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KNUST

**DETERMINANTS OF NON-PERFORMING LOANS IN GHANAIAN
BANKING SECTOR; A STUDY AT RURAL BANKS IN GHANA.**

BY

AHENKORAH FREDERICK LIVINGSTONE

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requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

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DECLARATION

"I hereby declare that this work is my own work and that it contains no material that has been previously published or written by another person, nor material that has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi, or any other educational institution, except where due acknowledgement is made in the thesis the author writes.

Ahenkorah Frederick Livingstone

(ID:20775397)

Signature

Date

Student Name & ID

Certified by:

Dr Kwasi Poku

Supervisor

Signature

Date

Certified by:

Prof. K. O. Appiah

Head of Department

Signature

Date

ABSTRACT

The study's goal was to evaluate the factors that contribute to non-performing loans in Ghana's rural banks. As independent factors, interest rates, inflation, and loan growth were taken into consideration. The dependent variable chosen was a non-performing loan. 43 rural banks in Ghana made up the study's sample size, and SPSS was used to analyze the data. According to the study, the rate of inflation and non-performing loans from rural banks in Ghana are positively associated (0.316). The study also discovered a negative correlation between nonperforming loans and the real interest rate (-0.468) and loan growth rate (-0.013), respectively. With an adjusted R² of 0.553, the study further revealed that the study factors collectively influenced the non-performing loans. Accordingly, 55.3 percent of the variation in the dependent variable in the regression model may be attributed to independent variables, whereas 44.7% is attributable to error terms, random chance, or other unexplained factors. There was additional significance in the F- Statistics of 23.409. As a result, the model was deemed reliable or well-fit to the variables' actual data. The analysis comes to the conclusion that the non-performing loans in Ghana's rural banks were jointly caused by the independent variables taken into account in the study. The study also discovered a significant correlation between non-performing loans and inflation. The study also comes to the conclusion that real interest rates and the growth rate of loans in Ghana's rural banks are negatively correlated with nonperforming loans. According to the study, the government must start taking steps to manage Ghana's real interest rate in order for the rural banks there to develop. Since interest rates are adversely correlated with the percentage of non-performing loans, lower rates would be more suited to lower the proportion of non-performing loans in Ghana. The study suggests that the government limit Ghana's inflation rate as there is some evidence to suggest that low inflation may improve loan performance in Ghana. The study further recommends that there is need for the rural banks to initiate policies that will control the amount of loans they have.



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DEDICATION

I Ahenkorah Frederick Livingstone you dedicate this project to the Almighty God for his immense guidance and all my families.

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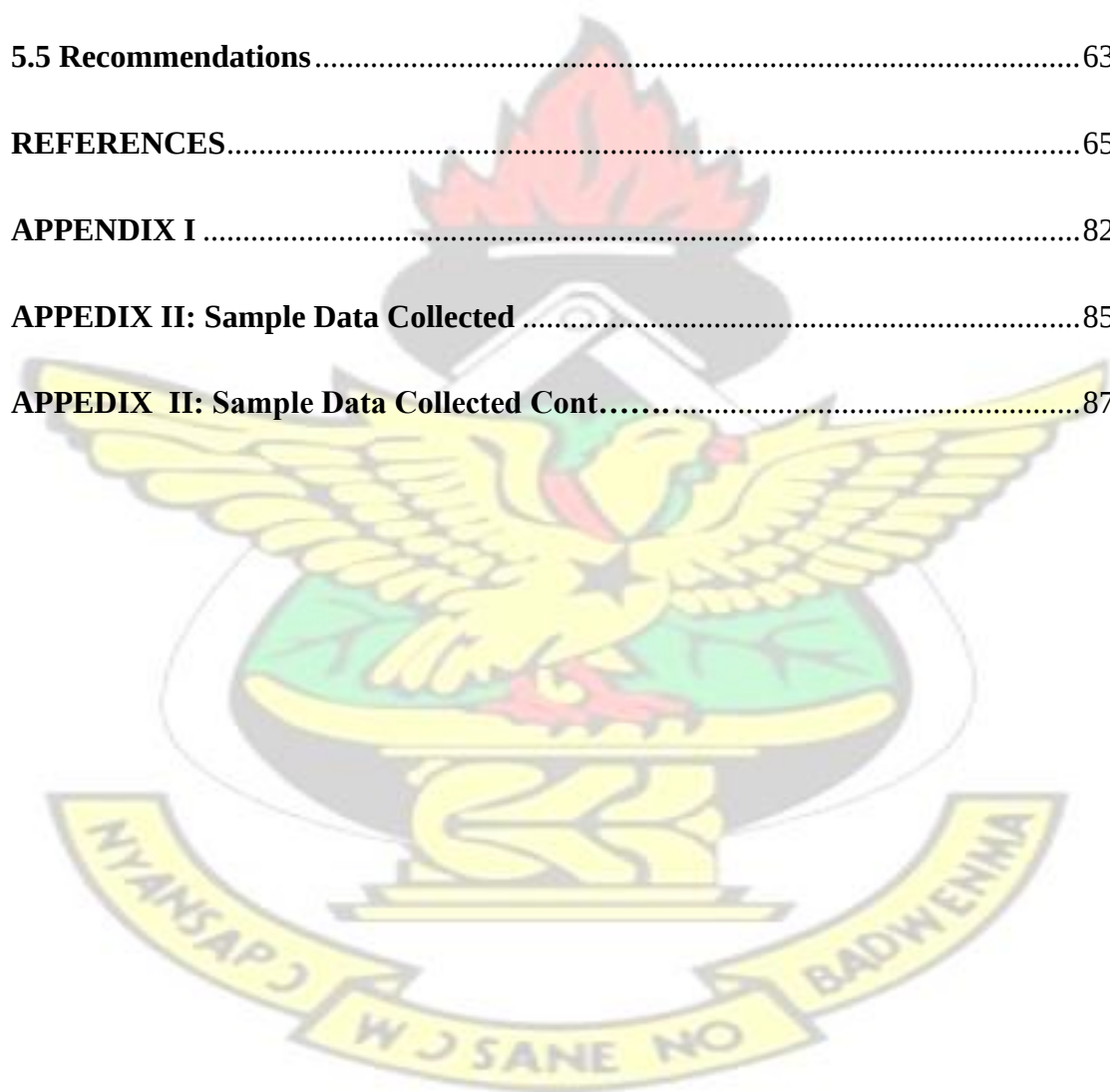
TABLE OF CONTENTS

ABSTRACT.....	iv
AKNOWLEDGEMENT.....	v
DEDICATION.....	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER ONE	1
1.1 Background of the study	1
1.2 Statement of the problem	4
1.3 Purpose of the study.....	6
1.4 Research Objectives.....	6
1.5 Research Questions.....	6
1.6 Delimitation	6
1.7 Significance of the Study	6
1.8 Summary of Methodology	8
1.9 Organization of the study	8
CHAPTER TWO	9
LITERATURE REVIEW	9
2.1 Introduction.....	9

2.2 Conceptual Review.....	9
2.2.1 Concept of Non-Performing Loans	9
2.2.2 Concept of Financial Performance.....	12
2.2.3 Non-Performing Loans (NPLs).....	17
2.2.5 Causes of Loan Default/ Non- Performing Loans.....	19
2.2.6 Competence of banking staff as a determinant of Non-Performing Loans.....	22
2.2.7 Lenient credit terms as a determinant of Non-Performing Loans.....	23
2.2.8 Loan Delinquency	25
2.2.9 Impact of Delinquent Loans on Rural banks	27
2.2.10 Loan Repayment Performance.....	29
2.2.11 The Performance of the Banking Sector.....	30
2.2.12 Evolution of Rural Banking in Ghana	31
2.3 Theoretical Review.....	35
2.3.1 Asymmetric Information Theory	35
2.3.2 Financial Theory	36
2.3 Empirical Review.....	37
2.5 Conceptual Framework.....	43
2.6 Summary of literature review.....	44
CHAPTER THREE	46
RESEARCH METHODOLOGY	46
3.1 Chapter introduction.....	46

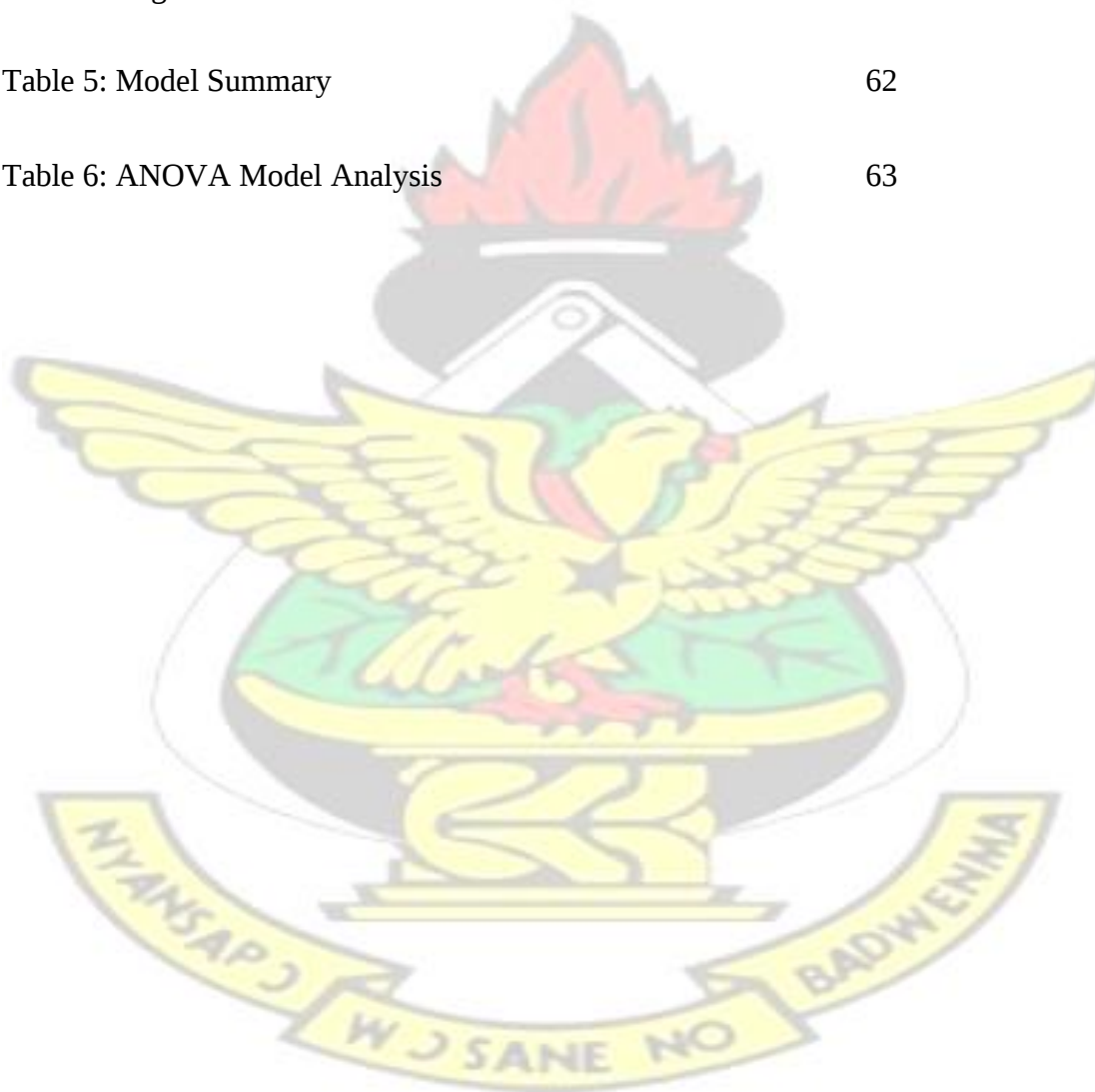
3.2 Research Approach.....	46
3.3 Research design.....	46
3.4 Population of the study.....	47
3.5 Sampling techniques and Sample size.....	47
3.6 Source of Data	48
3.7 Data analyses	48
3.9 Model Specification.....	49
3.10 Ethical considerations.....	51
CHAPTER FOUR.....	52
DATA ANALYSIS, RESULTS AND DISCUSSIONS	52
4.1 Introduction.....	52
4.2 Descriptive Analysis Results	52
4.3 Correlation Analysis Results.....	53
4.4 Regression Analysis Results	54
4.4.1 Ratio of Non-Performing Loans and Real Interest Rate.....	56
4.4.2 Ratio of Non-Performing Loans and Inflation Rate.....	56
4.4.3 Ratio of Non-Performing Loans and Growth Rate in Loans.....	56
4.5 Robustness of the Study Model.....	56
4.6 ANOVA Model Analysis.....	57
4.6 Discussion of Findings	58

CHAPTER FIVE	60
SUMMARY, CONCLUSION ANDRECOMMENDATIONS	60
5.1 Introduction.....	60
5.2 Summary.....	60
5.3 Conclusion	61
5.4 Limitations of the study.....	62
5.5 Recommendations	63
REFERENCES.....	65
APPENDIX I	82
APPEDIX II: Sample Data Collected	85
APPEDIX II: Sample Data Collected Cont.....	87



LIST OF TABLES

	Pages
Table 1: Operationalization of variables	54
Table 2: Descriptive statistics	58
Table 3: Correlation Statistics for Variables	59
Table 4: Regression Results	60
Table 5: Model Summary	62
Table 6: ANOVA Model Analysis	63



LIST OF FIGURES

Pages

Figure 1: Conceptual framework

49



CHAPTER ONE

1.1 Background of the study

According to (Levine, 2019), long-term economic growth depends on banking sector efficiency. Banks are harmed and made more vulnerable to shocks when their loan portfolios shrink without intervention, leading to banking crises and the need for government bailouts. References: Reinhart and Rogoff (2018); Acharya, Drechsler, and Schnabi (2018). The banking industry in Ghana is no different from the rest of the world in terms of its high level of debt. Non-performing loans have had a major effect on Ghanaian banks over the past decade, contributing to their poor performance. Private investment is negatively impacted because of NPLs because banks are unable to offer as many lending options to their customers.

