monitoring, and control stages. This problem is magnified especially when credit risk management guidelines in terms of policy strategies and procedures regarding credit processing do not exist or are weak or incomplete.

BrownBridge (1998) observed that these problems are at their acute stage in developing countries. To minimize loan losses as well as credit risk, banks must have an effective credit risk management system in place (Santomera 1997, Basel 1999). As a result of asymmetric information that exists between banks and borrowers, banks must have a system in place to ensure that they can do analysis and evaluate default risk that is hidden from them. Information asymmetry may make it impossible to differentiate good borrowers from bad ones (which may culminate in adverse selection and moral hazards) and has led to a huge accumulation of non-performing accounts in banks (Baster, 1994, Gobbi, 2003).

Credit risk management is vital to measuring and optimizing the profitability of banks. The long-term success of any banking institution depends on the effective system that ensures repayments of loans by borrowers which is critical in dealing with asymmetric information problems, thus, reducing the level of loan losses, Basel (1999).

Effective credit risk management systems involve establishing a suitable credit risk environment; operating under a sound credit granting process, and maintaining an appropriate credit administration that involves monitoring, processing as well as enough controls over credit risk (Greuning and Bratanovic 2003). Top management must ensure, in managing credit risk, that all guidelines are properly communicated throughout the organization and that everybody involved in credit risk management understands what is required of him/her.

 Sound credit risk management systems (which include risk identification, measurement, assessment, monitoring, and control) are policies and strategies (guidelines) that clearly outline the purview and allocation of a bank credit facility and how a credit portfolio is managed; that is, how loans were originated, appraised, supervised and collected (Basel, 1999; Greening and Bratanovic 2003, Pricewaterhouse, 1994). The activity of screening borrowers has widely been recommended by, among others, Derban et al, (2005).

The theory of asymmetric information from prospective borrowers becomes critical in achieving effective screening. In screening loan applicants, both qualitative and quantitative techniques should be used with due consideration for their relative strengths and weaknesses. It must be stressed that borrowers’ attributes, assessed through qualitative models can be assigned numbers with the sum of values compared to a threshold. This technique is termed “credit scoring” (Heffernan, 1996). The rating systems, if meaningful, should signal changes in the expected level of loan loss (Santomero, 1997). Chijoriga (1997) posited that quantitative models make it possible to among others, numerically establish which factors are important in explaining default risk, evaluate the relative degree of importance of the factors, improve the pricing of default risk, be able to screen out a bad loan application and be in a better position of calculating any reserve needed to meet anticipated future loan losses. Establishing a clear process for approving new credit and extending existing credit (Heffernan, 1996) and monitoring credits granted to borrowers (Mwisho, 2001) are considered important when managing credit risk (Heffernan, 1996). Instruments such as covenants, collateral, credit rationing, loan securitization, and syndication have been used by banks in developing countries to control credit losses. (Benveniste and Bergar 1987). It has also been identified that high-quality credit risk management staff are critical to ensuring that the depth of knowledge and judgment needed is always available, thus ensuring the successful management of credit risk in banks (Koford and Tschoegl, 1997 Wyman, 1999).

Credit Portfolio Management Supervisors of banks more often than not, place considerable importance on formal policies which are laid down by their boards and aggressively implemented by management. This is most critical of banks’ lending function, which states that banks adopted sound systems for managing credit risk (Greuning and Bratanovic, 1999). To appropriately analyze credit risk factors, banks’ chief credit risk officers are required to have a detailed understanding of the principal economic factors that drive loan portfolio performance and the relationship between those factors. Most credit risk officers in the banking industry analyze factors such as; inflation, the level of interest rates, the GDP rate, market value of collaterals among others, for banks in mortgage financing. Also, traditional financial management texts posit that credit managers would take note of the five Cs of credit – character, capacity, capital, collateral, and conditions to evaluate the probability of default (Casu et al, 2006; Zech, 2003). These factors are in line with the arbitrage pricing theory of Stephen Ross which is the most applicable to loan portfolio management. According to Uyemura and Deventer, (1993), many techniques in equity portfolio management applied to individual loans or loan categories which can be measured by the dependence of the loan’s return on the factors mentioned.

A higher risk means a higher loss at the given probability. It is intended to overcome the shortcomings of modern portfolio theory when the standard deviation is used as a measure of risk in risk-return relationships

***2.1.5. Credit Risk Mitigation and Financial Performance***

Kleindorfer and Saad, (2005) argue that prevention is better than cure, requiring credit risk managers to act fast to mitigate the risk. However, fast action can only be achieved when managers prioritize risk management activities and understand that credit risk management is one of their core management tasks. Credit risk control also needs to be supported by various functions within the firm. This requires support from senior executives enabling holistic thinking, joint decision-making, and fast implementation activities (Berg et al., 2008).

It has always been assumed that collateral could serve to secure the loan that on default, the collateral is converted for the outstanding loan balance. Thus, collateral is used mainly as a loss-mitigating tool for financiers thereby countering loan losses arising from default, (De Laurentis and Mattei, 2009).

Commercial banks usually take into consideration the use of loan loss provision and research on the determinants of loan loss provisioning to distinguish between non-discretionary and discretionary components of loan loss provisioning (Pinho and Martins, 2009). In most countries, provisions are set up between the specific and general provisions, where the former represents an identified loss in an individually assessed loan, or the amount of defaulted loans, while the latter is made against a portfolio of loans, and the computation of which varies significantly across countries (Borio and Lowe, 2001).

Perez, Salas-Fumas, and Saurina (2008) note that general provisions usually rise during an economic upturn, as banks give out more loans and the demand for credit is high during this period. During a downturn, loans to riskier companies would incur larger loan losses as risks materialize, and therefore higher specific loan-loss provisions follow.

Herrero's (2005) study on Venezuela's Banking Crisis found that among the reasons for Bank Latino’s failure were inappropriate lending practices, which allowed collateral to be used for multiple loans, poor loan quality, and a high concentration of loans in one sector. De Juan (2004) in Spain, argues that banking failures in Spain were caused by poor risk management especially credit risk which was aggravated by the concentration of the loan portfolio in the group to which the bank itself belonged.

### 2.1.6 Credit Policy

In the banking industry, credit policies are terms that govern credit granting. They represent an arrangement between the bank and its customers regarding the expected payment date, any discount offered, and the period in which the discount is available. Gurley et al. (1960) define them as standard or negotiated terms (offered by a seller to a buyer) that control the monthly and total credit amount, the maximum time allowed for repayment, the discount for cash or early payment, and the amount or rate of late payment penalty.

Credit terms may include the following:

**Length of time to approve loans**: This is the time taken from applicants to the loan disbursement or receipt. It is evaluated by the position of the client as indicated by the ratio analysis, trends in cash flow, and looking at the capital position.

**Maturity of a loan:**This is the period it takes a loan to mature with the interest thereon.

**Cost of loan:** This is interest charged on loans, the cost of the loan is different among banks in Sierra Leone.

According to the Business Dictionary (2017), a credit collections policy is a document that includes “clear, written guidelines that set the terms and conditions for granting loans and supplying goods on credit. In other words, it serves as a guide for customer qualification criteria, the procedure for making collections, and steps to be taken in case of customer delinquency.

The goal of a Credit Plan is to clearly define these elements so that market-facing employees conform to documented steps and procedures designed to optimize shareholders’ funds reduce credit risk, and improve overall cash flow. Antoine (2015) defines a collection policy as the procedure an institution follows to collect past-due accounts. Collection policy refers to the procedures banking institutions use to collect due accounts. The collection process can be rather expensive in terms of both product expenditure and lost goodwill (Nyawera, 2013). She continues by saying that collection efforts may include attaching mandatory savings forcing guarantors to pay, attaching collateral assets, and court litigation. The collection procedure is required because some clients do not pay the loan in time some are slower while others never pay. Thus collection efforts aim at accelerating collections from slower payers to avoid bad debts. Prompt payments are aimed at increasing turnover while keeping low and bad debts within limits (Angelo et al., 2006). However, caution should be taken against stringent steps especially on permanent clients because harsh measures may cause them to shift to competitors. This, therefore, calls for vigorous collection efforts. The yardstick for the measurement of the effectiveness of the collection policy is its negligence in arousing slow-paying customers.