According to (Klein, 2019), damaged loan sources and effects are of primary concern to the majority of provinces. The recovery of the financial markets is now predicated on resolving this problem. Since the financial crisis of 2007-2008, there has been substantial research into the factors that influence non-performing loans. Risky asset trends between 1998 and 2009 for 26 high-income economies were analyzed using panel regression (Nkusu, 2019). The author used a panel vector autoregression methodology to analyze the relationship between macroeconomic indicators and NPL. The results showed that NPL was significantly correlated with every independent variable and had excellent predictive ability. A study showed that the overall number of non-performing loans increased in a self-consumptive fashion, despite the factors that affect loan quality. Again, (Louzis et al., 2018) broke down NPLs by type of loan in the Greek banking industry, looking at factors influencing NPLs for consumer, business, and mortgage loans individually. He used a representative sample of the nine largest

Greek banks from 2003 through 2009 to demonstrate that macroeconomic factors are a primary explanation for nonperforming loans in the Greek banking system.

Since there are logarithmic changes from 2009-2018, the researcher can only analyze the data using NPL and UN, which sets it apart from the other approaches. (Amuakwa-Mensah, Boakye-Adjei, & Alhassan, et al., 2018; & Alhassan et al., 2014). Amuakwa-Mensah and Boakye-Adjei's research on the effects of shocks and the financial crisis on nonperforming loans is incomplete. Furthermore, when calculating NPLs, (Alhassan et al., 2018) paid no attention to variations between Ghanaian and international institutions, or between large and small banks. These cracks, however, had been closed by (Amuakwa-Mensah and Marbuah, 2017). The banking sector in Ghana is a useful entry point into the financial systems of Sub-Saharan Africa as a whole. There have been significant shifts in the political, economic, and social climates of several countries in Sub-Saharan Africa. Ghana's central bank, the Bank of Ghana, has instituted a number of stringent regulatory procedures that are in line with both established norms and the scope of its authority. The Central Bank, in a statement, demanded, for instance, that severance and other payments made to outgoing and retiring board members be recovered. These cracks, however, had been closed by (Amuakwa-Mensah and Marbuah, 2017). The banking sector in Ghana is a useful entry point into the financial systems of Sub-Saharan Africa as a whole. There have been significant shifts in the political, economic, and social climates of several countries in Sub-Saharan Africa. Ghana's central bank, the Bank of Ghana, has instituted a number of stringent regulatory procedures that are in line with both established norms and the scope of its authority. The Central Bank, in a statement, demanded, for instance, that severance and other payments made to outgoing and retiring board members be recovered. Changes in the Ghanaian banking sector are reflected in the Financial Sector

Adjustment Programme (FINSAP) and the Financial Sector Strategic Plan (FINSSP), both of which were put into effect in 1986 and 2003, respectively. Interest rates were liberalized, direct credit was done away with, the makeup of troubled banks was altered, regulatory and supervisory structures were strengthened, government banks were privatized, the foreign exchange market was opened up, a capital market was established, and the legal system was reformed (Bawumia, 2020). The study employed a dynamic panel and expanded upon previous research by Amuakwa-Mensah et al. (2017) and Kjosevski and Petovski (2017). To arrive at a balanced and neutral verdict, the study author relied on Arellano and Bond's (2020) difference generalized method of moments (GMM difference).

Non-performing loans have a negative effect on a country's economy, thus "those in authority" must implement policies and procedures to address the problem. In 2018, the Cyprus Ministry of Finance set forth a three-pronged strategy to accomplish this. It is estimated that this method will have a positive effect of 0.3–0.4 percentage points per year on GDP by reducing the rate of nonperforming loans by EUR 2.8 billion (a 40% decrease from 2017). Non-performing loans (NPL) were to be sold off by the government-owned Cyprus Cooperative Bank, a method was to be established to settle large residential mortgage loans with public funds, and NPL management laws were to be revised. It's not hard to draw parallels between this scenario and what happened in Ghana's banking sector in 2018, when nonperforming loans hit 21.3% and over GHS1.20 trillion in subprime loans were written off (Segbefia, 2018). The Bank of Ghana announced a hike in the base capital requirement for universal banks in September of 2017. The move was made to rehabilitate the banking industry and boost investor confidence after it had been hit hard by low-quality assets that threatened the banks' continued existence and had a negative impact on the economy of Ghana (Bank

of Ghana, 2018). The purpose of this research is to detect and evaluate the effects of non-performing loans in the banking industry. To what extent non-performing loans at Ghana's Rural Bank contribute to the development of the bank as an institution is the primary focus of this research.

1.2 Statement of the problem

One of the most significant indicators of credit risk is the ratio of NPLs (Non-Performing Loans). The quantity of nonperforming loans (NPLs) has risen dramatically since the beginning of the global financial crisis in 2008. According to forecasts (Segbefia, 2018), non-performing loans (NPLs) are expected to rise dramatically in the next years, posing a threat to banks' liquidity, profits, and the overall health of national financial systems.

Alhassan et al. (2018) report that rural banks are still increasing interest rates due to high levels of non-performing loans. Lending rates are high because banks pass on their losses to other customers in the shape of fees. Loyal clients are disadvantaged by the high interest rate because of the costs associated with covering those who are unfavorably selected and default. Since clients would eventually and gradually stop using the bank in issue, banking activities are put in jeopardy in a roundabout way. Most borrowers are late on their payments because banks don't care about them and because borrowers believe they have a right to repay loans they've gotten from the bank.

Nonperforming loans are real, and they exist in rural banks, according to scholarly and other research. Commercial banks are more vulnerable to credit risk because of their principal function—the extension of credit. Commercial banks face credit risk as their primary risk, and the quality of their loan portfolio has a direct impact on their financial performance (Klein, 2018). Few resources exist that specifically address this issue in

Ghana. The quality of assets held by a selection of 12 banks was evaluated over a 5-year period commencing in 2005 (Latif, 2019). GDP growth, inflation, currency rate, bank size, and net interest margin were all found to have a beneficial impact on nonperforming loans. Antoabiase Rural Bank in the Ashanti Region and Kakum and Tano Agya Rural Bank in the Brong-Ahafo Region all failed due to a large amount of delinquent debts. Segbefia (2018) summarizes a plethora of research that identifies and analyzes the root reasons of subprime lending in a variety of countries.

With the exception of real incomes, money supply, financial growth, and other macroeconomic variables are statistically significant in predicting nonperforming loans (NPLs) in banks (Adusei, 2018). This study looked at the factors influencing NPLs in banks over a five-year period commencing in 1998. The researcher extended the time frame to reflect the current condition of the banking system and included unemployment and domestic credits issued to private enterprises as proxies for one of the macroeconomic factors based on the studied literature relevant to the Ghanaian environment. Since there aren't many research on the topic and since most of them based their arguments on meta-analyses and literature reviews, it is generally agreed that the contribution to the academic discussion of the matter is minimal. However, these real-world effects of poor loans on financial institutions are compelling. The purpose of this research is to examine the problem of bad loans at the Rural Bank of Ghana.

1.3 Purpose of the study

The purpose of the study is to evaluate the factors that contribute to non-performing loans in rural banks in Ghana's Eastern Region.

1.4 Research Objectives

1. To examine effect of interest rate on non-performing loans of Rural Banks in Ghana.
2. To assess the effect of inflation on non-performing loans at Rural Banks in Ghana.
3. To examine the relationship between non-performing and profitability of Rural Banks in Ghana.

1.5 Research Questions

1. What are the effect interest rate on non-performing loans in Rural Banks in Ghana?
2. What are the effect of inflation on non-performing loans at Rural Banks in Ghana?
3. What are the relationships between non-performing loans and profitability of Rural Banks in Ghana?

1.6 Delimitation

The study looks into what factors decide which loans at Ghanaian rural banks are non-performing. The researcher focuses on 43 rural banks to collect their financial statements for a period of five years, from 2016 to 2020, in order to evaluate the factors that contribute to non-performing loans in the rural banking sector.

1.7 Significance of the Study

For Bank personnel who are involved in the Bank's lending procedure, this research is extremely important. Relationship Managers, Market Managers, Directors of Legal, Commercial, and Consumer Banking, as well as other employees in the Bank's Division

of Risk Management (Compliance Analysts, Credit Control Officers, Credit Managers, Remedial & Classified Asset Management Officers, Loan Portfolio Officers, Directors of Debt Risk Control, Credit Assessment, and Collection, and Remedial & Classified Asset Management) are all examples of corporate division employees.

The non-performing loan ratio is one of these employees' key performance indicators (KPIs), and because of the Bank's non-performing loans, they also have to cope with lower scores that have an effect on their annual results and prohibit these employees from moving up in the form of promotions. Employees will become aware of the numerous ways they contribute to the rise in non-performing loans at the Bank by comprehending this study. The employees will be encouraged to support the Bank's efforts to enhance the low asset quality and support their continued employment if proposals are put into reality.

The Regulator, Bank of Ghana, and the Government will benefit from this work since it offers remedies for the flaw that could lead to insolvent institutions and seriously damage public confidence in the banking sector and the economy. By valuing the research findings, the regulator will establish proper lending policies that will reduce the rate of non-performing loans across the country. Economic stability is also vital for the government to be able to achieve its many objectives for national development.

Banks don't operate in isolated silos, which affects the performance of both internal and external players. Due to the similar clientele that the majority of Ghanaian banks serve, it is easy to spot the emergence of bad credit behavior in one bank where the customer has another financial relationship. Other banks may be able to solve their non-performing loan issues by identifying the causes of low asset quality in their books using this work as a guide.

1.8 Summary of Methodology

In order to identify the factors that lead to loan non-performance, this study used a quantitative research methodology and sampled 43 out of 144 rural banks in Ghana. The Statistical Product and Service Solution (SPSS) software, version 25, was utilized for the study's data analysis. Percentages, frequency tables, the mean, and the standard deviation were used to assess the first and second study topics. The analysis of the third research topic was built upon regression analysis.

1.9 Organization of the study

Five distinct but linked chapters were used to present the research. Chapter one covers the basic introduction, the history of the research, and its significance. The research also includes a methodology overview and the study's aims, questions, delimitations, and limits. Chapter two goes into great length about the theoretical and conceptual framework of the study as well as other subjects important for understanding the topic at hand from an intellectual standpoint. Chapter three provides a detailed explanation of the research design approach, sample, instrumentation, and data gathering procedures, as well as the techniques for analyzing them.

Chapter four presents the discussions and results of the field data. Chapter 5 concludes with a thorough summary of the project's work, a synopsis of the study's findings and the research methodology used, as well as conclusions, recommendations, and suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the two main theoretical frameworks that underpinned the study. The chapter traced the history of these theories, the advocates, and the theories' relevance to the topic under study. Relevant previous works done in this area were examined in this chapter. The study of the literature covers related literature with a view to obtaining insight into the factors causing non-performing loans in rural banks in Ghana. It includes concepts and instances of credit, credit risk, and non-performing and underperforming loan terminologies. This analysis of the literature is important since the research aims to help address the research questions. Gaps were identified in this previous related literature that further directed the focus of the research.

2.2 Conceptual Review

The many concepts that support the variables used in this research are reviewed in this section. It shows Ghana's rural banks' leading proponents of non-performing loans.

2.2.1 Concept of Non-Performing Loans

In light of the current financial crisis, recent increases in non-performing loans (NPLs) pose a threat to bank stability. Because their post-shock capital adequacy ratios fell below the 10 percent minimum prudential threshold, large, medium, and small bank groups were all susceptible to the consequences of the most severe shock, a 200 percent surge in non-performing loans, in December 2016. (CBN, 2018). The same prudential tools, such as the liquidity ratio, loans to deposit ratio, significant exposure, and reserve requirements, are routinely utilized to address NPL issues regardless of the size of the bank. The following two considerations are crucial: Do all non-operational license

(NPL) categories react to drivers the same way, first? Second, when responses to NPL shocks are studied between various bank types, does a recurring pattern in terms of banking stability emerge? If the precise causes of nonperforming loans are not completely recognized, prudential tools may not be utilized to their fullest extent. Loans and other financial assets classified as "non-performing loans" are those for which the banks are not getting the agreed-upon or planned interest and/or payments from borrowers. Non-performing loans are those that are no longer bringing in money for the lender in the form of interest or fees.

A loan is deemed non-performing by the International Monetary Fund (IMF, 2012) if either the interest or the principle are past due by more than 90 days, or if the interest has been refinanced for more than 90 days. The Basel Committee (2001) defined non-performing loans as loans that have gone more than 90 days without being repaid. In essence, nonperforming loans are those that have been in default for a considerable amount of time.

Any debt that is now in default or that is expected to do so soon is considered non-performing. A borrower who has stopped making loan payments—either interest, principal, or both—is said to be in default (Pilbeam, 2020). According to the contract, some loans become non-performing after three months of default. If interest and principal payments are 90 days or more past due, have been capitalized, refinanced, or have been agreed to be delayed for at least 90 days, or if there are any other plausible reasons to doubt that payments will be made in full despite the 90-day grace period, a loan is deemed non-performing. Mortgages and other loans granted by financial institutions that result in a loss for the lender are non-performing loans, according to Vigano (2019).

In accordance with Timothy (2018), loans are deemed to be in default when they are put on non-accrual status or when the terms of a restructuring are materially altered. The non-accrual approach should be used to write off all accrued interest that has not yet been repaid. Most banks stopped charging interest when a mortgage payment was missing for ninety days. However, there were many various interpretations of when borrowers were regarded to be in arrears. When a loan's delinquency decreased below 90 days prior to the reporting month's end, several financial institutions chose not to put it on non-accrual status. Non-performing loans include those that are (i) overdue by more than 90 days, (ii) whose total account credits are insufficient to cover interest for three months, (iii) whose maturity date has passed but no payment has been made, and (iv) whose revenue is nonexistent (Eastern Caribbean Central Bank, 2020).

Similar to this definition, Asari (2021) stated that non-performing loans are ones that do not bring in money for banks. The majority of the time, although the specifics vary by country, the obligation becomes due if the interest is not paid within 90 days. The extended relationship demonstrates unequivocally that interest rates are a major factor in the occurrence of defaulted loans. However, the relationship between inflation and defaulted loans is only minor. Non-performing loans won't be impacted by interest rates or inflation, according to Asari (2021).

According to Choudhur (2020), non-performing loans are not a multiclass notion. This is due in part to the ease with which nonperforming loans can be grouped, most frequently according to how long they have been in default. Non-performing loans, which are not the intended outcome of the lending process but rather an unintended consequence that has the potential to significantly worsen the severity and duration of the financial crisis and make macroeconomic management more difficult, are a

common by-product of a financial crisis, according to Gupta (2023). This is because nonperforming loans, even after depreciation is taken into account, can assemble unproductive economic resources and make it more difficult to distribute those resources effectively, undermining investor trust in the banking system. In a banking-centric financial system, nonperforming loans diminish banks' operating margins and limit their ability to originate new loans, both of which impede economic recovery. According to Bernanke et al. (2019), this is a "credit crunch." NPLs can spread like a financial disease when borrowers intentionally create them and don't do anything to address them, driving away otherwise creditworthy borrowers from the market. According to Muniappan, the weight of carrying costs connected with a bank's non-income producing assets makes it harder for the institution to recruit new capital (2019). Some research (Detragiache and Gupta (2021), Martinez-Miera and Repullo (2020), and Bertay et al. (2014) argue that market discipline, risk management tactics, regulatory and supervisory measures, and capital sources cannot all be the same for all types of banks (2019).

2.2.2 Concept of Financial Performance

Financial results are a good proxy for a company's long-term viability, strength, and vitality (Kiaritha, 2020). It's a method for putting a price tag on the results of a company's actions and choices (Adam, 2019). All banking activities should be directed toward increasing the bank's financial performance (Ferrouhi, 2018), and a company's financial success is measured by its ability to generate profits (Al-Homaidi, Tabash, Farhan, and Almaqtari, 2018; Ebenezer, Omar, and Kamil, 2019). One measure of real-world financial performance is the ROI (Ledhem, 2021).

Previous studies have used bank-specific and macroeconomic variables (Khalifaturofi'ah, 2021; Amene & Alemu, 2019; Al-Homaidi et al., 2018; Javaid & Ebenezer, 2019) to evaluate the financial performance of the banking industry. Multiple authors, including Parvin (2019), Chowdhury (2019), Siddiqua (2019), Ferdous (2019), Al-Homaidi et al. (2018), Shamim (2019), Aktan (2019), Abdulla (2019), Sakhi (2019), Menicucci (2019), and Paolucci (2019), as well as Merin (2019) have found that a larger bank is more profitable. Tharu, Shrestha, Scott, and Ovuefeyen, on the other hand, found no evidence of a causal relationship between bank size and profitability.

According to multiple sources (Al-Homaidi et al., 2018; Nyatika, 2017; Al-Abedallat, 2019), the more bank locations a bank has, the more money it makes. Efficiency costs have a negative impact on bank earnings (Merin, 2018). Higher equity multiplier ratios (EMRs) are associated with greater bank risk, hence lower EMRs are preferred (Abdi, 2010; Attefah & Darko, 2018). When a company has a high asset utilization ratio, it is more likely to be successful (Yesmine & Bhuiyah, 2015; Datta, Ghosh, & Tuhin, 2011; Akinleye & Dadebo, 2019; Herdinata, 2019). The NIM has a similar effect on bank profitability, increasing it greatly according to the statistics (Sunaryo, 2020).

Profitability was found to be negatively correlated with both the exchange rate and inflation (Al-Homaidi, et al., 2018). An further negative correlation between inflation and bank financial performance was discovered in a study conducted by Moyo and Tursoy in 2020. Bank profits were rather immune to inflation, as demonstrated by research from Scott and Ovuefeyen (2014) and Shamim et al. (2018). Bank performance suffers significantly and negatively when exchange rates fluctuate (Keshtgar, Pahlavani, & Mirjalili, 2020). In contrast, a positive and robust correlation was discovered by Kairu (2016) between bank performance and currency exchange rate

volatility. In addition, Moyo and Tursoy (2020) find a tenuous connection between the soundness of banks' bottom lines and currency exchange rates.

Ashraf (2018) claims that the more the accessibility of bank credit at lower prices and risks, the greater the development of banks in a country. However, research by Okoro and Ezeudu (2018) and Scott and Ovuefeyen (2019) found no evidence for a causal relationship between trade openness and bank profitability. The evolution of IT has prompted a change in banking practices around the world. Competition in the banking industry necessitates increased productivity, efficiency, cost savings, and profit, all of which can be achieved through the use of online banking (Islam, Kabir, Dovash, Nafee, & Saha, 2019). Banks' expansion, safety, and profitability have all been aided by the expanding realm of internet finance (Dong, Yin, Liu, Hu, Li, & Liu, 2020). According to research (Mateka, Gogo, & Omagwa, 2019), online banking has a positive effect on banks' bottom lines, operational expenses, loan portfolios, and customer deposits. Increased income from banking's service activities is how internet banking affected profitability (Van & Le, 2019).

Ngungi's (2019) study also found that internet banking positively affected bank profitability. Yasin (2018) finds, however, that online banking has negligible effects on the financial security of Ethiopian banks. Bank profitability is positively and statistically significantly impacted by the composite governance index, according to research by Barth, Bertus, Hartarska, Phumiwasana, and Jaing (2019). Athari and Bahreini (2021) argue that governance and its components also have a beneficial effect on bank profitability.

The global banking industry's financial stability and performance have been the subject of numerous studies. McKinnon (2020) and Levine (2020) found that the savings rate, investment opportunities, technical advances, and ultimately the rate of economic growth were all affected by the financial system's ability to lower information and transaction costs. To learn what factors affect the profitability of Islamic banks, Hassan & Bashir (2022) surveyed Islamic institutions around the world from 1994 to 2001. The research found that favorable macroeconomic conditions and high capital and loan-to-asset ratios both contributed to higher profits for banks. Implicit and explicit taxes were found to have a detrimental effect on bank performance measures. Credit risk, quantified by loan loss reserves, and UK bank performance were the focus of Kosmidou et al.'s (2019) research. The results show that loan loss reserves have a beneficial impact on the net interest margin but a negligible impact on bank profits.

From 1997 to 2004, Sufian and Habibullah (2019) analyzed the performance of 37 commercial banks in Bangladesh. Return on average equity (ROAE) is negatively affected by bank size, but lending intensity, credit risk, and cost all have positive and significant influence on bank performance. In addition, the study analyzed the impact of macroeconomic indicators and discovered that, with the exception of inflation, these factors had no noteworthy effect on the profitability of Bangladeshi banks. Based on steady increases in the number of branches, employees, deposits, loans and advances, net income, and earnings per share between 2002 and 2006, Chowdhury & Ahmed (2019) are optimistic about the future of private commercial banks in Bangladesh.

Five Palestinian commercial banks listed on the Palestine Securities Exchange between 2005 and 2010 were chosen by Alkhatib & Harsheh (2019) for this study of their financial performance. Using multiple regression, the study found that factors such as bank size, credit risk, operational effectiveness, and asset management had no

significant effect on the financial performance of Palestinian commercial banks. To quantify the impact of credit risk on the profitability of Nigeria's commercial banks over an 11-year period (2000-2010), Kolapo & Ayeni (2019) undertook an empirical study. While increases in both total loans and advances and non-performing loans and loan loss provisions were found to boost banks' profitability (ROA), the reverse was true when looking at ROA. Choong et al. (2018) looked into the financial standing of Islamic Commercial Banks in Malaysia. Empirical results demonstrated that credit risk, liquidity rate, and concentration in Islamic commercial banking had significant effects on the performance of local Islamic commercial banks in Malaysia.

For the years 2005-2011, Fantal et al. (2018) analyzed the connection between several internal and external corporate governance metrics and bank performance as shown by return on equity (ROE) and return on assets. (ROA). The study indicated that the capital adequacy ratio and the size of the bank had favorable effects on bank performance, whereas the presence of an audit committee and the size of the board had negative effects. To determine what factors led to the success of Tunisian banks between 1998 and 2011, Ameer & Mhiri (2018) conducted a study of 10 commercial banks in the country. This analysis took into account macroeconomic, industry-specific, and bank-specific factors that have an impact on financial institution performance. Capitalization and top management effectiveness have a favorable and statistically significant effect on the bank's success. The research also found that the industry-specific characteristic of concentration has a negative and sizable effect on productivity. In addition, macroeconomic issues have a negligible effect on banks' performance.

According to Shrestha (2019), the major variables of bank profitability in Nepal are the percentage of non-performing loans to total loans, the capital adequacy ratio, GDP growth, and inflation. Profitability in the Nepalese financial sector is positively

correlated with total assets, total deposits, loans, and advances, as reported by Hakuduwal (2018).

2.2.3 Non-Performing Loans (NPLs)

One of the biggest threats that nonperforming loans face is the approval process for new credit. because of the possibility of default, nonperforming loans. According to (Jimenez & Saurina, 2020), problematic loans can form when credit is extended without taking into account the borrower's actual financial situation. The study's authors concluded that loose credit terms were a major contributor to the problem of non-performing credit in the Spanish banking system from 1982 to 2001. Researchers assumed that bank managers and executives could be persuaded to take excessive risks and lend excessively in the bank or economy during times of prosperity, and they attributed this leniency to catastrophe myopia, people's actions, moral hazard, and agency problems. The results of other researchers (Azofra, 2021) who looked at the issue of non-performing loans found support for this idea. According to Rural Banks, credit risk is a major factor in the occurrence of non-performing loans in the banking sector.

Employees' focus on their own goals is a major factor in their poor performance. Quite often, the majority of employees forge bank loans into default with clients. Highly qualified bankers, in contrast to their less qualified counterparts, are better able to assess a borrower's reputation on the basis of their education and experience, leading to a decline in non-performing loans. The research of Masood et al. on defaulted loans in Pakistan (Masood et al. That is to say, prudent bankers will exercise discretion when deciding whether or not to give credit to borrowers holding non-performing loans. De

Juan (2019) cites supporting evidence that indicates management's participation in the development of competent credit judgment is crucial. Along with a knowledgeable monitoring team and proper oversight, issue loans can be quickly identified and dealt with before they turn into non-performing loans.

Knowledgeable bankers who can identify emerging market trends that are most likely to exacerbate the issue and take precautions to prevent future asset degradation are crucial to a bank's survival during a period of high non-performing loans (Camerer and Johnson, 2019). Banking experts can plan ahead to make profitable lending decisions and can anticipate economic developments (Kim et al., 2018). Professional bankers will improve loan retention and repayment, but assisting consumers in default will have a detrimental impact on rural banks' nonperforming loans. Researchers have found that although some countries use numerical criteria like the number of days a credit facility has been in arrears, others rely on qualitative elements like familiarity with the customer's financial status and management's best guess about future payments (Bloem&Gorter, 2019). Non-performing loans, as defined by Alton & Hazen (2019), are those that are 90 days past due or have stopped generating interest. Caprio and Klingebiel (as referenced in Fofack, 2019) describe non-performing loans as those with a long period of no income generation, in particular loans where the principal and interest have been repaid for at least 90 days. Nonperforming loans are those that are not generating any interest payments because their repayment is no longer expected, the principal or interest is 90 days or more past due, or the maturity date has passed but the full amount due has not been paid.

Islam, Shil, and Mannan (2018) define an NPL as a loan that will not be repaid within a certain time frame. Lenders can therefore determine if a loan is succeeding or failing based on their own criteria. In Ghana's banking sector, nonperforming loans fell from

12.9% in June 2020 to 12.3% in July 2021. There was also a dip from 5.8% in July 2023 to 5.3% in July 2022 in the ratio of loan loss provision to gross loans. The ratio of nonperforming loans (NPLs) minus provisions to capital was 12.0% in July 2014, down from 10.3% in July 2022. According to the July 2023 BoG Report, the adjusted NPL ratio (NPLs ratio minus the loss category) stayed steady at 5.3% from the previous year's July 2014.

2.2.5 Causes of Loan Default/ Non- Performing Loans

In 2021, Gorter and Bloem conducted a thorough analysis of the reasons for and potential solutions for non-performing loans. They both agreed that sudden fluctuations in interest rates might cause a significant increase in "bad loans." The focus of Espinoza and Prasad's study on non-performing loans and their repercussions on the GCC Banking system was on macroeconomic and bank-specific factors affecting them (2020). They concluded that high interest rates increase non-performing loans, even if the association was not statistically significant. Salas and Saurina (2002) found a correlation between non-performing loans and bank size and claim that bigger banks have more diversification options. Hu and colleagues provide similar empirical findings (2020). Micco et al. (2004) looked at 50,000 financial institutions from 119 distinct nations with varying ownership patterns. They found that banks controlled by the state often have higher non-performing loan rates than other groups. Non-performing loans and Taiwanese banks' ownership structures have been examined by Hu et al. (2019). In banks with higher levels of government ownership, the study found that non-performing loans were less common. To ascertain the underlying causes and suitable management approaches for non-performing loans at Kenya Commercial Bank, this study's goal is to identify the causes.

Non-performing loans, in Kroszner's opinion, are a significant contributor to financial crises (2019). The Japanese financial crisis is also related to nonperforming loans, according to Sultana (2020). The asset price collapse that affected the banking sector ten years ago, according to Sultana (2020), has left Japanese banks still struggling under the weight of bad debts totaling thousands of billions of yen. The pre-tax profits earned by the banking sector in Kenya declined by 4.5 percent in 2002, according to the central bank. (2019). NPLs can be thought of as undesired outputs or expenses for a lending bank that have a detrimental effect on the bank's performance (Chang, 2019). The risk of NPL rises as the external economic environment worsens, such as during an economic depression.

In order to significantly reduce the frequency of each of the causes of banking crises, a variety of actions can be implemented, claim Goldstein and Turner (2019). For instance, greater macroeconomic stability, increased use of market-based hedging techniques, and better bank capital levels all contribute to reducing the negative consequences of NPLs on the domestic banking system. Limiting the provision of bank credit to certain interest rate-sensitive industries and closely monitoring lending would all be useful in reducing the vulnerability of lending booms, asset price collapses, and spikes in capital inflows.