### 2.1.7 Concept of Financial Performance

Financial performance is used as a general measure of a firm's overall financial status over a given period (Abor, 2005). The financial performance is measured using accounting key performance indicators such as Return on Assets, Earnings before interest and tax, and Economic value added (Crabtree and DeBusk, 2008). The advantage of these measurements is their general availability since every profit-oriented organization produces these figures for their yearly financial statements (Chenhall et al., 2007). This study adopted the use of Return on equity as an indication of a firm’s “overall financial health” (Bodie et al., 2011). It is a ratio that is used by analysts to evaluate the financial performance of a firm. Return on Equity shows the income generated for the shareholders by the equity, which is the financing provided by the shareholders (Alexander and Nobes, 2004). It provided evidence as to whether a firm was able to find viable investment opportunities (Berk and DeMarzo, 2011), something that was of great importance for firms that wanted to stay competitive. Return on equity is determined

by “earnings before interest and tax divided by equity”, following the lead of Abor (2005). The efficiency of banks can be measured by using the Return on Equity which illustrates to what extent banks use reinvested income to generate future profits (Foong, 2008).

### 2.1.8 Financial Performance Indicators

#### 2.1.8.1 Return on Assets (ROA)

Return on asset is the ratio of net income to total assets, measuring how profitable and efficient a bank's management is, based on the total assets (Guru et al., 1999, p.7). ROA can be calculated as follows:

**Return on Asset** = Net Income x Total Operating Income

 Total Operating Income Total Asset

Return On Asset is commonly used as an indicator of profitability and financial performance. Al-Khouri (2011) assesses the risk and performance of the Gulf Cooperation Council (GCG) banking sector which involves ROA as the dependent variable and credit risk as the independent variable. The research found a positive relationship between credit risk and ROA. Al-Khatib (2009) also evaluated the financial performance of five Palestinian Commercial Banks by using ROA and NPL. His study found a positive correlation between ROA and NPL. The Tafri et al. (2009) test of financial risk’s influence on the profitability of Malaysian commercial banks also uses ROA as an indicator of profitability. Ruziqa (2013) developed a similar topic to the Indonesian Conventional Banks by still using ROA to represent financial performance. Among all the measurements, ROA is the major measure to assess a bank's performance (Ongoreand Kusa, 2013, p. 239; Chirwa, 2003, p.567). From previous studies, it was noted that ROA is commonly used as an indicator of profitability. Hence, ROA is used as a profitability measure in this research.

#### 2.1.8.2 Return on Equity (ROE)

The Return on Equity (ROE) is a financial performance that defines the ability of management to generate a return out of the equity entrusted to them by owners. ROE has been used as a proxy to determine the financial performance of commercial banks (Alin et al., 2009). The return on equity is computed by the ratio of net income to shareholders’ equity. It is a measure of profitability that calculates how many dollars of profit a company generates with each dollar of shareholders' equity (Pasiouras & Kosmidou, 2014).

### 2.1.9 Credit Risk and Financial Performance

Credit risk is the exposure faced by banks when a borrower defaults in honoring debt obligations on the due date or at maturity (Coyle, 2000). It can also refer to counterparty risk and if not adequately managed, it is capable of putting the bank in distress. A framework for understanding the impact of credit risk management on the profitability of Commercial banks’ is realized through credit risk management. It maximizes the bank’s risk-adjusted rate of return by maintaining credit risk exposure within an acceptable limit in order (Kargi, 2011).

Better credit risk management results in better bank performance. Thus, it is of crucial importance that banks practice prudent credit risk management safeguarding the assets of the banks and protecting the investors' interests. Singh (2015) stated that there was a significant relationship between bank performance (in terms of return on assets) and credit risk management (in terms of non-performing assets). The study also revealed banks with higher profit potentials could better absorb credit losses whenever they cropped up and therefore recorded better performances of the commercial banks in India.

Felix and Claudine (2008) researched the relationship between bank performance and credit risk management. Their study found that credit harms the profitability of commercial banks in Indonesia. The findings revealed that equity was inversely related to the ratio of non-performing loans to total loans and advances of financial institutions thereby leading to a decline in a Bank’s financial performance. Research done by Jimenez and Saurina (2004) on bank-specific credit risk determinants in Spain revealed that collateralized loans have a higher probability of default. They highlighted that banks, whose probability of loan defaults is protected by collateral, have fewer incentives to undertake adequate screening and credit assessment at the time of loan approval. This is because the type of loan is also a significant determinant of credit risk where loans given by saving banks are riskier and are prone to default. A close relationship between the bank and the borrower is also found to be significantly positively related to credit risk where this relationship increases the banks’ willingness to take more credit risk by lending to riskier firms.

Ahmad and Ariff (2007) examined the key determinants of the credit risk of commercial banks in emerging economy banking systems compared with the developed economies. The study found that regulation is a prerequisite for banking institutions that offer multi-services and products; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision is also considered a factor influencing credit risk. The study further revealed that credit risk in banks that operate in an emerging economy is higher than that in developed economies.

Commercial banks that are keen on making high profits should concentrate on other factors other than focusing more on the amount of credit and non-performing loans. Kargi (2011) has evaluated the impact of credit risk on the profitability of Nigerian banks. The findings revealed that a bank's profitability is inversely influenced by the levels of loans and advances, non-performing loans, and deposits thereby exposing it to great risk of illiquidity and financial distress. Furthermore, weak credit risk management decreases profitability, affects the quality of its assets, and increase loan losses and non-performing loan which may eventually lead to financial distress.

### 2.1.10 Credit Risk Management Indicators

#### 2.1.10.1 Capital Adequacy Ratio (CAR)

This is a key indicator often used to assess the soundness of a bank. Hyun and Rhee (2011) defined CAR to be “the ratio of capital to the risk-weighted sum of a bank’s assets”. This ratio assists in measuring a bank’s capital about its credit risk exposures (risk-weighted). Following the banking crisis over a decade ago, occasioned by the subprime mortgage problems in the US, banking supervisors and regulators across the globe have developed regulations and supervisory focus on the adequacy of capital for the sector. According to Hyun and Rhee (2011), this is largely a result of mortgage and associated securities losses which have a high tendency to decrease the capital position of a bank. To compute the CAR, the total capital of the bank is divided by the total assets (risk-weighted).

#### 2.1.10.2 Non-Performing Loans

This refers to credit advances for which borrowers are more than 90 days late in repaying both interest and principal. According to Hosna et al. (2009), the non-performing ratio (NPLR) is a variable used to determine a bank's loan portfolio quality, as well as a tool for assessing the efficiency of a bank in managing credit risk. NPLR indicates the proportion of loan loss amounts for all loans, thus it gives signals of how banks have managed their credit risk (Hosna et al., 2009). According to Gizaw et al. (2015), the NPLR is a major pointer to the performance of a bank's credit risk management. They indicated further that empirical evidence suggests that non-performing loans significantly impact a bank’s profits negatively when return on assets (ROA) is used as the measuring variable.

#### 2.1.10.3 Cost per Loan Assets (CPLA)

This refers to the average cost per loan to borrowers in monetary terms. The cost per loan asset is usually computed by dividing total operating costs by total loans. It is used to indicate how efficiently the bank has distributed loans to its clients (Kolapo et al., 2012; Ahmed and Ariff, 2007). The CPLA is therefore regarded as a variable for determining the performance of a bank in terms of credit risk. Thus all things being equal, Banks that exhibit efficiency in the management of their expenses (costs), will post high profits. Therefore, the cost per loan assets and bank performance usually has a negative association, except in cases where the increases in costs are a result of increases in business (loan advances) for which the bank will still make high returns.