There are, however, a variety of ways to deal with their occurrence, according to (Tirapat, 2018). Goldstein and Turner concur with Tirapat (2018) that the success of efforts to address these issues is heavily influenced by the government. The NPL issue can be resolved in three key areas, all of which aim to increase the banks' earning potential, according to The Bank of Japan (2020). Cost-cutting while boosting efficiency is the first step. The second stage requires altering your lending approach,

which needs to be backed by a thorough credit risk analysis. To enhance your fee income, you must offer more financial services in the third step.

A bank's performance as well as the financial health of the economy depend on keeping NPL under control (McNulty, Akhigbe, and Verbrugge, 2021). A thorough risk analysis can significantly reduce the likelihood of nonperforming loans or defaults. The non-performance of loans has also been linked to other issues, it has been shown. Moral hazard may be a contributing factor to NPLs in African banks, according to Richard's research (2019). As a result of inducements and/or bribes, the results showed that bank owners and management adopt illegal lending practices. Due to this, loans are given to borrowers in the most risky segments of the credit market at high interest rates (Mabvure, Gwangwava, Faitira, Mutibvu & Kamoyo, 2020; p. 471).

Credit risk will be affected by changes to the business cycle, currency rate, interest rate, availability of credit, and quality of that credit as a result of economic factors such as changes in national income and unemployment. In Ghana, loan defaults may result from several factors. Debtors' ability to meet their debts could be hampered by a lack of liquidity or other financial issues. Changes in the law and regulations may also affect how effectively and efficiently debt is collected from borrowers as well as how financial institutions supervise their activities. A lowering of standards or incorrect loan product pricing may emerge from financial institutions' competitiveness for expansion, profitability, and the ambition to dominate a market. The price of increasing non-performing debts may therefore rise. The competence of the labor force might also be a factor in bank loans failing. Ineffective management, bad lending practices, exchange rates, including past due credits, credit concentrations, and analysis of problematic loans can all be caused by credit officers lacking the requisite skills. An inaccurate assessment of credit quality may also be a contributing cause. Competitive pressure

and credit expansion may be to fault for this problem because they frequently create time limits on gathering good data. In addition, because to rapid growth or entry into new markets, the management may be persuaded to make a loan without doing necessary financial and economic study. Management may use straightforward indicators of credit quality, such as borrower characteristics, the present and expected value of collateral, or the support of a parent firm or connected enterprises, to support credit choices and speed up the decision-making process. The other is lending that goes beyond the collateral. When credit is given for the acquisition or development of assets used as collateral, many financial institutions are unable to assess the relationship between the borrowers' financial status, their capacity to generate income, price changes, and the liquidity of the market for the collateral (Segbefia, 2018).

2.2.6 Competence of banking staff as a determinant of Non-Performing Loans

Bank operational costs and the standard of consumer loans could potentially drastically deplete capital as a result of inadequate supervision. Cost-effectiveness has a positive link with examiners' evaluations of the management quality of banks, according to Peristiani (2019) and Berger and DeYoung (2019). According to Berger and DeYoung's (2019) "poor management" theory, loan officers lacked the expertise necessary to accurately assess and reduce the risks associated with providing loans to borrowers. Kwan and Eisenbis (2020) contend that increasing levels of bank inefficiency could result in higher percentages of bad loans. If managers are ready to take risks, it may also depend on how profitable the bank is. Banks must assume greater risk than businesses that are less successful in order to generate money. The profitability of a bank, as determined by Return on Asset, has a negative impact on the NPL ratio, claims Godlewski (2020). (ROA). Salas and Saurina (2022) identify factors including market

strength, bank size, capital ratio, and rapid credit expansion as having an impact on the variety of issue loans in Spanish commercial and saving banks. According to Das and Ghosh, increasing credit leads to a large decrease in the number of problematic loans (2018).

Some workers' lackluster efforts might be traced back to their desire to pursue their own goals. A large portion of the staff, on occasion, colludes with clients to fraudulently cause bank loans to go into default. Highly qualified bankers have a higher opinion of borrowers' reputations in terms of educational backgrounds and number of years in the workforce, which unintentionally results in a decrease in non-performing loans compared to under-qualified bankers (Masood et al. 2019, p. Thus, savvy bankers will exercise caution when deciding whether or not to give credit to borrowers of non-performing loans. According to separate studies cited by (De Juan, 2020), management plays a crucial part in fostering competent credit decision-making through recruiting, hiring, and supervising competent staff members. As an added bonus, with a well-trained monitoring team and adequate supervision, issue loans can be quickly identified and addressed before they develop into non-performing loans. The nonperforming loans at rural banks will improve if professional bankers are hired to increase loan retention and payback, but this will backfire if the bankers actively assist consumers in defaulting.

2.2.7 Lenient credit terms as a determinant of Non-Performing Loans

It is well acknowledged that a bank's success is influenced by macroeconomic factors. In the case of a recession, banks expect both consumers and businesses to encounter liquidity issues, increasing the likelihood that debts would not be paid on time (Jimenez

and Saurina, 2006). Al-Smadi and Ahmad (2019) vs. Das and Ghosh (2020). Both Warue (2021) and Brownbridge (2019) revealed a negative and statistically significant relationship between problem loans and GDP. This evidence suggests that there is a link between economic slowdowns and a rise in the number of loans that are in default. Rising real interest rates, real exchange rate appreciation, and economic growth were all determined to be significant contributors to the problem of nonperforming loans (NPLs) by Fofack's (2018, 2019) empirical analysis. Consistent with their findings, Jimenez and Saurina (2020) found a substantial and positive association between market interest rates and distressed loans. Warue (2020) found a positive and statistically significant correlation between lending interest rates and NPL in commercial banks. Al-Smadi and Ahmad (2020) discovered, contrary to intuition, that the market interest rate has a negative correlation with the credit risk of Jordanian banks. Businesses, they say, benefit from low loan rates because it encourages more economic activity and productivity, both of which boost earnings.

According to Salas and Saurina (2022), NPL fluctuations can be explained by real GDP growth. Inflation has a large negative influence on credit risk, as shown by Al-Smadi and Ahmad (2020), while Jimenez et al. (2021) show that high real interest rates and forgiving loan terms have an impact on nonperforming loans. Inflation affected government commercial banks, as well, according to Warue (2020). Nonperforming loans (NPLs) have been found to connect negatively with the unemployment rate in a large body of empirical research. Louzis et al. (2021) found that unemployment, with a lag of one period, is a leading indication of NPLs. It seems to reason that when unemployment rates rise, households will have less discretionary money and more debt. A rise in the unemployment rate may be seen by firms as a signal to reduce output

because of falling effective demand. This could lead to a drop in revenue, which would put pressure on the business's ability to service its debt.

The prospect of default places nonperforming loans in a precarious position, making it difficult to get additional credit. (Jimenez & Saurina, 2019) found that if credit was extended without taking credit history into account, a bad loan may be created. The study's authors came to the conclusion that the issue of non-performing credit in the Spanish banking system from 1982 to 2001 was exacerbated by lenient credit terms. As a result of disaster myopia, individual agency, moral hazard, and agency issues, researchers hypothesized that bank managers and executives could be swayed to take excessive risks and lend excessively when economic conditions were favorable. Other studies' findings (Azofra, 2019) reinforce this idea, showing that credit circumstances significantly affect the likelihood of a loan going bad. Non-performing loans in the banking industry are largely due to credit risk, as reported by Rural Banks.

2.2.8 Loan Delinquency

According to Ahmad (2019), loan defaults can occur for a number of reasons, including borrowers' unwillingness to fulfill commitments, borrowers' deliberate disregard of obligations, or credit officers' inaccurate assessments of borrowers' financial status. Kwakwa (2020) discovered that a decrease in the value of a country's currency can have a considerable effect on a company's ability to repay loan payments. Ageing farmers, unprofitable farm companies, insufficient farm size, high interest rates, and excessive government interference were also identified as causes of loan default by Balogun and Alimi (2019). Factors such as exposure to excellent management practices and the size of the farmer's farm and family were discovered by Akinwumi and Ajayi (1990) to

affect the farmer's ability to repay a loan. If the loan is dispersed late or if interest rates are excessively high, the cost of borrowing money could increase dramatically, which could have a negative impact on repayment performance, as stated by Olomola (2019). According to a survey conducted by Berger and De Young (2019) among various Indian banks, the leading causes of default on loans from the industrial sector are the following: insufficient entrepreneur selection, insufficient project viability analysis, insufficient collateral security/equitable mortgage against loans, unrealistic terms and schedules of repayment, a lack of follow-up measures, and default due to natural calamities. According to research by Okorie (2020) in the Nigerian state of Ondo, high default rates are caused by factors like the nature, timeliness, oversight, and profitability of an organization's loan repayments.

Probability of loan default is affected by various variables such as loan type, loan term, interest rate, negative credit history, borrower income, and transaction costs. According to Okpugie (2019), the alarming default is due to the exorbitant lending rates offered by microfinance businesses. The high interest rates imposed by banks induce debtors to default, according to research by Vandel (2021). Both human economic blunders and environmental reasons (such as bad weather or rapid price adjustments for a certain product), say Gorter and Bloem (2020), contribute to the occurrence of non-performing loans. In the event of a default, loan holders can either pool their resources to acquire insurance against default or set aside funds for bad loans. The issue of bad loans is significant. Bad loans are a major contributor to Japan's economic stagnation, say Nishimura, Kazuhito, and Yukiko (2021). They said that after the bubble burst, some of the loans issued by banks to businesses and industries were non-performing. This impeded the effectiveness of the financial intermediary sector and slowed the implementation of structural reforms. According to research by Kohansal and Mansoori

(2019), the most common causes of loan default are ineffective management, loan redistribution, and loan refusal. Loan defaults have been linked to a wide range of problems, including legal restrictions on interest rates, informal lenders' monopoly on the credit market, borrowers' high processing costs associated with loan applications, moral hazard concerns, and others.

If you have a consumer instalment loan and you haven't paid your monthly payment when it's due, you're considered delinquent, as defined by Friends Consulting LTD (2017). Even though a grace period of 16-30 days is often allowed, the account becomes delinquent after two missed payments in a row. Deviant behavior is not typical. If the borrower(s) do not make payments on time and in line with the repayment schedule, the loan will become delinquent, as defined by LTD (2012). A loan is termed delinquent if payments are more than 30 to 60 days overdue. Someone is late on their payments when they are delinquent on their debt. Lenders and borrowers work on the terms of a loan's repayment before a loan is actually dispersed.

Loan delinquency is typically measured by one of three rates: the collection rate, the arrears rate, or the portfolio-at-risk rate. Collection rates are the proportion of the total amount outstanding that has been paid, whereas portfolio-at-risk and arrears rates are the proportion of the total amount owed that has not yet been paid (CGAP, 2019).

2.2.9 Impact of Delinquent Loans on Rural banks

The following are some of the consequences that borrowers have suggested could result from loan default. Causes of loan default include inadequate client education before to and after loan disbursement, loan disbursement delays, business failure, unattractive payment terms, high interest rates, insufficient loan amounts, and unforeseen catastrophes like illness and death. These lend weight to the findings of the extensive

study. Microloan default rates, for instance, have been found to be strongly influenced by disbursement time (Okorie, 2019). Second, both Vandel (2019) and Okpugie (2020) found that borrowers from microfinance institutions were unable to keep up with their loan payments due of the excessive rates of interest charged by their service providers.

A debtor is in default when they have failed to fulfill their legal obligations under their contracts. To be in default, a debtor must either miss a payment or violate a loan covenant (condition) specified in the debt contract (Ameyaw Amankwah, 2021). When a borrower fails to keep up with their loan payments, this is known as a default. When a borrower cannot or chooses not to make loan payments, this is called default. In the event that a borrower stops making payments or otherwise violates the terms of a loan, this is known as a default. Time: 2021, Murray.

Furthermore, Pearson and Greeff (2020) define default as the occurrence of at least three missed payments during a 24-month period. The borrower's chance of terminal failure and payment cessation increases as measured by this indicator. A single interpretation is necessary for consistent analysis, hence it was crucial to have a definition that meets international standards. No inference should be drawn from this that the borrower has abandoned all responsibility for making loan payments, that the loan has been turned over to collection or legal processes, or that the loan has been formally documented as problematic, doubtful, or written off. When a borrower falls behind on their loan payments, this is known as "loan default" (Balogun & Alimi, 2019).

Balogun and Alimi (2020) noted that the age of farmers, the absence of supervision, the unprofitability of farm enterprises, the lack of funds, the delay in loan delivery, the small size of farms, high interest rates, and excessive government interference in the

operation of government-sponsored credit programs were all major factors in loan default.

Factors identified by Rural Banks as major contributors to default or delinquency in Rural Banks in Ghana include: poor client selection, insufficient or no monitoring, client fund diversion, client refusal to pay, client lack of training, client illiteracy and inadequacy, poor business practices, macroeconomic factors, and poor management styles. Ahmad's 2021 research suggests that the aforementioned variables or causes can all contribute to the occurrence of loan default, including borrowers' unwillingness to repay loans, borrowers' deliberate ignorance, credit officers' inaccurate assessments, and borrowers' diversion of cash.

2.2.10 Loan Repayment Performance

Arene (2020) asserts that the following factors are the main determinants of loan payback performance: loan size, enterprise size, income, age, years in business, distance between a borrower's residence and the source of the loan, education, home size, adoption of innovations, and credit demand. According to Von, ineffective loan recovery performance is primarily caused by issues with credit project design and execution (2019). Some of the problems with credit project design include debt versus equity, realism versus aspiration, expected value versus dispersion (detailed consideration of the variety of results that occur in the field), bookkeeping ease versus borrower cash flow patterns, collection mechanism, institutional scope or range of services offered, and interest rate.

A few of the problems with implementing credit programs include low service standards, ineffective coordination, a lack of decision-making ability when lending to particular target groups, and financial records. The aforementioned results demonstrate

that a loan's likelihood of repayment is influenced by the borrowers' personal characteristics (age, education, experience, sex, household size, and loan utilization), loan contract terms (such as repayment instalments, collateral, frequency of maturity, grace period, loan volume, interest rate, and number of disbursements), as well as additional factors like technical assistance and social cohesion levels (for micro-enterprises).