#### 2.1.10.4 Total Loan Ratio (TLR)

Total Loan Portfolio is the balance of all loans that the bank has issued to individuals and entities that are calculated on a specific date. The loan portfolio is one of the reporting indicators that are part of the assets of a bank. The financial statements of banks reflect the gross loan portfolio, which represents the total volume of loans issued to customers on a specific date, and the net loan portfolio, calculated as the difference between the gross loan portfolio and the amount of loan loss provisions (LLP), which are formed by the bank in case of possible default or improper performance by borrowers of their obligations to repay the debt.
The bank’s loan portfolio can be calculated both based on IFRS reporting and based on information in the reporting compiled according to local standards. Information on the bank’s net loan portfolio in IFRS reporting is reflected as assets in the statement of financial position of a bank.

### 2.1.11 Credit Risk Monitoring and Financial Performance

Derban et al., (2005) observe that risk monitoring of borrowers is very important as current and potential exposures change with both the passage of time and the movements in the underlying variables, and also very important in dealing with moral hazard problems. Monitoring involves, among others, frequent contact with borrowers, creating an environment where the bank can be seen as a solver of problems and a trusted adviser; and developing a culture of being supportive to borrowers whenever they are recognized to be in difficulties and striving to deal with the situation; monitoring the flow of borrower’s business through the bank’s account; regular review of the borrower’s reports as well as an on-site visit; updating borrowers credit files and periodically reviewing the borrowers rating assigned at the time the credit was granted (Mwisho, 2001).

Tools like covenants, collateral, credit rationing, loan securitization, and loan syndication have been used by banks in the developing world to control credit losses (Hugh, 2001). It has also been observed that credit staff are critical to ensure that the depth of knowledge and judgment needed is always available, thus successfully managing the credit risk in commercial banks (Koford and Tschoegl, 1997; Wyman, 1999). Donaldson (1994) observes that computers are useful in credit analysis, monitoring, and control, as they make it easy to keep track of the trend of credits within the portfolio. Marphatia and Tiwari (2004) argue that risk management is primarily about people – how they think and how they interact with one another.

Technology is just a tool; in the wrong hands, it is useless. This stresses further the critical importance of qualified staff in managing credit risk. In sum, risk control activities aim to reduce the probability of risk occurrences and reduce the negative impact of an occurred risk (Tomlin, 2006). Sheehan (2010) equally notes that for activities with a high likelihood of occurring, but where the financial impact of each event is small, the best risk response is to use the firm’s management control systems to reduce the potential for loss. For activities that involve a high probability of losses of a large financial magnitude, the best risk response is to avoid the activity. For activities that have a low probability of occurring, but the financial impact of each event would be of a large magnitude, the best risk response is to transfer a portion or all of the risk to a third party either by purchasing insurance, hedging, outsourcing, or entering into partnerships. If a cost-benefit analysis determines the cost to mitigate the risk is greater than the cost ascribed to bearing the risk itself, then the best risk response is to accept the risk. The firm should not take any action, other than to acknowledge the risk and monitor it. By first identifying which events pose the greatest threat to the firm, managers can employ its management control system to its maximum benefit. It allows managers to design the management control system to align the firm’s risk exposure with the board of directors’ risk appetite.

Many firms fail because of poor credit management (Perrin, 1998; Summers and Wilson, 2000) and it is evident that one of the main factors in late payment is the mismanagement of and passive role assigned to trade credit in organizations. The costs of managing late payments can erode profitability, especially when profit margins are tight (Paul, 2007). Unlike statutory interest provisions, firms have a significant degree of agency regarding the management of trade debtors. The data presented below suggests that most SMEs have failed to develop an appropriate and effective capacity in this regard, compounding the regulatory failures.

Firms with high business risk are more likely to face bankruptcy and such firms are expected to face greater agency problems and hence need more intensive monitoring. Institutional investors are considered to have a key role in mitigating the agency's problems and thus minimizing bankruptcy costs (Maug, 1998).

Furthermore, Credit insurance may be a sound option for SMEs: it can transfer risks and reduce earnings uncertainty (Wilson, 2008). It also provides some related services such as: “continuous monitoring of creditworthiness of the insured’s customers, maintaining account receivables, suggesting payment and delivery conditions and supporting debtor’s collection” (Wilson, 2008, p. 149). Wilson argues that it enhances access to finance, as firms with credit insurance may get better terms from banks because the value of debtors is used as collateral. Paul and Boden's (2008) results showed that credit staff spent most of their time on back-end activities, such as chasing late payments, despite the evident importance of front-end operations such as customer risk assessment.

As might be expected, those who spend more effort at the front end reduce the time spent on collection activities and resolving disputed billing. Waweru and Kalani (2009) highlighted a lack of aggressive credit collection policy as the most important factor, while poor credit assessment and untrained personnel were ranked second in contributing to bad loans in Kenya while other respondents noted that the bank negligence in monitoring loans and insider lending/owner concentration loans contributed to the problem of bad debts. Mazumder and Ahmad (2010) noted that financial institutions are equally faced with the challenge of credit monitoring in that after the loan is approved and draw down allowed, the loan should be continuously watched over. These include keeping track of borrowers’ compliance with credit terms, identifying early signs of irregularity, and monitoring timely repayments. This has not been easily observed and achieved in most financial institutions due to a lack of adequate resources and infrastructures.

Siddiqui, Malik, and Shah (2012) in their study of NPL in Pakistan, noted the critical challenges of limited resources in the loan recovery efforts of banks. This necessitates the importance of emphasizing recovery of big loans and unless it can be demonstrated very clearly through action that these top defaulters are pursued with success, there would be little incentives for small defaulters to settle their debts.

### 2.1.12 Measuring Financial Performance

Financial performance according to Nduati (2013) “is an indicator of how profitable a company is relative to its total assets”. Murthy and Sree (2003) observe that the measurement of bank performance involves a wide variety of financial ratios. However, return on Assets, Return on Equity (ROE) and Net Margin are common in the literature. Curry (1994) (as found in Ngumi, 2014), observes that the computation of financial ratios is grouped broadly into five categories namely liquidity, leverage, turnover, profitability, and valuation methods. Profitability constitutes one of the most vital aspects of business life according to Pantawala (2009). It follows that profitability constitutes to a large extent the most appropriate measure of financial performance. A firm may realize a higher volume of sales but this may not necessarily translate into higher profit levels. The use of profitability as a measure of financial performance is further reinforced by the fact that profitability is indicative of the financial robustness of a financial institution in that it affects other financial performance measures such as liquidity and leverage. According to Rivard and Thomas (1997), the Return on Assets (ROA) is the best variable for measuring a bank’s profitability. They added that the ROA is not distorted by high equity multipliers and it gives a better picture of the bank’s ability to generate returns on its assets.

## 2.2 Empirical Literature

Hosna et al. (2009) in Switzerland conducted a study to ascertain the association between non-performing loans, capital adequacy ratios, and profitability of selected Swiss banks. Data collected in their study spanned a period of 9 years from 2000 to 2009. The results of their study indicated that the rate of nonperforming loan and capital adequacy ratios were significantly negatively related to profitability as operationally measured using ROE. Findings however showed that the magnitude of the impact of NPL and CAR differed across sampled banks. Such a negative association between profitability and credit risk measures has been reported in many other studies (Achou and Tenguh, 2008; Kolapoet al., 2012; Musyoki and Kadubo (2011).