2.2.11 The Performance of the Banking Sector

Reports of big company failures, notably in the financial industry, have highlighted the need for change and demonstrated that effective governance is no longer a choice but rather a must (IFC, 2019). (BoG, 2019). The statement (BoG, 2019) claims that insider trading, falsified financial reporting, and inadequate corporate governance are to blame for the current state of affairs in the banking sector. In order to lower risk in the banking industry, changes to the International Financial Reporting Standard are required. According to Kwakwa, Ghana's banking sector is quite small and in 2011 there were 24 banks, 14 of which were foreign banks (2014). Poor corporate governance is the cause of the banking sector's limited progress.

Recapitalization or merger were the only ways for banks to stay in business, according to the BoG(2019) Report. Despite some claims to the contrary, inadequate governance structures are what are to blame for this occurrence. The bank had huge losses as a result of bad loans, claim Antwi, Mensah, Crabbe, and Antwi (2020). They assert that the banking industry has long been beset by issues like high levels of liquidity risk, substandard loans, insufficient capitalization, operational inefficiencies, and high rates of non-performing loans. The performance of banks continues to be dismal, with major gaps in service delivery to private agents, according to Antwi et al. (2020), despite years of regulatory attempts to strengthen the banking sector. Politicians, the regulator, and

bad corporate governance were held responsible for the recent "panic withdrawal" that harmed the banks, but the real offender is bad corporate governance.

Any researcher must admit that, despite several reforms (such the financial liberalization and institutional reforms in the 1990s), the causes for the banking sector's underwhelming performance were not limited to bad corporate governance. Because of deficiencies in pre-reform financial sector policies of governance control over financial markets and a severe and extended economic crisis, the financial system had been severely damaged, leading to bank distress (Brownbridge & Gockel, n.d.; Kwakwa, 2021) The statement from BoG shows that although a number of causes contributed to the decline of the banking industry, inadequate corporate governance was the most significant one. "... This state of affairs was largely a result of inadequate corporate governance," the BoG statement states.

2.2.12 Evolution of Rural Banking in Ghana

Rural banking could be used to describe the process of providing financial services to a nation's rural population in particular (Nissanke & Aryeetey, 2020). Rural banks are connected to the central bank and operate in a manner similar to that of commercial banks (Sinkey, 2019). As a result, the duties performed by rural banks are similar to those of commercial banks. Therefore, commercial banks and rural banks carry out the same tasks even when they are not located in urban regions. The primary sources of capital creation, capital preservation, and financial intermediation in rural areas are these institutions (Sinkey, 2020).

To raise deposits and offer loans to locals in their service regions is the objective of the concept of rural banking, which combines components of commercial and development banking (Lowe, 2022) To guarantee that they fulfill the needs of the neighborhood,

rural banks are owned, managed, controlled, and in general operated by the local populace (Treacy and Carey, 2020).

The Bank of Ghana grants licenses to the country's rural banks, which are small companies with limited liability that are incorporated under the Companies Code and have preferred shareholders that contribute 50% of the capital (Treacy and Carey, 2020). The Bank of Ghana also chooses how much approved share capital these companies can have. Being unit banks, they only have a small number of branch networks, and some of them have agencies in the same catchment area.

Beginning in the 1970s, Ghana's rural banking industry was established (Asiedu-Mante, 2019). Prior to the latter half of the 1970s, Ghanaian farmers and other rural citizens generally had fewer access to financial services for both agricultural and non-agricultural businesses. The money of rural dwellers was not kept in a safe or secure manner. In order to address this issue and increase access to financing in rural areas, the Ghanaian government launched a variety of programs. These initiatives involved, among other things, the establishment of Rural Banks (World Bank, 2020). The other main players in the rural financial market, besides rural banks, were credit unions and other informal sector firms including money lenders, dealers, and "susu" collectors. Significant rural financial sources also included friends and family (Asiedu-Mante, 2019). In the middle of the nation, the first rural bank was established in 1976. There were twenty active rural banks between 1976 and 1980. (20). Ghana had 106 rural banks between 1980 and 1985. 2020 Asiedu-Mante, 2019; World Bank. There were about 86 brand-new rural banks nationwide by 1985. Between 1995 and 1998, eleven (11) additional rural banks were operational. The rapid growth of rural banks has given the majority of rural populations access to financial services. 23 rural banks, however,

were unable to endure the competitive atmosphere between 1999 and 2000 and ultimately folded.

Investment, development, and core commercial banks are the three fundamental types of banks according to Preko and Armah-Tetteh (2021). The institution is known as the central bank when the state fully owns the capital stock of a bank. A country's central bank is in charge of all of its banking and financial institutions. It is governed by a board that the government appointed and that is owned by the government. Commercial banks are publicly traded enterprises that prioritize profitability and act as financial institutions. It is their duty to gather deposits from clients and keep their assets in a safe place so they can be released upon demand. Development banks are organizations that offer long-term financing for the expansion of a certain economic sector. Because they place a strong emphasis on shareholder profit, rural banks fall under the commercial banking umbrella.

A rural bank's principal duty is to gather rural deposits for lending to customers in these areas so they can finance agriculture, cottage industries, and small businesses to raise their standard of living (Mark, 2021). Rural financial institutions encourage their clients to save money (Preko & Armah-Tetteh, 2019). Without rural banks, ranchers, farmers, and anglers would find it difficult to hold onto their income (Reto, 2018). Locals that need money to increase output in their various occupations can get loans and overdraft services from rural banks (Reto, 2018). Farmers, fishermen, and ranchers who need money typically must turn to moneylenders for loans that have high interest rates, according to Preko and Armah-Tetteh (2019). On a regular basis, this has a substantial effect on their working capital.

Through rural banks, the government also provides farm equipment assistance to farmers (Arora, Bohn & Zhu, 2019). With the help of this system, even farmers, herders, and fishermen without immediate access to cash can purchase farm equipment and pay later (Ofosu-Djamerah, 2019). Additionally, the rural banks extend credit to their customers for the payment of medical costs, home repairs, and school tuition (Ofosu-Djamerah, 2019). To protect the overall welfare and livelihoods of rural communities, this is done; (Ofosu-Djamerah, 2019).

Preko and Armah-Tetteh assert that rural banks help implement monetary and financial policy there (2019). Rural banks undoubtedly manage the "Akuafu" cheque method of rewarding cocoa producers; the farmers will find it simple to convert currencies through these enterprises. Rural banks operate in two separate business segments: production, which includes the bank's operations, marketing, and other commercial and support activities, and borrowing and lending, often known as financial intermediation. In contrast to net non-interest revenue or burden, which represents the producing side of the firm, net interest income shows the bank's position as a pure intermediary (Sinkey, 2020). The capacity to maintain loan quality and amass core deposits, on the other hand, determines interest spending and loan loss provision. High banking performance is difficult to obtain in the absence of any control over these two performance parameters. How a rural bank functions and conducts business is affected by a number of circumstances, including access to the central bank's funding system, regulatory requirements for high operational standards, and others (Lowe, 2022). Rural Bank makes money by making use of capital. Consequently, banks usually run with low capitalization and high leverage (Lowe, 2022). This style of conducting business forces banks to better manage and mitigate operating risks, with credit, market, and operational risks being the main ones. (Basel, 2019). The principal source of funding

for many banks is interbank borrowing, which can be reputational or confidence-sensitive. For this reason, banks need to be skilled at managing liquidity. The credit business cycles of industries and consumer credit trends also have an impact on banking operations, in addition to economic difficulties (Basel, 2019).

2.3 Theoretical Review

There are various hypotheses that explain why loans don't work out. Examining some of these theories is crucial because they have an impact on the evaluation of a number of important non-performing loan characteristics. This section discusses the two key hypotheses that are relevant to and applicable to the investigation.

2.3.1 Asymmetric Information Theory

According to this theory, in order to act in a manner that is socially acceptable, organizations must scan their surroundings for individuals who may have an impact on future organizational decisions or who may want organizations to act to address significant issues to them, such as reviewing loans, in order to identify who may be in those groups. According to the asymmetric information theory, it could not be able to discern between good and bad borrowers, which could result in problems with adverse selection and moral hazard (Auronen 2003; Richard 2011). The borrower—in this case, the party who has more knowledge of the good being traded—can, in accordance with the concept, bargain better conditions for the transaction than the other party, who is the lender. The amount of information is insufficient in this instance. It specifically occurs when one party is aware of information that the other party is not.

The borrower is much more informed about his financial condition in the financial markets than the lender is. It is difficult for the lender to predict a borrower default. In some cases, the lender might make an effort to remedy this by looking at past credit

histories and evidence of a reliable source of income. However, this just provides a few details. As a result, lenders could request higher rates in order to cover the risk. Banks wouldn't need to charge this risk premium in an ideal environment.

2.3.2 Financial Theory

A revolutionary financial theory created by Minsky called the notion of financial uncertainty sought to understand and explain the characteristics of the financial crisis. The hypothesis holds that when corporate cash flow exceeds what is required to pay off debt, a speculative frenzy emerges during prosperous periods. When obligations reach a level that cannot be satisfied with incoming income, a financial crisis swiftly ensues. The economy shrinks as a result of these speculative borrowing bubbles, which force banks and lenders to limit credit even to enterprises that can afford loans. It is believed that the following three types of creditors are to blame for the growth of insolvent debt: The "hedge borrower" can pay off debt by using the cash flows from their current investments (covering interest and principle). Due to insufficient investment cash flow to pay the debt or the accrued interest, the "speculative borrower" sometimes has to roll over or reborrow the principal. When the "borrower" requests the loan, they are counting on the asset's value to rise to the point that they can use it to pay off the debt. Because the "borrower" won't be able to pay the interest or principle with the cash flow from savings, the rising asset value will be the only thing keeping it afloat. A hedge borrower will obtain a traditional loan and repay the principle and interest, according to the underlying financial theory of this study.

2.3 Empirical Review

Several important works define credit risk and analyze the ways in which it affects banks' productivity and earnings. However, because various studies have reached different conclusions, the precise association between these two elements is still unknown. Idowu & Awoyemi (2014) examined commercial banks in Nigeria to assess the results of credit risk management. The study found that financial institutions couldn't function without these credit risk indicators. A regression panel was used to analyze data from seven separate commercial banks throughout the seven-year period 2005–2011. The rising number of banks with non-performing loans was singled out in the report as an indicator of extremely inadequate risk management across the country.

In addition, Curak et al. (2013) examined data from Southern European financial systems to investigate what causes non-performing loans. Researchers in this study used dynamic panel analysis and the General Method of Moments (GMM) on annual data from 2003–2010 for 69 banks in 10 countries. Non-performing loans in the banking industry have been linked to sluggish economic growth, high inflation, and rising interest rates. The size, profitability, and solvency of a bank all play a role in its credit risk.

The effect of nonperforming loans (NPL) on the profitability of several Kenyan microfinance institutions was studied by Wangai et al. (2012). They put a lot of faith in this single data point because the sample size was so small ($n=66$). The negative effect of credit risk on profitability due to rising NPLs was quantified in a recent study.

According to Felix and Claudine (2018), the ratio of non-performing loans to total loans has a detrimental effect on the profitability of financial institutions as measured by Return on Equity (ROE) and Return on Assets (ROA). The assumption that profitability

and non-performing loans in Kenya are connected indirectly was given greater support by Kithinji (2010).

Commercial banks in Kenya were studied by Warue (2013) to determine the impact of nonperforming loans and bank-specific macroeconomic factors on bank profitability. The study found that nonperforming loans were affected by macroeconomic variables such as GDP per capita, inflation, and interest rates; however, the impact of bank-specific factors increased as the study's time window narrowed from 1995 to 2009. For this reason, it's crucial for financial institutions to prioritize responsible management strategies that lower the percentage of bad loans.

Credit risk management and rural banks' profitability in Ghana's BrongAhafo region were studied by Afriyie&Akotey (2013). This study was completed using secondary data obtained annually from 2006 to 2010 from 10 local rural banks. The study used a panel analysis to determine that the CAR and NPL were not significant predictors of profitability for these rural banks in the region. According to the data, CAR had little to no impact on the bottom line. Despite ineffective credit risk management in the form of significant NPL, a growing source of income has been uncovered. This is due to the fact that these banks have been charging their customers extremely high interest rates in order to cover the costs associated with credit impairment.

Several research (Berger & De Young, 2016) have found a connection between ineffective management and defaulting loans. Most banks and MFIs who are struggling with non-performing loans have issues with subscription, tracking, and control of their loans. Credit culture is a factor in nonperforming loans, according to some research. It's not uncommon for borrowers to intend to apply for loans without giving much thought to their actual financial need. When this happens, people take out enormous loans not

because it's in their best interest financially, but because they feel pressured to fit in with their peers. This could potentially lead to loan defaults.

An analysis of nonperforming loans in Sub-Saharan Africa by the World Bank found that "NPLs are triggered by adverse economic shocks coupled with high capital costs and low interest margins" (Fofack, 2005). Goldstein and Turner (2016) state that several factors—including economic downturns, macroeconomic instability, falling trade volumes, excessive dependence on costly interbank loans, borrowing from insiders, and moral hazard—contribute to the accumulation of nonperforming loans.

Rouse (2015) argues that overdrawn accounts that have been neglected for some time and that have gone over the appropriate operational limit are a potential source of difficult loans. Inadequate skills may contribute to nonperforming loans (NPLs) and lender bias. It has been noted that as inflation rises, default rates on nonperforming loans tend to fall.

In order to evaluate whether or not an increase in nonperforming loans (NPLs) was the primary reason of financial institution failure, Fofack (2015) studied NPLs in Sub-Saharan Africa. In order to identify the causes of nonperforming loans, he conducted statistical analyses of correlation and causality with a wide range of macroeconomic variables, such as inflation, interest rate, GDP per capita, interest rate spread, variations in the real exchange rate, and high M2 money supply. Fofack claims that inflation, real interest rates, and GDP growth all contribute to NPLs. The NPL was shown to be unrelated to international measures of inflation or interest rates. Long-term correlations between the share of bad loans in the money supply and interest rates were also discovered. NPLs were found to have weak short-term relationships to fluctuations in prices or exchange rates.

Bader and Javid (2013) analyzed the link between NPLs and short- and long-term microeconomic factors. Inflation, interest rate, GDP, exchange rate, and money supply are five macroeconomic variables that the authors examined. Long-term nonperforming loans (NPLs) are correlated with macroeconomic conditions, per their analysis.

Using regression analysis, Dash and Kabras (2010) looked into the concealment of NPLs in India. The model's microeconomic variables were the annual inflation rate, real GDP, and the real effective exchange rate. The examination also took into account factors specific to the banking sector. The results showed a strong positive relationship between NPLs and assertion rate loans, as well as a significant negative association between NPLs and real GDP growth. The ratio of nonperforming loans to total loans was also found to be quite high, and it was shown to be negatively correlated with real interest rates.

Bloem and Gorter (2017) suggested that unpredictable events, such as shifts in the price of petroleum products, key export prices, foreign currency rates, or interest rates, could contribute to unexpected fluctuations in nonperforming loans. It was also suggested that moral hazards coming from generous government guarantees and too optimistic creditworthiness assessments during economic booms could contribute to loan failure alongside poor management and loose regulation. The results showed a strong positive relationship between NPLs and assertion rate loans, as well as a significant negative association between NPLs and real GDP growth. The ratio of nonperforming loans to total loans was also found to be quite high, and it was shown to be negatively correlated with real interest rates.

Speculation, according to another source (Bofondi&Ropele, 2011), is the practice of investing in high-risk assets for the purpose of earning large returns, and it includes

dishonest tactics like making loans to unqualified borrowers or providing loans without collateral or reference, both of which can lead to nonperforming loans. Internal reasons, such as labor agitation/shortage and business failure, are also blamed in the report for the spread of the NPL epidemic. Speculation, according to another source (Bofondi&Ropele, 2011), is the practice of investing in high-risk assets for the purpose of earning large returns, and it includes dishonest tactics like making loans to unqualified borrowers or providing loans without collateral or reference, both of which can lead to nonperforming loans. Internal reasons, such as labor agitation/shortage and business failure, are also blamed in the report for the spread of the NPL epidemic.

Regression analysis was utilized by Kinnear and Taylor (2017) to see how macroeconomic and bank-specific factors affected nonperforming loans in Guyana. Using a fixed impact panel model, we looked into the causes of Nonperforming Loans (NPLs) in the Guyana banking sector. Using information from six commercial banks in Guyana between 1994 and 2004, they evaluated the model via pooled least squares. Considerations such as inflation, real GDP growth, and the Real Effective Exchange Rate were incorporated into their strategy. The real interest rate, bank size, yearly loan growth, and loan-to-assets ratio were only few of the variables factored into this analysis. Their examination of correlations found that NPLs are strongly connected with the loan-to-assets ratio, indicating that banks with a higher propensity to take risks also tend to have more NPLs. According to the author's findings, there is a negative correlation between GDP growth and the rate of increase in nonperforming loans, and the size of a bank may not be relevant when it comes to mitigating credit risk, as smaller banks were not significantly connected with lower NPLs. However, contrary to the results of other research, their data also showed that the percentage of nonperforming loans to total loans decreased as inflation increased.

In a related paper, Espinoza and Prasad (2014) looked at the extent to which NPLs from different banks within GCC countries were influenced by macroeconomic factors, which is to say, the causes of NPLs in the banking sector of GCC countries. Panel vector autoregressive (VAR) models were run using data from the Bank-wise database to investigate the root causes of NPLs in the GCC banking industry. The linear relationships between several time variables may be captured by the econometric model known as vector auto-regression (VAR). By including many independent variables, VAR models generalize the AR model. Macroeconomic variables including non-oil real GDP and bank-specific metrics were analyzed. Regression analysis was utilized by Dash and Kabras (2020) to identify the causes of bad loans in India. Real GDP, annual inflation, and real effective exchange rates were used as microeconomic inputs in the model. We also took into consideration factors unique to banks. The findings indicate a negative relationship between real GDP growth and NPLs, as well as a substantial correlation between NPLs and assertion rate loans. Weak correlations were also seen between NPLs and both total loan amounts and effective interest rates.

Hoffmann (2021) used a vector autoregressive model to examine bank lending to the private nonfinancial sector in 16 developed countries. In order to understand the long-term shifts in bank lending, it is crucial to account for his findings that property values are a strong predictor of the private sector's long-term borrowing ability.

Assefa (2019) examines yearly data from 1978-2011 to determine what factors encourage Ethiopian financial institutions to grant loan applications. Long-term bank credit is positively impacted by factors such domestic deposits, real lending rate, GDP, inflation, and carryover loans from the previous year. Further evidence indicates that banks do not immediately lend money from domestic deposits to the private sector, demonstrating that banks' short-term credit behavior is unaffected by domestic deposits.

Short-term and long-term changes in the money supply have a detrimental impact on lending.

Bader and Javid (2019) conducted a review that looked at the long-term and short-term consequences of microeconomic aspects of NPLs. The authors examined five macroeconomic variables: money supply, exchange rate, GDP, and interest rate. It was found that macroeconomic worries consistently correlate with loan defaults.

2.5 Conceptual Framework

According to McGaghie et al., the conceptual framework "lays the groundwork for the reporting of specific study issues that drive the investigation being presented based on the problem statement" (2001). Because of this, the conceptual framework in Figure 1 shows how the researcher interprets the relationships among the study's variables. A few crucial components of the suggested framework address the problem under investigation. This section of the study includes a conceptual framework along with a theoretical overview that describes the important constructs, variables, or components and the presumed relationships between them in order to aid readers in understanding the research. Three elements were investigated in this study as independent variables that affect project performance. The existing literature on organizational challenges, technological considerations, and environmental concerns that surround the adoption of non-performing loans were investigated in order to determine the readiness of the rural banks to adopt this system. The concept behind the study is as follows:

Independent variables

Dependent variable

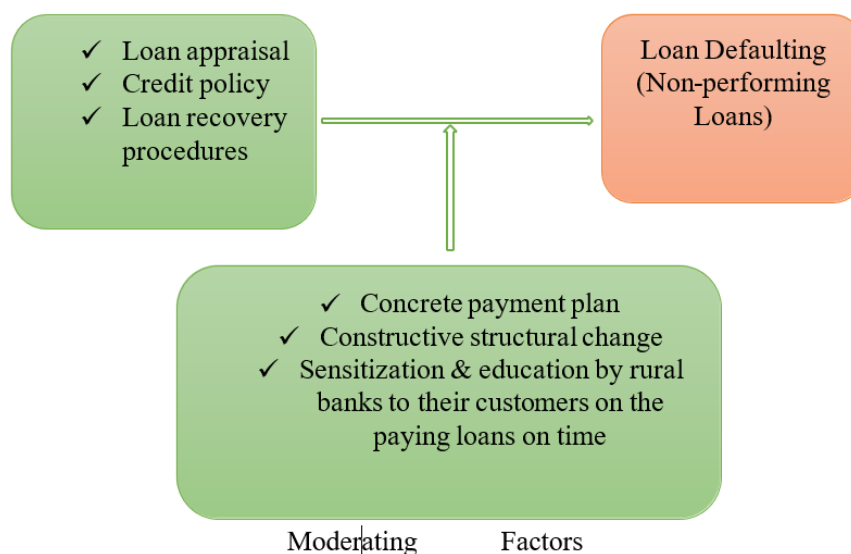


Figure 1: Conceptual framework

The conceptual framework's diagrammatic depiction demonstrates how the variables were connected. Loan recovery, loan appraisal, credit policy, and loan appraisal are all independent variables; however, loan default or loan repayment is a dependent variable that is reliant on the occurrence of the aforementioned independent variables. Loan default, the study's dependent variable, was affected by a number of different factors. Credit regulations, loan evaluation, economic cycles and conditions, and debt recovery strategies were all taken into account as independent variables in the study.

2.6 Summary of literature review

Numerous research on the causes of non-performing loans have been conducted as a result of the aforementioned arguments. These research mostly concentrated on how to

identify macroeconomic and bank-specific NPLs. However, the earlier empirical study didn't look into any of the customer-specific characteristics that contribute to non-performing loans. Additionally, only a tiny portion of the empirical studies examined and discussed in the aforementioned sections were carried out in Ghana's commercial banking sector. In addition, there aren't many research that have been done on Ghana's banking industry. No additional research was done on Rural Banks or the banking industry in general.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Chapter introduction

The study's research technique is described in this chapter. Research technique describes the framework of the researcher's decisions made in accordance with the nature of the questions asked and the intended outcomes anticipated. The study paradigm, research design, data sources, sample, instrumentation, data collection method, mode and tools for data analysis, limitation, and ethical considerations are all included in this.

3.2 Research Approach

According to Myers, research methodologies can be broadly separated into qualitative and quantitative research methodologies (2015). Additionally, each of these two viewpoints uses a distinct set of techniques and strategies for collecting data for research projects, according to Creswell (2021). In this study, the quantitative research methodology is applied. Quantitative research includes the measurement of numerical data, texting of research questions, and generalization of data to explain cause-and-effect linkages (Creswell, 2020). This researcher believes that the quantitative research approach is appropriate because there are more participants in this study.

3.3 Research design

A descriptive survey design was used for this investigation. The descriptive survey approach was utilized because a sample of the financial statements from 43 out of 144 rural banks in Ghana were selected for this study and because their responses were quantitatively assessed. According to Amedahe and Asamoah-Gyimah, a research

design is a conceptual framework utilized by a researcher to collect, quantify, and analyze data that will be used to look into the study problem (2019). A description of the study's population with a focus on the sample, the methods used to process and analyze the data obtained from the sample, the methods used to obtain the data from the sample, and the procedures used to do so are all included in this. According to Creswell, a study without a thoroughly thought-out research design could be ineffective or, at worse, lead to conclusions that are incorrect or misleading (2020). Creswell said that the survey approach involves asking respondents questions and gathering data from a smaller group of people in order to ensure that the results are accurate. Secondary data was gathered through getting the financial statements of 45 rural banks in Ghana. Due to the possibility that respondents would object to questions about their personal life, which could provide incorrect results, a descriptive cross-sectional survey was also necessary (Creswell, 2012).

3.4 Population of the study

According to Cooper and Schindler (2019), the population is the complete group of the factors from which the researcher hopes to get conclusions. For all practical purposes, the population of the study consisted of all Ghanaian Rural Banks. There are 140 of these banks, according to the 2022 Bank of Ghana Banking Supervision Report.

3.5 Sampling techniques and Sample size

According to Polit, Abramson, and Gavah (2018), the purposive sampling technique was chosen because it offers the researcher the option to choose the research subjects at their discretion. The purposive sampling technique has the advantages of being affordable, assuring correct representation, ensuring in-depth analysis of the selected

objects, and producing better results if the researcher is objective, capable of sharp observation, and good judgment. The inability to gauge the level of accuracy obtained throughout the research is one of the purposive sampling technique's drawbacks. According to Guba and Lincoln (2012), the sample is a group of respondents chosen to represent a specific demographic. A sample of 43 rural banks that had online access to their financial statements was employed in this study. Data from 2016 through 2020 were examined. Because a thorough and entirely representative study had to be done in the end, each of these banks was examined.

3.6 Source of Data

The information was acquired from the 43 rural banks chosen for the study's annual reports.

3.7 Data analyses

Babbie (2019) claims that data analysis is performed on the acquired data to transform it into a format that may be used to draw conclusions that are representative of the theories and convictions that guided the investigation. After being collected, the data was edited, coded, categorized, and tabulated. Quantitative data were examined using the Statistical Package for Social Science (SPSS) version 17.0. Spreadsheets were used to design the appropriate charts and tables for the data display. To achieve the goal of the study, a model was developed using causes as independent variables and NPLs levels as dependent variables. The origins and severity of the rise in NPLs in rural banks were investigated using regression analysis.

3.9 Model Specification

As a result, Fawad and Taqadus' conceptual framework was modified and applied in this study (2013). The updated estimated models used in this inquiry are listed as follows:

$$NPL = \beta_0 + \beta_1 IR_1 + \beta_2 FR_2 + \beta_3 GL_3 + \xi_i$$

Where

Y = The level of Non-Performing Loan computed as

$$\frac{NPL}{\text{Total Loans}} \times 100$$

Total Loans

X_1 = The real interest rate measured as the difference between the weighted average lending rates the monthly inflation rate of the bank

X_2 = The Monthly inflation rate of the Bank

X_3 = The growth in loans of bank ξ_i = the error term assumed to have zero mean and independent across time period.

β_0 = constant parameter/ Intercept $\beta_1, \beta_2, \beta_3$, = Are the coefficient of the independent variables i.e x_1, x_2, x_3 .

Table----Operationalization of variables used and expected signs (Variables description)

Variable Category	Definition	Data sources	sign
<u>Dependent variable</u> <i>Loan defaulting/ (Non-performing Loans)</i>	<i>Loans or advances provided by financial institutions, such as banks or lending organizations, that have not been repaid by borrowers according to the agreed-upon terms</i>	GNBSP, Rural Banks, Statistical Documents, Banking Surveys of Different Years	(±)
<u>Independent variable</u> <i>Loan appraisal</i> <i>Credit policy</i> <i>Loan recovery procedures</i>	<i>Creditworthiness and risk associated with a potential borrower before approving a loan.</i> <i>Guidelines and principles that a financial institution or lender follows when making lending decisions</i> <i>Designed to minimize losses when borrowers fail to repay their loans as agreed</i>	GNBSP, Rural Banks, Statistical Documents, Banking Surveys of Different Years	(±)
Lenient credit terms	lower interest rates, longer repayment periods, reduced collateral requirements, or more flexible eligibility criteria	GNBSP	(±)
Competence of banking staff	<i>Understanding of banking products and services, regulatory compliance, customer service, financial analysis, risk assessment, and other relevant aspects of their job</i>	GNBSP	(±)
Control Interest rate Inflation	<i>amount an investor earns from their investments (such as savings accounts, bonds, or certificates of deposit</i> <i>Annual growth rate</i>	GNBSP, Rural Banks, Statistical Documents, Banking Surveys of Different Years	(±)

Source (Researcher, 2023) **GNBSP means Ghana National Bureau of Statistics

Publications

3.10 Ethical considerations

The application of applied ethics, which includes research ethics, is guided by predetermined criteria and guidelines. Research ethics demand that all research be conducted in a manner that protects the subjects' dignity and effectively disseminates the results (Fouka & Mantzourou, 2011). All references were correctly credited to avoid plagiarism.



CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter's goal is to present the research's findings and conclusions, which were used to determine what factors affect non-performing loans in Ghana's rural banks. Based on data acquired between 2016 and 2020, the study was conducted. The findings are displayed in summary tables. The data for this study was given by the Bank of Ghana. Descriptive analysis, correlation analysis, and multiple linear regressions were used to analyze the data in SPSS in order to respond to the research question.

4.2 Descriptive Analysis Results

Each variable was employed a total of 60 times throughout the inquiry, according to the findings (Table 4.1). The study found that real interest rates were 2.813 percent, yearly average inflation was 12.77 percent, average loan growth was 1.5912 percent, and the average percentage of non-performing loans for rural banks in Ghana was 7.077 percent.

The results (Table 4.1) also show each variable's minimum and maximum values over the duration of the inquiry. The fraction of non-performing loans, real interest rates, inflation rates, and loan growth all had standard deviations from averages that were, respectively, 1.99, 9.22, 8.63, and 1.79.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Ratio of Non-Performing Loans	215	4.3457	10.4655	7.07711	1.9864383	3.946
Real Interest rate	215	-17.4900	15.4500	2.8131	9.2222521	85.050
Inflation rate	215	3.1800	31.5000	12.771	8.6311477	74.497
Growth in Loan	215	-2.1287	11.1512	1.5912	1.7931279	3.215
Valid N	215					

Source: Research Data

4.3 Correlation Analysis Results

The correlation findings for dependent and independent variables are shown in Table 4.2. According to the study, there is a strong correlation between inflation rates and the proportion of non-performing loans held by rural banks (0.316). The study's findings, shown in Table 4.2, also indicated a relationship between the non-performing loan ratio at rural banks and real interest rates, which was -0.468 and annual average inflation (-0.013).

The findings in Table 4.2 also show how the independent variables are related to one another. Real interest rates have a weakly inverse relationship with inflation, but only a weakly inverse relationship with loan growth (-0.968). (-0.148). The results also show a favorable correlation between the rate of inflation and loan expansion (0.089).

Table 4.2: Correlation Statistics for Dependent and Independent Variables

		Ratio of Non-Performing Loans	Real Interest rate	Inflation rate	Growth in Loan
Pearson Correlation	Ratio of Non-Performing Loans	1.000	-.468	.316	-.013
	Real Interest rate	-.468	1.000	-.968	-.148
	Inflation rate	.316	-.968	1.000	.089
	Growth in Loan	-.013	-.148	.089	1.000
Sig. (1-tailed)	Ratio of Non-Performing Loans	.	.000	.007	.461
	Real Interest rate	.000	.	.000	.130
	Inflation rate	.007	.000	.	.250
	Growth in Loan	.461	.130	.250	.
N	Ratio of Non-Performing Loans	60	60	60	60
	Real Interest rate	60	60	60	60
	Inflation rate	60	60	60	60
	Growth in Loan	60	60	60	60

Source: Research Data

4.4 Regression Analysis Results

Using multiple linear regressions, the reasons behind non-performing loans in rural banks in Ghana were looked into. The outcomes are displayed in the following Table 4.3. The following economic model was built by the study:

$$Y=16.033-2.772x_1-2.348x_2-0.214x_3$$

The generated regression equation indicates that the ratio of non-performing loans will be 16.033 percent when all variables are held constant at zero. The study discovered that real interest rate collinearity statistics had a tolerance value of 0.059, inflation had a tolerance factor of 0.060, and loan growth had a tolerance factor of 0.932, pointing to these variables as the culprits behind non-performing loans in rural banks in Ghana. These findings were confirmed at a level of significance of 5% and a level of confidence of 95%.

Table 4.3: Regression Results for Dependent and Independent Variables

Coefficients ^a													
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zeroorder	Partial	Part	Tolerance	VIF
1	(Constant)	16.033	1.341		11.954	.000	13.346	18.720					
	Real Interest rate	-.597	.079	-.2.772	-7.575	.000	-.755	-.439	-.468	-.711	-.674	.059	16.898
	Inflation rate	-.540	.084	-.2.348	-6.462	.000	-.708	-.373	.316	-.654	-.575	.060	16.661
	Growth in Loan	-.237	.102	-.214	-2.316	.024	-.441	-.032	-.013	-.296	-.206	.932	1.073
a. Dependent Variable: Ratio of Non- Performing Loans													

Source: Research Data

4.4.1 Ratio of Non-Performing Loans and Real Interest Rate

As shown in Table 4.3 above, the analysis found that the ratio of non-performing loans and real interest rates were negatively correlated (-2.772). This suggests that for every 1% increase in real interest rates, non-performing loans change by 2.772 percent. The results validate the weak negative connection between the two variables found by the correlation analysis.

4.4.2 Ratio of Non-Performing Loans and Inflation Rate

The results (Table 4.3) indicated a negative correlation between the ratio of non-performing loans and the 2.348 percent inflation rate. This implies that if the inflation rate rises by one unit, the ratio of non-performing loans, which is currently 2.348 percent, will change. This is consistent with the correlation, which revealed a positive correlation between the two variables of 0.316 degrees.

4.4.3 Ratio of Non-Performing Loans and Growth Rate in Loans

The findings (Table 4.3) show a negative relationship between non-performing loans and loan growth, with a change in loan growth of one unit having an effect of 0.214 on the ratio of non-performing loans.

4.5 Robustness of the Study Model

The degree to which the independent variables could explain the variation in the dependent variables, as well as the "goodness of fit" of the model to the actual data, were both crucial for achieving this. The adjusted R², which gauges how non-performing loans vary in Ghana's rural banks, is 0.553, according to Table 4.4. As a result, the regression model's independent variables explain about 55.3 percent of the variation in the dependent variable, whereas the remaining 44.7

percent can be attributed to error terms, random chance, or other unidentified reasons.

Table 4.4: Model Summary

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.746 ^a	.556	.533	1.3580772	.556	23.409	3	56	.000	.213
a. Predictors: (Constant), Growth in Loan, Inflation rate, Real Interest rate										
b. Dependent Variable: Ratio of Non- Performing Loans										

Source: Research Data

4.6 ANOVA Model Analysis

The F-statistics are 23.409 and significant at 0.0001, as shown in Table 4.5. Because of this, the independent variables of the model as a whole affect the non-performing loans in Ghana's rural banks. As a result, the model was found to be reliable or well-fit to the variables' actual data.

Table 4.5: ANOVA Model Analysis

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.525	3	43.175	23.409	.000a
	Residual	103.285	56	1.844		
	Total	232.810	59			
a. Predictors: (Constant), Growth in Loan, Inflation rate, Real Interest rate						
b. Dependent Variable: Ratio of Non- Performing Loans						

Source: Research Data

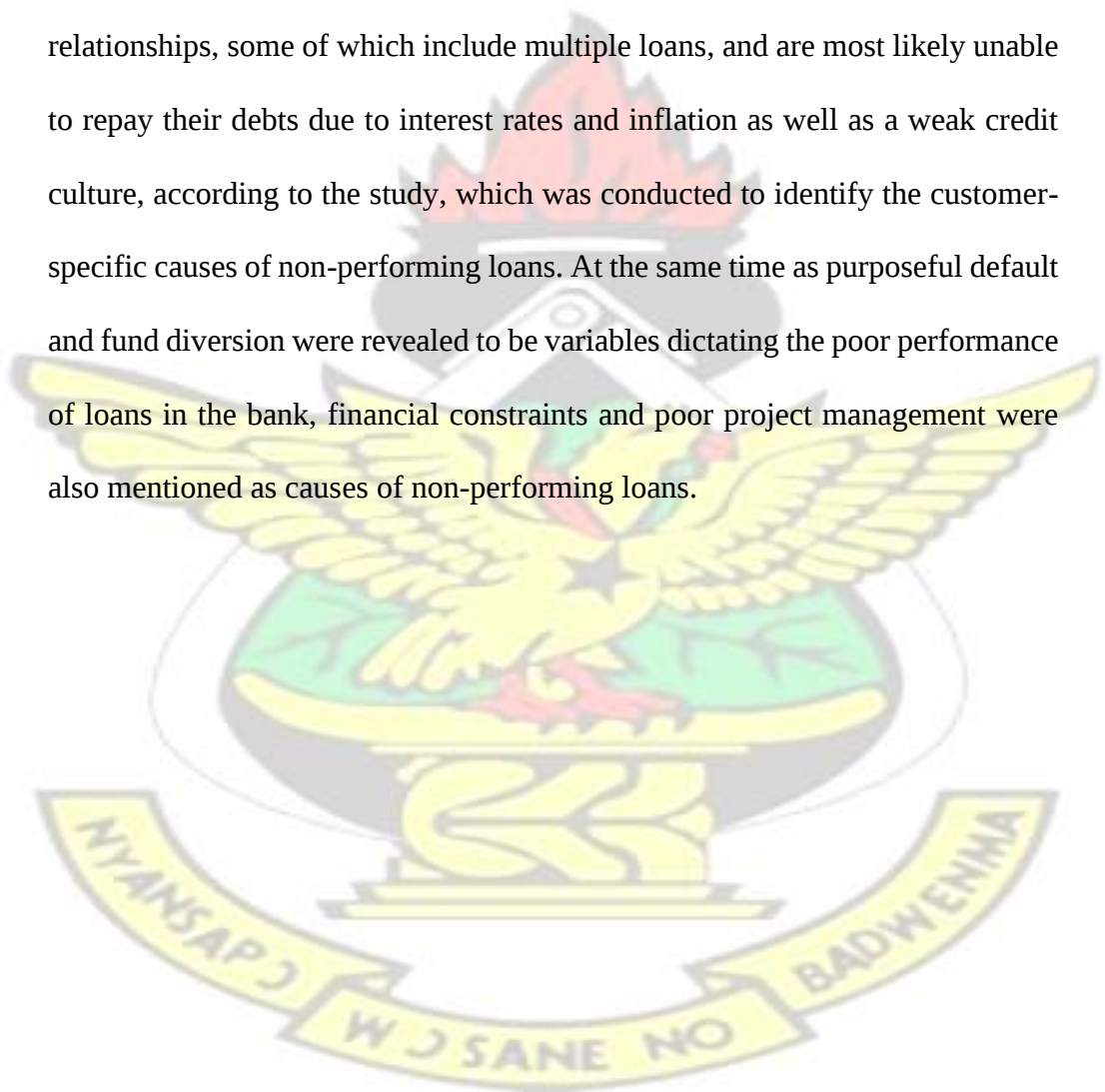
4.6 Discussion of Findings

According to the results, each variable was used 60 times during the experiment. According to the report, real interest rates in Ghana's rural banks were on average 2.813 percent, with annual average inflation at 12.77 percent, average loan growth at 1.5912 percent, and an average percentage of non-performing loans of 7.077 percent. A high association between inflation rates and non-performing loans in Ghana's rural banks was discovered through investigations (0.316). The study also found that real interest rates (-0.468) and loan growth rates (-0.013) both showed unfavorable correlations with nonperforming loans. The study found a negligible but significant correlation between loan growth and the independent variables real interest rate and inflation (.0968). (-.148).

With an adjusted R² of 0.553, the study also showed that the study parameters had a broad impact on the non-performing loans. This means that in the regression model, 55.3 percent of the variance in the independent variable can be attributed to independent factors, while 44.7 percent of the variance in the dependent variable can be attributed to error terms, random chance, or other unexplained causes. The F- Statistics of 23.409 revealed additional relevance. The model was deemed to be reliable or well-fit to the actual data for the variables as a result.

At the same time that consumer credit demands are at an all-time high, the default rate has climbed, making these loans riskier from the standpoint of the banks than a typical bank loan. Before granting a credit facility, applicants are evaluated in this regard. The results demonstrate that the board of directors failed to adopt adequate credit policies, and that credit monitoring and delinquency management were insufficient. Poor organizational strategy and

policy, including frequent credit terms, borrowers who are not supervised, who divert credit funds, who do not properly use the loan, who have short repayment plans, and who have loans with badly appraised loans. The results show that loan officers can monitor consumer loans, but not as well or regularly as was once thought. This shows that increasing loan repayment by monthly monitoring is ineffective—a problem that must be resolved if monitoring is to be successful. The majority of bank customers have numerous banking relationships, some of which include multiple loans, and are most likely unable to repay their debts due to interest rates and inflation as well as a weak credit culture, according to the study, which was conducted to identify the customer-specific causes of non-performing loans. At the same time as purposeful default and fund diversion were revealed to be variables dictating the poor performance of loans in the bank, financial constraints and poor project management were also mentioned as causes of non-performing loans.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study's summary, conclusion, recommendations, study limitations, and ideas for additional research are all included in this chapter.

5.2 Summary

In order to ascertain the connection between the reasons why nonperforming loans occur in Ghana's rural banks, the study employed a descriptive design and multiple regression analyses using secondary data. Data from 2015 through 2020 were included in the analysis. Considered separately as variables were interest rates, inflation, and loan growth. As the dependent variable, a non-performing loan was used. SPSS was used to analyze the data, and the study's sample included 43 rural banks in Ghana.

The non-performing loans of Ghana's rural banks and the inflation rate of the nation were shown to be significantly correlated, according to investigations (0.316). Additionally, the study discovered that nonperforming loans had negative correlations with the real interest rate (-0.468) and loan growth rate (-0.013), respectively. According to the study, there is a marginally negative association between loan growth and real interest rates and inflation, as well as a strong negative relationship between these two factors (0.0968). (-.148).