The findings of Ogboi and Unuafe (2013) in Nigeria, suggest that an effectively managing credit risk, as well as adequate capital, impacts positively on the bank performance. Conversely, loans and advances were found to have impacted negatively the performance of banks. The study which took place in Nigeria utilized secondary data (time series and cross-sectional) collected from the annual historical financial data of 6 banks in the country covering the period 2004 to 2009. The study utilized the panel data model in estimating relationships among dependent and independent variables. The return on asset (ROA) was adopted as the dependent variable while capital adequacy (CA), non-performing loans (NPL), loan loss provisions (LLP), and loans and advances (LA) represented independent variables.

Also, the study of Marshal and Onyekachi (2014) in Nigeria investigated how the handling of credit risk impacts the performance of banks. The study which covered 5 banks in Nigeria made use of secondary data (time series and cross-sectional) sourced from the annual reports of the selected banks for the period 1997 to 2011. The study consumed a panel data model in estimation and regression techniques to analyze collected data. It was found that the NPL ratio and loan and advances and performance had a positive relationship. The findings also indicated that the loan portfolio of the sampled banks had fewer non-performing loans. The study concluded that increases in the advancement of credits increased interest incomes hence an enhanced bank performance.

In a related study, Kithinji (2010) in Kenya examined the association between the management of credit risk and the profitability of Kenya’s commercial banks. The study analyzed data from the historical financial standings of the banks covering the period 2004 to 2008. The study adopted trend analysis and a regression model to establish relationships existing among profits and loans that have gone bad. The findings indicated that the profits of the selected banks were not impacted by the level of credits advanced as well as non-performing loans of the banks. Thus the need to consider other factors responsible for bank performance was established. The findings of the study also underscore the need to extend the duration of the collection of data, as longer periods of data collection can provide a better picture of what factors impacted performance the most.

Kargi (2011) in Nigeria suggests that an effectively managed credit risk impacts significantly on bank performance (profitability). The study established that an inverse relationship exists between the performance (profits) of the bank and evaluated variables namely loan and advance levels, NPL, and deposits. Thus the banks are susceptible to liquidity risk and financial distress. The study which was conducted in Nigerian banks, used secondary data gathered from the banks ‘final accounts covering the period 2004 to 2008. The gathered data was analyzed through descriptive statistics, correlation, and regression techniques. The study suggested that further studies must be done and the analysis of credit risk must be comprehensive with consideration of capital to asset ratio (risk-weighted).

The study by Kolapo et al. (2012) in Nigeria on how the management of credit risk impacts bank performance, covered eleven years between 2000 and 2010. The study was also undertaken in Nigeria where 5 commercial banks were sampled and studied. The study utilized ROA as a performance (profitability) measure and other variables for credit risk. These variables were the ratios of NPL to loans; Total loans to Total deposit; as well as loan loss provision to classified loans. In estimating the profit function variables, the study utilized the Panel model in the analysis. The findings indicated that increased NPL provisioning for loan losses hurt profits by reducing profits. These findings were found to be common among all the sampled banks. However, it was found that increases in total loan advances resulted in increases in bank profitability.

Goddard et al. (2004) in Europe study the influential factors of the profitability of banks in Europe. They found a positive relationship between the CAR (bank capital and reserves to total assets) (The World Bank, 2014) and profitability. Sammy and Magda (2009) in Malaysia also investigate the importance of credit risk management on the performance of banks in Egypt. The research provides a comprehensive framework to measure the impact of capital adequacy on two indicators of bank performance: cost of intermediation and profitability. The result of the research indicates that higher capital adequacy “increases the interest of shareholders in managing the bank’s portfolio” which generates a “higher cost of intermediation and profitability”.

Samy and Magda, (2009) in Malaysia said that previous studies also show a close relationship between NPLR and credit risk management. For example, Brewer and Jackson (2006) involve non-performing loans (NPLs) to total assets ratio (NPLR) as an indication of efficient management of credit risk. In addition, Tafri et al. (2009) examine the relationship between credit risk and profitability of the conventional and Islamic banks in Malaysia between the periods from 1996 to 2005. And found a significant relationship among them. The researcher uses a “proportion of allowance for the loan loss to total assets” (Tafri et al., 2009, p.6) which has a close relationship with NPLR to represent the credit risk. At the beginning of Tafri et al.'s (2009) research, they emphasize that profitability is an “ultimate” test for the effectiveness of risk management. According to Boudriga, Taktak, and Jellouli (2009), NPLs are also involved in assessing the role of regulatory supervision on credit risk and they found a positive relationship between them.

Salas and Saurina (2002) in Spain indicate the tendency of state-owned banks to take riskier projects than to provide more favorable credits for small and medium firms. So that it will encourage the development of the economy. However such risk-taking behavior will lead to a higher level of NPLs. Some researchers also examine the relationship between the ROA and NPLR. Godlewski (2004) uses ROA as a measure of profitability and finds a negative relationship between ROA and NPLR.

The study of Poudel (2012) in Nepal which was carried out on banks in Nepal had a similar objective to investigate how the management of credit risk affects financial performance. The study used the Return on Asset (ROA) as a proxy for bank performance and other variables (independent variables) as measures of credit risk. The independent variables included capital adequacy ratio, default rate, and cost per loan assets. In analyzing data collected for the study, analytical techniques including correlation and regression analysis were employed. A substantial negative relationship was observed between return on assets (ROA) and all the independent variables (credit risk management parameters). Thus the credit risk management variables have inverse relationships with the performance of the sampled banks.

In the later discussion of our research, we will present an analysis of NPLR as independent variables and ROA as dependent variables. Therefore, NPLR seems appropriate as an indicator of our research. Conclusively, the choice of CAR and NPLR is based on their properties and frequency of occurrences in previous studies. CAR measures the amount of a bank’s capital which is related to the amount of risk-weighted credit exposure. It is also regulated in Basel regulation and must be a crucial factor for bank managers to be concerned in credit risk management. As for NPLR, it is relevant to bank loans. Bad loans have a close relationship with banks' credit risk and influence the efficiency of credit risk management. Thus, we consider it would be reasonable to use CAR and NPLR in our research, and further discussion of these two variables will be presented in the following sections.

## Methodology

This chapter presents the methods that were used in the study. It describes the research design, study population, sample size, and selection, data collection methods and instruments, validity, and reliability of findings, data analysis of quantitative, and qualitative data, and the measurement of variables.

## 3.1 Research Design

To examine the importance of credit risk management on the financial performance of commercial banks in Sierra Leone, a qualitative and quantitative research design was used The sample data was collected from three (3) commercial banks licensed by the Bank of Sierra Leone. Secondary data was collected from audited and published financial statements of the selected commercial banks and the Bank of Sierra Leone Annual Supervision report.

The study adopted a descriptive cross-sectional design using both qualitative and quantitative approaches. The cross-sectional approach was used because the issues of credit risk management and financial performance were to be collected at one point in time. The quantitative approach was used to answer the questions of how much and how many and was concerned with the causal relationships between variables (Polit and Beck, 2004). The qualitative approach was used to examine the subjective experience of a phenomenon or process holistically and thoroughly when little is known about the topic (Polit and Beck, 2004).

### 3.1.1 Quantitative Data Analysis

The data collected was summarized using variables to examine the relationship between NPL and financial performance by use of Microsoft Excel to enable the researcher to describe the study. The data was presented in the form of descriptive tabulations, percentages, and ratios before a comprehensive analysis of statistics was generated to determine their relationships.

### 3.1.2 Qualitative Data Analysis

Qualitative data collected was compiled, edited, coded, and categorized by finding patterns, trends, and relationships from the information gathered. Primary data collected like interviewees’ responses were analyzed for content and finding patterns were discussed in line with the research objectives to establish areas of convergence and divergence. The analysis involved listing and summarizing data in compilation sheets of developed themes.

## 3.2 Study Population

A research population generally refers to the sum of elements of an identifiable group from which a researcher chooses a portion to make inferences about an attribute of the population. The population for this study is the staff of ABSL, SLCB, and SCBSL. The study was conducted in the headquarters offices of the three banks. The sample population was 70 employees comprising selected staff from the credit, marketing, and Finance departments.

A random sample of these staff (i.e. credit, marketing, and finance departments) from the three banks was conducted. From the random sampling, 20 staff were selected from ABSL, 30 from SLCB, and 20 from SCBSL. The choice of the sample was due to the number of staff in each of these departments in the three banks

 The categories for each bank are shown in the table below:

**Table 1: Showing the target population and the category for each bank**

|  |  |  |  |
| --- | --- | --- | --- |
| **BANK** | **ABSL** | **SLCB** | **SCBSL** |
| Unit Heads/Senior Managers in Finance, Credit and Marketing. | 4 | 7 | 5 |
| Finance Officers | 4 | 5 | 3 |
| Credit Officers  | 2 | 5 | 2 |
| Junior Credit/Finance/Marketing Officers  | 10 | 13 | 10 |
| **TOTAL** | **20** | **30** | **20** |

The above group of the study population made up the sample.

The period of study was chosen recently enough to ensure data was readily available and reliable for the study. The convenience sampling method was used in choosing the banks for the study. Moreover, in selecting the 3 commercial banks for the study, due care was given to include banks such as Indigenous banks, Nigerian banks, international banks, and best performers in the industry.

The banks selected for the study are Access Bank Sierra Leone Limited, Standard Chartered Bank, and Sierra Leone Commercial Bank. Secondary data were sourced from the Annual Reports of the banks in the sample and the Bank of Sierra Leone Supervisory reports. This study adopted a descriptive and causal-comparative research design. The impact of credit risk management on the financial performance of commercial banks using Microsoft Excel for data analysis.

### 3.2.1 Sampling Techniques and Procedures

The researcher used both probability and non-probability sampling techniques. In this study, the senior managers, finance officers, and loan officers were purposively selected because they were equipped with important information required for the objectives of the study. Marketing staff were subjected to simple random sampling to avoid bias.

## 3.3 Instrument for the Research

Before the collection of primary data, an introductory meeting was held with the credit management finance team of the three commercial banks that were selected. This is to seek permission to carry out the study and to clearly explain the purpose of the study and provide further proof of the researcher’s intention. After the meeting, questionnaires were then personally distributed to the subjects and then later collected after one week for sorting and data analysis.

Appointments for interviews were made through telephone conversations with each staff. This was to allow interviewees to be interviewed separately to allow for individual opinions and openness during the interview.

### 3.3.1 Data Collection Methods

The study utilized both qualitative and quantitative methods of data collection. Qualitative methods involved the use of open-ended questionnaires and interviews on credit risk management and financial performance, while quantitative involved the use of closed-ended questionnaires.

### 3.3.2 Questionnaires Method

The questionnaire method was used in the collection of quantitative data. The questionnaire method helped in producing specific responses which are easy to analyze. This method was also economical in terms of time management as questionnaires were easy to fill and took less of the respondents` time and that of the researcher to administer and analyze them (Amin, 2005).

The questionnaires were issued to all 70 respondents from the selected banks.

### 3.3.3 Face to Face Interviews Method

Open-ended questions were asked to get information from respondents and the responses were written down by the researcher. Interviews were conducted with senior management and the heads of departments in credit, finance, and some staff in marketing in the selected banks.

### 3.3.4 Interview Guide

The interview guide was developed by the researcher to be used when conducting interviews for the purposive sampling strategy as guided by Marjorie (2003). Marjorie asserts that in every community, family, neighborhood, workplace, and school are people who have knowledge and skills to share.

In this category of respondents, we had the Head of Risk Management and Finance who are at senior management levels.

### 3.3.5 Pretesting of Data Collection Instruments

The research instruments were pretested amongst 4 senior staff of each bank to ensure the validity and reliability of the instruments before distribution to the actual respondents.

## 3.4 Method of Analyzing the Data

Upon completion of this process, data were compiled, sorted, edited, organized, and then analyzed using the Microsoft Excel Package.

Data was organized in a manner that facilitates analysis and it involved data being converted to support accurate analysis. Completed questionnaires were edited for completeness, accuracy, uniformity, and comprehensiveness.

The interview guide was used to check the feedback from the respondents, noting the relationships between the given answers and asked questions. The data analysis helped the researcher to make conclusions on the previously stated hypothesis.

### 3.4.1 Justification for ROA as the Preferred Performance Measure

In evaluating the performance of managers of a company, two key measures, namely return on assets (ROA) are utilized to determine how effectively entrusted resources have been put to use. However, it is commonly measured using Return on Assets (ROA) as it is not distorted by high equity multipliers and represents a better measure of the ability of a firm to generate returns on its portfolio of assets” (Rivard and Thomas, 1997, p.63). Rather than simply indicating strong returns on the sales of the company, the ROA is better at accounting for the support services of the assets of the company in its operation and determines its capacity to generate adequate returns on the assets (Furhmann, 2019). Also, the study of Aliabadi, Dorestani, and Balsara (2013), which examined six key performance measures to ascertain which one is most relevant in selected industries globally, found the ROA to be the most relevant accounting measure. The study, therefore, adopted the ROA as the preferred performance measure and the dependent variable for the specified model of the study.

### 3.4.2 Justification for NPL and CAR as the Preferred Measurement for Credit Risk Management

For the indicators of credit risk management, we chose CAR and NPLR. The reason we involved them is based on their properties related to credit risk management and their frequency of occurrence in previous studies. Brewer et al. (2006) regard non-performing loan ratio (NPLR) as a significant economic indicator. It implies that lower NPLR is related to the lower risk and deposit rate.

## 3.5 Ethical Considerations

In every research conducted it is necessary to follow ethical requirements, Bryman and Bell (2007), defined Ethics as codes and conducts that researchers follow in research work. The researcher endeavored to maintain a high ethical standard throughout the study.

Before the study was conducted, the researcher familiarized herself with the guidelines of ethical research and behavior. This provides the rules on how to research appropriately to safeguard the dignity and well-being of the research participants. In this study, I complied with the ethical guidelines of the selected banks. Such as getting a letter of consent from the three banks.

The following points were employed in the study for ethical consideration:

**Informed Consent**: Permission to conduct the research was granted through a letter of consent from the Human Resources Office of the three banks. The objectives and instructions concerning the questionnaires were detailed on the front page of the questionnaire for easy completion by the respondents.

**Confidentiality:** Participants were assured that the information presented during the research would not be disclosed to any person and that strict confidentiality would be maintained.

**Voluntary Participants:** The participants were not coerced to answer the questions. They were encouraged to answer the questions of their own volition.

**Anonymity**: All participants were guaranteed anonymity to answer the questions in the questionnaire freely and were assured that after receiving the completed questionnaire there would be no further personal contact.

**Avoid Plagiarism**: The researcher ensures that there is no plagiarism. All sources were duly referenced.

## Result and Discussion of Findings

## 4.1 Results from the Literature Review

Following the fact that credit risk is one of the greatest and most important risks faced by banks and other financial institutions, and the impact such risk has on their profitability or performance, many researchers have taken a keen interest in finding out the importance of credit risk on banks’ profitability and have come out with varied findings regarding this relationship. While some findings established a negative relationship between credit risk management and financial performance, others found a positive relationship.

This section however presents results from the study findings to assess the importance of credit risk management on the financial performance of commercial banks in Sierra Leone to previous scholars’ findings, opinions, viewpoints, and recommendations from the literature review.