Studies have found a strong correlation between growth and inflation (0.089). The studies found that, at a level of significance of 5% and a level of confidence of 95%, interest rates had a tolerance factor of 0.059, inflation had a tolerance factor of 0.060, and loan growth had a tolerance factor of 0.932. This showed

that these variables are what cause non-performing loans in rural banks in Ghana. A further finding of the study was that, with an adjusted R^2 of 0.553, the study parameters had a general impact on the non-performing loans. This indicates that in the regression model, 55.3 percent of the variation in the dependent variable can be attributed to independent factors, whereas 44.7 percent can be attributed to error terms, random chance, or other unexplained reasons. Also noteworthy was the F- Statistics of 23.409. Thus, it was decided that the model was reliable or that it fit the variables' real data well.

5.3 Conclusion

The analysis comes to the conclusion that the relevant factors were both the independent variables taken into account in the study and the non-performing loans in Ghana's rural banks. Inflation and non-performing loans were shown to be closely related, according to the study.

The study's findings indicate a negative correlation between real interest rates, loan growth rates, and non-performing loans. The goal of the study, which was to determine what led to non-performing loans in Ghana's rural banks, was therefore achieved.

The study shows that there is a strong inverse association between the independent variables. Real interest rates are strongly negatively correlated with both inflation and loan growth, but not with the other. The increase of loans and the rate of inflation were found to be positively correlated by the study.

A survey of the relevant literature reveals that both theoretical and empirical research mainly agree that there is a connection between the causes of nonperforming loans in Ghana's rural banks.

5.4 Limitations of the study

Three factors were the only ones considered in this study as the root causes of non-performing loans in Ghana's rural banks. The variables on this list are by no means all-inclusive. Particularly, other factors like the size of the bank, the GDP, and the actual effective exchange rate were disregarded. It is better to limit the interpretation of this data to the variables under review when determining the factors that contribute to non-performing loans.

The length of the study period is the second constraint. The Rural Banks website's data was made available, which allowed for the selection of a five-year period. However, a time frame this brief is insufficient to draw conclusions about the long term.

The study population is the last restriction. In order to undertake a more thorough research, the study eliminated other financial institutions from all industries and only looked at Rural Banks in Ghana.

Finding out what influences non-performing loans in Ghana's rural banks was the study's main goal. There are few studies on the management and reasons for non-performing loans in Ghana.

Last but not least, the Bank of Ghana's secondary data that was already acquired was used in this descriptive and correlation study. For the purposes of this study, the data were used and taken as accurate because the researcher lacked the means to do so. Therefore, the validity of the data will affect the study's conclusions.

5.5 Recommendations

According to the study, the government needs to start taking steps to limit the actual interest rate in order for Ghana's rural banks to expand. Since interest rates have a negative correlation with the number of non-performing loans in Ghana, lower rates would be more acceptable.

The study suggests that the government restrict Ghana's inflation rate since there is some evidence to suggest that loans in Ghana will perform better if there is less inflation. The study also urges small-town banks to start implementing regulations that will limit the number of loans they are allowed to keep.

5.5.2 Suggestion for Further Research

The study looked into what led to non-performing loans in Ghana's rural banks. The Ghanaian financial industry is composed of a number of different institutions, each with a distinct culture and management approach. This confirms the requirement for a follow-up investigation to gather the results from all the financial institutions in Ghana. To ascertain the reasons behind non-performing loans at Ghanaian financial institutions, the paper suggests conducting more research.

Since the current study only used three independent factors to determine the results, a future inquiry might be carried out utilizing a regression model with more independent variables.

The report also urges further investigation into the causes and management strategies for Ghana's rural banks' underwhelming performance.

Ultimately, a five-year study period was chosen. As a result, the study suggests doing a study with the intention of lengthening the observational duration.

KNUST



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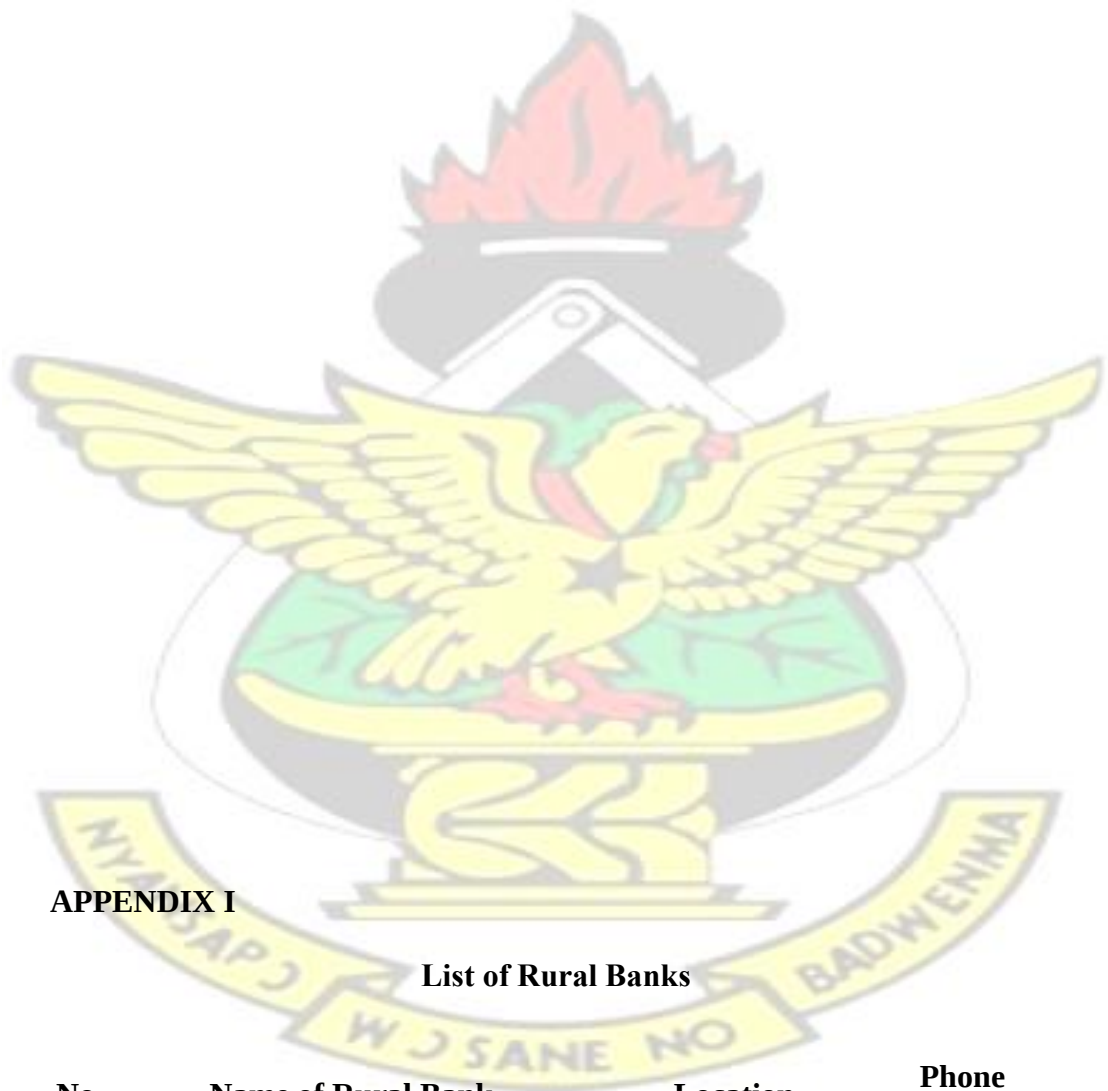
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APPENDIX I

List of Rural Banks

No	Name of Rural Bank	Location	Phone Number
1	Abokobi Area Rural Bank Limited	Abokobi	0576096642
2	Ada Rural Bank Limited	Kasseh – Ada	0505105026
3	Adansi Rural Bank Limited	Fomena	0574438509
4	Adonten Community Bank Limited	New-Tafo	0342024109
5	Afram Rural Bank Limited	Tease	0200347337

No	Name of Rural Bank	Location	Phone Number
6	Agave Rural Bank Limited	Dabala	0244207176
7	Agona Rural Bank Limited	Mangoase	0501334877
8	Ahafo Ano Premier Rural Bank Limited.	Mankranso	0322035060
9	Ahafo Community Bank Limited	Kukuom	0352095470
10	Ahantaman Rural Bank Limited	Agona Nkwanta	0202070080
11	Akatakyiman Rural Bank Limited	Komenda	0332191763
12	Akim Bosome Rural Bank	Akim Swedru	0501317050
13	Akoti Rural Bank Limited	Assin North	0243284536
14	Akrofuom Area Rural Bank Limited	Akrofuom	058242486
15	Akuapem Rural Bank Limited	Mamfe	0342195878
16	Akumadan Rural Bank Limited	Mamfe	0501582482
17	Akyem Mansa Rural Bank	Ayirebi	0249843465
18	Akyempim Rural Bank Limited	Dawurampong	0332021218
19	Amanano Rural Bank Limited.	Nyinahin Junction	0208007254
20	Amansie West Rural Bank Limited	Antoakrom	0277599442
21	Amantin And Kasei Community Bank Limited	Atebubu Area Amantin	0549264644
22	Amenfiman Rural Bank Limited	Adankasa Ridge	0312093380
23	Amuga (North Tongu) Rural Bank Limited	Adidime New Town	0204469254
24	Ankobra West Rural Bank Limited	Esiam	0243917912
25	Anlo Rural Bank Limited	Anloga	0362091229
26	Anum Rural Bank Limited	Anum	0243668108
27	Asante Akyem Rural Bank Limited	Asante Akim North	0322092183
28	Asawinso Rural Bank Limited	Sefwi Line	0243391142
29	Asokore Mampong Rural Bank Limited.	Asokore Ashanti	0244274884
30	Asokore Rural Bank Limited.	Asokore Ashanti	0322092188
31	Assinman Rural Bank Limited	Assin Manso	0244354293
32	Asubonten Rural Bank Limited.	Gyamerakrom	0203202332
33	Asuogyaman Rural Bank Limited	Atimpoku	0504913990
34	Asutifi Rural Bank Limited	Acherensua	0248744004
35	Atiwa Rural Bank Limited	Koforidua	0244855426
36	Atweaban Rural Bank Limited	Duayaw Nkwanta	0264787023
37	Atwima Kwanwoma Rural Bank Limited.	Pakyi No2	0322036771
38	Atwima Mponua Rural Bank	Toase	0275561697
39	Atwima Rural Bank Limited	Foase	0501387038
40	Avenor Rural Bank Limited, Akatsi.	Shell Block	0362644048

No	Name of Rural Bank	Location	Phone Number
41	Awutu Emasa Rural Bank Limited	Awutu Bereku	0244046015
42	Baduman Rural Bank Limited	Babasua	0352091454
43	Bangmarigu Community Bank Limited (West Mamprusi)	Walewale	0208286372

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APPEDIX II: Sample Data Collected

YEAR	Months	REAL INTEREST RATE	INFLATION	GROWTH IN LOAN	Ratio of NPL
2016	1	-4.42	18.2	2.72	10.38
	2	-5.26	19.1	0.94	10.29
	3	-7.74	21.8	-0.50	10.47
	4	-12.69	26.6	11.15	9.46
	5	-17.49	31.5	-0.86	9.55
	6	-15.24	29.3	-2.13	9.75
	7	-12.6	26.5	4.53	9.01
	8	-13.94	27.6	1.78	8.85
	9	-14.54	28.2	2.23	8.78
	10	-14.78	28.9	4.45	8.45
	11	-14.53	29.4	0.12	8.44
	12	-12.92	27.7	0.90	9.00
2017	1	-7.12	21.9	0.70	8.90
	2	0.07	14.6	0.75	8.84
	3	0.27	14.6	-0.22	9.35
	4	2.31	12.4	0.55	9.31
	5	5.25	9.6	1.33	9.88
	6	6.49	8.6	0.69	9.01
	7	6.39	8.4	1.21	8.99

	8	7.46	7.3	1.21	8.94
	9	8.04	6.7	0.86	8.23
	10	8.18	6.6	2.58	8.16
	11	9.85	5	0.33	8.12
	12	9.46	5.3	1.87	7.94
2018	1	10.28	4.7	0.36	8.19
	2	9.78	5.2	1.21	8.09
	3	10.46	4.5	0.71	7.98
	4	10.88	3.7	1.27	7.75
	5	10.54	3.9	2.09	7.63
	6	10.89	3.5	1.56	7.90
	7	10.69	3.6	2.42	7.17
	8	10.96	3.22	1.84	7.04
	9	10.77	3.21	1.64	6.96
	10	10.67	3.18	2.41	6.81
	11	10.11	3.84	1.31	6.50
	12	9.36	4.51	1.51	6.24
2017	1	8.61	5.42	2.03	5.75
	2	6.66	6.54	2.70	6.09
	3	4.5	9.19	2.57	6.01
	4	1.87	12.05	2.10	5.91
	5	0.93	12.95	3.07	5.70
	6	-0.58	14.49	3.46	5.38

	7	-1.4	15.53	3.25	5.18
	8	-2.35	16.67	1.74	5.05
	9	-2.53	17.32	4.81	4.84
	10	-3.7	18.91	1.76	5.00
	11	-1.24	19.72	-1.00	4.59
	12	1.11	18.93	0.34	4.40

Source: Research Data

APPEDIX II: Sample Data Collected Cont.....

YEAR	Months	REAL INTEREST RATE	INFLATION	GROWTH IN LOAN	Ratio of NPL
2020	1	1.23	18.31	0.09	4.91
	2	3.59	16.69	1.19	4.46
	3	4.73	15.61	1.20	4.35
	4	7.16	13.06	2.05	4.43
	5	7.9	12.22	2.411	4.38
	6	10.25	10.05	-0.163	4.46
	7	12.41	7.74	1.080	4.49
	8	14.04	6.09	1.068	4.52
	9	14.41	5.32	1.057	4.55

	10	14.9	4.14	1.046	4.57
	11	15.45	3.25	1.035	4.60
	12	14.95	3.20	1.024	4.63

Source: Research Data

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