### 4.1.1 Credit Risk Management and Financial Performance of Commercial Banks

 The study found that credit risk significantly affected the financial performance of the banks. It also suggests that effective credit risk management has a significant positive effect on the financial performance of the bank and vice versa. These findings are supported by Morrison (2002) in the United Kingdom who views that the main activity of bank management is not about giving loans or deposit mobilization but also effective credit risk management which reduces the risk of customer default. The study found out that credit risk management in the bank did not adequately consider the regulatory risk-related factors and the bank’s ability to absorb the credit-related losses which constrain effective risk analysis and control for failure to expose such adverse risk origins.

According to Kwabena (2014) in Ghana, there is a significant relationship between bank performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit risk management results in better bank performance. Thus, banks must practice prudent credit risk management to safeguard the assets of the bank and protect the investors’ interests. The study further opines there is a positive relationship between profitability (ROA) and loan loss (NPA). It also shows there is an inverse relationship between higher interest income and lower loan losses.

According to Hamid et al. (2013) in Iraq, shareholders’ value decreases due to increased credit risk and vice versa. In such a situation, commercial banks suffer severe consequences that adversely affect banks’ financial performance. These negative and significant results are in contradicted the studies (Frederic, 2014, Kolapo et al., 2012; Zou and Li, 2014; Imamul and Arif, 2015) who found a significant and positive relationship, and some found an insignificant association between credit risk and financial performance of banks. This finding relates to a great extent to what Llewellyn (2008) noted that credit risk management significantly affected the financial performance of the bank suggesting that efforts to harness credible credit risk data and risk estimation in the bank’s risk assessment practices have a resultant significant positive effect on the financial performance and vice versa.

Abiola and Olausi (2014) in Nigeria have analyzed the impact of credit risk management on the performance of commercial banks in Nigeria. The panel regression model was employed for the estimation of the model. In this model, Return on Asset (ROA) was used as the performance indicator whereas Non-Performing Loans (NPL) and Capital Adequacy Ratio (CAR) as the credit risk management indicators of the commercial banks. The findings have revealed that credit risk management has a significant impact on the performance of the banks in Nigeria. Furthermore, the results show that the sampled have poor credit risk management practices; hence the high levels of non-performing loans in their loan portfolios. Despite the high levels of the NPLs, their profit levels keep rising as an indication of the transfer of the loan losses to other customers in the form of large interest margins.

Goddard et al. (2004) in Europe study the influential factors of the profitability of banks in Europe. They found a positive relationship between the CAR (bank capital and reserves to total assets) (The World Bank, 2014) and profitability. Samy and Magda (2009) investigate the importance of credit risk management on the performance of banks in Egypt. The research provides a comprehensive framework to measure the impact of capital adequacy on two indicators of bank performance: cost of intermediation and profitability. The result of the research indicates that higher capital adequacy “increases the interest of shareholders in managing the bank’s portfolio” which generates a “higher cost of intermediation and profitability”.

Samy and Magda, 2009 previous studies also show a close relationship between NPLR and credit risk management. For example, Brewer and Jackson (2006) involve non-performing loans (NPLs) to total assets ratio (NPLR) as an indication of efficient management of credit risk. In addition, Tafri et al. (2009) examine the relationship between credit risk and profitability of the conventional and Islamic banks in Malaysia between the periods from 1996 to 2005. And found a significant relationship among them. The researcher used the “proportion of allowance for the loan loss to total assets” (Tafri et al., 2009) which has a close relationship with NPLR to represent the credit risk. At the beginning of Tafri et al.'s (2009) research, they emphasize that profitability is an “ultimate” test for the effectiveness of risk management. According to Boudriga, Taktak, and Jellouli (2009), NPLs are also involved in assessing the role of regulatory supervision on credit risk and they found a positive relationship between them.

## 4.2 Empirical Result from the Study

To examine the relationship between credit risk management and the financial performance of commercial banks in Sierra Leone, a comparison study was done using the dependent and the independent variables. This section shows the relationship between credit risk and the financial performance of the banking sector in Sierra Leone using qualitative and quantitative data. The quantitative findings were conducted to ascertain the relationship between credit risk management and financial performance using variables. Credit risk is measured in two ways; capital adequacy and non-performing loans, and financial performance is measured by return on asset.  Further research to ascertain the importance of credit risk management and profitability is encouraged, especially in Sierra Leone where non-performing loans have been on the increase in recent times. The main purpose of this study is to explore the importance further.

### 4.2.1 Response Rates

This gives the number of people who responded to the study against those whom the researcher had targeted and also the characteristics of the respondents regarding gender, age, level of education, current role, and term of service. This was based on the information provided in the questionnaire and interviews by the respondents.

Response rate = Received questionnaires 65\* 100 = 92.86%

 Total Questionnaires Distributed 70

A total of seventy (70) questionnaires were distributed amongst staff of Access Bank Sierra Leone Limited, Sierra Leone Commercial Bank, and Standard Chartered Bank Sierra Leone. These questionnaires were distributed to sample views of staff of the bank on some insightful questions on the importance of credit risk management on the financial performance of commercial banks in Sierra Leone as well as suggestions on how banks could manage credit risks to boost profitability. These views are not representative of staff in all the Commercial banks and their branches but sample a fair representation. Out of the seventy (70) questionnaires, sixty-five (65) questionnaires were reclaimed representing 92.86% of total anticipated respondents.

This shows that the response rate for this research was high. Amin (2005) suggested that a high response rate also suggests more accurate survey results.

### 4.2.2 Background information

The background information about the respondents about gender, age, level of education, job title, roles, and experiences were investigated. Findings are presented in the sections below;

**Figure 1. Showing the gender distribution of the respondent**

The above figure shows the gender of the respondents. Thirty-nine (39) males and twenty-six (26) females across the age of 21-60 years representing 60% and 40% respectively from the three (3) selected commercial banks.

#### 4.2.2.1 Finding the term of service of the respondents

The time frame that the respondents have taken in the bank was observed in the study because their duration in the bank may influence the quality of data collected given that the more an employee is experienced with the policies, processes, and procedures of the bank, the more knowledgeable he or she is likely to be in that function. The term of service of the respondents was arrived at by asking them to indicate their length of service with ABSL, SLCB, or SCB on the questionnaire of which the findings are presented in the figure below;

**Figure 2**. **Showing the terms of service of the respondents**



Figure 2 above shows that the majority of 12(40.00%) of the respondents had served Sierra Leone Commercial Bank for a period of 1-5 years, 12 (60.00%) have been in employment at the Standard Chartered Bank for a period of 1-5years while 9 (60.00%) have been in employment at Access Bank for a period of 1-5 years. This shows that the majority of the staff in these banks have served the banks within the period of 1-5 years. It can be noted that 22(33.84%) staff have worked within the timeframe from 6 years and above. This particular finding suggested that the responses were collected from individuals who had rich hands-on experience because of the number of years in service and they therefore possessed adequate experience in credit risk management and its impact on the financial performance of the bank.

#### 4.2.2.2 Finding the department of the respondents

The department of the respondents was observed in the study because their roles may influence the quality of data collected. This was arrived at by asking them to indicate their current department on the questionnaire of which the findings are presented in the table below:

**Table 2. Showing the distribution of respondent about their departments**

**Table 2: Distribution of Respondents at the ABSL about Their Department**

|  |  |  |
| --- | --- | --- |
| Department of Respondents | Frequency | Percentage |
| Credit Risk Management | 5 | 33% |
| Finance | 6 | 40% |
| Marketing | 4 | 27% |
| Others | 0 | 0% |
| TOTAL | **15** | **100%** |

**Table 2: Distribution of Respondents at the SLCB about Their Department**

|  |  |  |
| --- | --- | --- |
| Department of Respondents | Frequency | Percentage |
| Credit Risk Management | 13 | 43% |
| Finance | 12 | 40% |
| Marketing | 4 | 13% |
| Others | 1 | 3% |
| TOTAL | **30** | **100%** |
|  |  |  |

**Table 2: Distribution of Respondents at the SCB about Their Department**

|  |  |  |
| --- | --- | --- |
| Department of Respondents | Frequency | Percentage |
| Credit Risk Management | 8 | 40% |
| Finance | 6 | 30% |
| Marketing | 5 | 25% |
| Others | 1 | 5% |
| TOTAL | **20** | **100%** |
|  |  |  |

Table 2 above shows that the majority of 26(40.00%) of the respondents were working at the credit risk department of the different banks, 24(36.92%) were in finance, 13(20%) were in marketing and a total of 2(3.08%) of the respondents were working out of the other units such as internal audit, remittance, and domestic operations. This particular finding suggested that the responses were collected from individuals who were involved in daily credit operations and the financial performance of the three banks. Also, the inclusion of the market-facing staff helps the researcher to get a different perspective on the credit risk management framework in the selected commercial banks.

## 4.3 Data Presentation

**credit risk as a primary indicator of high financial performance**

**Figure 3. Showing results for credit risk as a primary indicator of high financial performance**



According to Figure 3, the respondents confirmed that credit risk management is a primary indicator for achieving financial performance.

**Figure 4. Showing result whether the banks have a credit risk management framework?**

Figure 4 reports the result of whether the selected banks have a credit risk management process in place. 96(93.84%) of the respondents stated that their banks have a credit risk management process. On the other hand, 4(6.15%) of the respondents in the Sierra Leone Commercial Bank disagree that they do not think their bank has a credit risk management process. This can be confirmed in the high non-performing loans ratio that Sierra Leone Commercial Bank recorded over the years despite its high capital adequacy ratio. The study supports the results of (Muhammed, 2012; Hamid et al., 2013; Sujeewa, 2015) in Pakistan. The negative relation indicates that an increase in credit risk leads to a decrease in future earnings growth and investment potential of banks.

 **Figure 5. Showing results to determine the effectiveness of Credit Risk Management processes in the institutions.**

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Figure 5 answers the questions to rate the effectiveness of the credit risk management process in the three commercial banks. 13 (86.66%) of respondents in Access Bank Sierra Leone said their bank credit risk management process is highly effective and 2(13.33%) said their risk management process is very high. On the other hand, 19 (63.33%) respondents in the Sierra Leone Commercial Bank said the credit risk management process is very high yet 7 (23.33%) said their credit risk management process can be rated on an average scale whereas 4 (13.33%) of the respondent confirmed the process to be low. 18 (90%) respondents at the Standard Chartered Bank rated their credit risk management process high and 2 (10%) of the respondents confirmed that their bank credit risk management process is very high.

In an interview with the Internal Auditor to describe the effectiveness of the credit risk management process in the Sierra Leone commercial bank, he explained that: the processes are in place but he cannot consider them to be effective since the bank is owned by the government. He went further to explain that the major challenge is that most of their loan is given to Politically Exposed Persons (Peps) and a change of government or cessation of their appointments due to reason such as corruption will affect their inability to repay their loans.

**Figure 6: Showing the relationship between Credit Risk Management and Financial Performance**



The above figure shows that all the respondents agreed that there is a positive relationship between credit risk management and financial performance. This depicts that there is a high positive significant relationship between credit risk management and the financial performance of Banks in Sierra Leone. This finding suggested that effective assessment of credit risk through consideration of credit-related data and classifications of credit risks has a resultant significant positive effect on the financial performance of the banks. This confirmed the hypothesis that: There is a positive relationship between Credit Risk Management and the financial performance of commercial Banks in Sierra Leone.



The results indicate that there is a negative relationship between credit management as measured by, the NPL ratio with financial performance measured by ROA. The non-performing loans (NPL) also indicate a significant negative relationship with the overall performance of the banking sector in Sierra Leone. The figure shows that the higher the Non-Performing loans the lower the return on assets. This indicates that banks in Sierra Leone can increase their financial performance by reducing their non-performing loans which is heavily correlated to performance i.e. increasing the quality of their credit standards.

Moreover, the figure depicts that holding the lending ratio, the capital adequacy ratio, and the ratio of non-performing loans to total loans constant, the average performance of banks in Sierra Leone will be 6.4. It also shows that a unit decrease in lending ratio will lead to an increase in financial performance by 0.031.



Capital adequacy (CA) shows a significant negative relationship with the overall financial performance of banks in Sierra Leone, which is consistent with (Anila, 2015; Muhammed, 2012; Hamid et al., 2013).

Figure 8 shows the relationship between the dependent and independent variables. As can be seen from the figure, the average value of the bank performance (ROA) is 5.3 percent indicating that during the period the bank capital adequacy was 6.5. This is in line with the conventional argument that higher capital ratios encourage banks to invest in safer assets, such as lower-risk loans or securities, which may affect bank performance (Okoth et al., 2013). This indicates that poor asset quality or high nonperforming loans to total assets is related to poor bank performance.

**Figure 9. Showing results for loan portfolio**

The figure above shows the total loan portfolio for each bank. From the above figure, we can see that Sierra Leone Commercial Bank records a higher loan portfolio with an average of 117 Billion Leones. This is attributed to the fact that giving a loan does not mean that a bank can achieve high financial performance. This however confirms the statement that the better the credit risk management the higher the profitability of a bank.

**Figure 10. Showing results to determine the extent of the statement ‘’ The better the Credit Risk Management the higher the profitability of a bank”**



As expected, the result indicates that all the respondent strongly agrees with the statement that: the better the credit risk management the higher the profitability of a bank.

## 4.4 Discussion

This section presents a discussion of the study findings on the importance of credit risk management on the financial performance of banks in Sierra Leone.

Specifically, the study established how important is credit risk management in achieving financial performance. The relevance of the Non-Performing Loan Ratio and Capital Adequacy Ratio were tested in achieving high financial performance using the Return on Asset. Quantitative and qualitative primary and secondary data were used in analyzing data to achieve the study objectives.

The study noted that all the selected banks in Sierra Leone comply with the minimum capital adequacy ratio of fifteen percent. This implies that Banks in Sierra Leone hold more capital than they should in respect of the regulation as no banks had an average CAR below this required threshold.

### 4.4.1 The importance of credit risk management on the financial performance of commercial banks in Sierra Leone

The study found that credit risk significantly affected the financial performance of the bank suggesting that efforts to put in place to implement credit risk mitigation factors. These findings are supported by Herrero (2005) who found that the Venezuela Banking Crisis was attributed to inappropriate lending practices, which allowed collateral to be used for multiple loans, poor loan quality, and a high concentration of loans in one sector.

The study also found that the credit risk management process in the selected banks is effective. However, the Sierra Leone Commercial had a reactive credit risk management team, and management’s inaction to take corrective action to raise credit risk awareness due to political reasons. This view echoes what other scholars had earlier found that many banks fail because of poor credit management (Perrin, 1998; Summers and Wilson, 2000) and it is evident that one of the main factors in late payment is the mismanagement of and passive role assigned to credit in banks.

The study concluded that credit risk management significantly affected the financial performance of commercial banks in Sierra Leone. The hypothesis that credit risk management is indeed important to the financial performance of commercial banks in Sierra Leone holds and was supported by findings from the field.

### 4.4.2 The relationship between Credit Risk Management and the financial performance of commercial banks in Sierra Leone?

Figure 6 shows the relationship between credit risk management and the financial performance of commercial banks. The results showed that the effect of credit risk on the performance of the selected banks as measured by the Return on Assets is cross-sectional invariant. That is the effect is similar across the three banks which implies that a 100% increase in non-performing loans reduces profitability (ROA) by about 6.2%, a 100% increase in loan loss provision also reduces profitability by about 0.65% while a 100% increase in total loan and advances increase profitability by about 9.65%. This confirms that the better the credit risk management the higher the profitability of a bank.

### 4.4.3 The Effect of non-performing loans on the profitability of commercial Banks

Meanwhile, the research shows that there is a negative relationship between NPLR and ROA. From the data, it could be evidenced that when the non-performing loans of ABSL decrease from 0.90 to 0.02, ROA increases from 3.60 to 5.50. This conforms with the views of Nwankwo (1990) who holds that a high level of non-performing loans largely constitutes bank failures which would put a stop to further lending business, and adversely affect economic development. Stallion (2004) emphasized the effect of non-performing loans as a major cost of bank failure and positively stated that, although poorly managed trading risk can quickly sink a bank, the oldest and biggest cause of bank failure is still loans that turn sour. This therefore also concluded that one key credit risk management indicator is NPL.

### 4.4.4 The impact of capital adequacy ratio on the financial performance of banks?

As can be seen from the presentation, NPLR is negatively related to ROA while Capital Adequacy Ratio has a significant positive relationship with ROA; this is in line with the conventional argument that higher capital ratios encourage banks to invest in safer assets, such as lower-risk loans or securities, which may affect bank performance (Bouwman, 2009). The study shows that the three selected banks are in line with the regulatory requirements.

## Conclusions and Recommendations of the Study

The general research objective was to ascertain the importance of credit risk management on the financial performance of commercial banks in Sierra Leone. This was done by collecting data from the annual reports of three banks from 2016 to 2020 to test the relationship between two abstract concepts. Two selected variables (CAR and NPL) were used as proxies for credit risk management whilst ROA was chosen as a proxy for profitability. The research process started with an outline of the context for achieving its objectives, such that it becomes relevant for theory and practice.

After this, the study was put in a theoretical perspective by synthesizing both theoretical and empirical literature related to the study. To achieve the research objectives, panel data on all the variables spanning the period 2016 to 2020 were adapted from the Published Financial Statement of the selected banks and the Annual Supervisory Report of the Bank of Sierra Leone. The sample of the study was chosen from three (3) commercial banks in Sierra Leone which are based on their ownership structure such as Indigenous, International, and Nigerian Banks in the industry.

Qualitative and quantitative data were used to examine the importance of credit risk management on the financial performance of Banks. Our research questions have been better answered based on the interview conducted with the heads of Risk Management, Finance, and Internal Audit and the questionnaire sent out at the head office of the three (3) banks.

The study demonstrates that managing credit risk efficiently impacts the profits of banks. Specifically, the study found that the capital adequacy ratio has a positive effect on a firm’s profits. In addition, it was found that credit risk management indicators and nonperforming loan ratios have a negative relationship with the profitability of commercial banks.

**Credit risk management and financial performance**

The research question “What is the importance of credit risk management on the financial performance of commercial banks in Sierra Leone?” is answered based on the statistical evidence, I was able to conclude that there exists a positive relationship between credit risk management and profitability. Firstly, our empirical findings show that the relationship between CAR and NPLR to ROA is significant. This could be due to the theoretical prediction of the relationship between NPL and CAR to the bank's performance. The study concluded that credit risk management significantly affected the financial performance of commercial banks in Sierra Leone. The hypothesis that there is indeed a relationship between credit risk management and the financial performance of banks holds and was supported by the findings from the field. This therefore also concluded that once credit risk is managed properly, financial performance will improve through increased sales volume and profitability.

In addition, we found that there is a negative relationship between NPLR and ROA. This is due to most of the previous research that was conducted in other countries. The higher the NPLR, the lesser the available capital for banks to invest.

Furthermore, the findings to ascertain the relationship between Credit Risk Management and the financial performance of commercial banks in Sierra Leone demonstrate a fluctuating relationship between all three variables. This could be explained by the effect of the financial crisis which makes the profitability influenced by more economic factors. Combined with the findings from the two proxies (CAR and NPLR) for credit risk management, I concluded that there is a positive relationship between credit risk management and the profitability of commercial banks. That is to say, the better the credit risk management, the higher the profitability of the commercial bank

The main objective of the research was to analyze the importance of credit risk management on the financial performance of commercial banks in Sierra Leone. The importance of two (2) selected variables (CAR and NPL) on the profitability of three selected banks was explored. From the outcome of the study, it is concluded that adequate capital impacts positively on a bank’s performance (profits). It was also established that Non-performing loans affect a bank’s profits negatively. From a theoretical perspective, the results of the study demonstrate that well-capitalized banks can make massive levels of profit relative to poorly-capitalized banks. The findings also demonstrate that efficiency in loan administration enhances profitability.

This study also established that there is a significant relationship between bank performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit risk management results in better bank performance. Thus, banks must practice prudent credit risk management to safeguard the assets of the bank and protect the investors’ interests. Furthermore, the study shows that there is a negative relationship between profitability (ROA) and loan loss (NPL). These results are in line with our expectations and tallies with previous research.

Empirical evidence from the study indicates that there is a negative relationship between NPL and the performance of commercial banks, specifically, it was found that a unit decrease in the ratio of non-performing loans to total loans will lead to an increase in financial performance by 5.5 Similarly, a unit decrease in capital adequacy ratio will lead to an increase in financial performance by 3.5. In addition, based on the hypotheses tested, findings from the study further provided evidence to support the arguments that the ratio of non-performing loans and bad debt does have a significant negative effect on the performance of banks in Sierra Leone. This outcome corroborates the suggestion that the higher the bad debts are written off from the profit of the bank, the lower the ROA.

The study concludes that banks' credit risk management should establish sound credit risk management policies in place based on a moderate credit policy, because, however small, it was established in the study that the more the appetite to lend is, the more likely the bank will lose its efficiency in controlling loans. This justifies the data presented for the Sierra Leone Commercial Bank. Even though the bank records the highest loan portfolio its ROA is lower, this is because of its large portion of NPL.

The study also concluded that the ineffectiveness of the credit management team and management's inaction to take corrective action to raise awareness of the credit risk monitoring practices of the bank constrained the financial performance of the bank.

## 5.1 Recommendations

Recommendations that are premised on the outcomes of the research are stated below for policy practice and implementation for management and staff of ABSL, SLCB, SCB, academia, and other stakeholders.

These recommendations are meant to strengthen credit risk management practices to reduce credit risk in the selected commercial banks and the banking industry as a whole.

The study recommends that it is fundamental for commercial banks in Sierra Leone to develop reliable credit management policies to reduce the rate of incidence of non-performing loans. They should also ensure improvement on their efficacy in credit analysis and loan management to secure their assets, and minimize the high incidence of non-performing loans and their negative effects on financial performance.

The study also recommends that commercial bank in Sierra Leone enhance their financial performance through continued engagement with the Credit Reference Bureau before issuing loans since CRB check has a negative relationship with the non-performing loans ratio. CRB checks are particularly useful in reducing information asymmetry during

loan administration. To complement this, strict measures must be adopted to evaluate borrowers’ ability to pay loans.

Banks should also strive to improve upon their capitalization level without the promptings of bank regulatory authorities. This will increase their balance sheet sizes and reduce their risk of bad debt and non-performing loans which translates into low productivity.

Banks are further urged to reduce operating costs during loan administration. This will lead to greater efficiency in the loan administration, thus reducing the cost per loan asset for higher profitability. Operating costs during loan recovery must also be minimized.

The study recommends that managers in the indigenous banks request security as a fallback in the event Politically Exposed Persons are relieved from their duties to solve the issue of non-performing loans.

Banks should make provisions for risk mitigation factors and credit monitoring processes since they have a significant positive effect on their financial performance.

There should be effective credit training across the banks for credit professionals to clearly explain the massive importance of credit risk management on the financial performance of commercial banks.

To conclude an in-depth insight into the importance of credit risk management on the commercial banks in Sierra Leone, further studies can be investigated using different indicators

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