

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

DETERMINANTS OF NON-PERFORMING LOANS: A CASE OF SELECTED RURAL  
BANKS IN THE ASHANTI, GREATER ACCRA, WESTERN AND EASTERN REGIONS.

BY

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## DECLARATION

I hereby declare that this submission is my own work towards the Masters of Business Administration and that, to the best of my knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## DEDICATION

I dedicate this thesis to my sweet mum, Madam Mercy Sarfowaa a CEO of Mesarf Bridal and Catering Service for her unconditional love and financial support and to my junior brother Kofi

Afosa Oduro Awisi for supporting and encouraging me in diverse ways in my career development.

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## ABSTRACT

Non-performing is believed to be a major cause of several bank losses, which stimulate financial instability in the banking crisis. However, studies in this area focus on rural banks and leave the smaller banks such as the savings and loans and credit union. The purpose of this study is to investigate the determinants of non-performing loans of rural banks in Ghana. It further examines the effect of non-performing loans on the profitability of the banks. This study uses a sample size of 25 selected rural banks in Ghana observed from 2017 to 2021 using a panel regression estimation technique, fixed effect model with 125 firm year observations. Employing the fixed effect method, the evidence shows that bank profit, capital adequacy and bank size have a significant effect on non-performing loans, indicating that those variables are strong determinants of non-performing loans. The results further show that non-performing loans decrease bank financial performance. The study concludes that non-performing loans is a key contributor to poor performance in Rural banks. Based on these findings, the study recommends that Rural Banks must be empowered to adopt and comply with effective lending practices such as rigorous loan screening to avoid moral hazards and the selection of riskier applicants. Moreover, regulators must ensure the creation of a proper credit register to avoid adverse selection.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of Study

It is well known that financial institutions are crucial to a nation's economic development because they provide an easy credit flow, which creates opportunities for investment in the productive sectors. Consequently, a crucial element of the stability of the entire financial system is the soundness of banking institutions. The consistent efficiency and efficacy of the banking sector is a guarantee of any country's financial stability (Asanab et al., 2018), particularly in those countries where the financial systems act as the bedrock of the economies.

For instance, one of the main sources of funding in Ghana is the banking industry. Banks significantly influence the expansion and stability of the financial system. By looking at the percentage of non-performing loans, credit risk can be calculated. (NPLs), is a major factor in the collapse of the banking industry loans that are at least three months past due on payments are referred to as NPLs (International Monetary Fund, 2015). The International Monetary Fund (IMF) classifies loans non-performing if they do not generate interest and principal for at least 90 days (Khan et al., 2020). According to Alton and Hazen (2019), referenced in Khan et al (2020), loans are considered non-performing if the total amount due for principle and interest is not paid before the maturity date and is not anticipated to be paid later. The extraction of NPLs, which is a pervasive issue, is one of the most important concerns in order to prevent bank failure and economic stagnation.

NPLs are regarded as "financial pollution" and a key factor in the instability of the banking system (Wood & Skinner, 2018). NPLs are considered a hindrance to economic growth, particularly in nations where banks predominate in the financial intermediation industry, according to the International Monetary Fund (2015). Several researchers have examined NPLs

from various angles due to their negative effects. Many researches have examined factors that influence NPLs in various nations and locations (Budiarto, 2020; Benthem, 2017; Panta, 2018). According to Rachman et al (2018), the rise in Non-performing loans are detrimental on banks' lending practices since it makes bank managers more concerned about issues with asymmetric information that can lead to moral hazard and adverse selection. Banks find it challenging to properly transfer money from surplus economic units to deficit economic units with profitable investment prospects due to the uncertainty brought on by non-performing loans. The banks are hesitant to lend money and take on new credit risks. Due to this, there is an excessive demand for loans, particularly those for businesses. The consequent restriction on credit causes the economy to contract.

However, it promotes consumers' trust in the system, the stability of the banking industry is crucial for long-term economic growth. (Amuakwa-Mensah, 2015). However, since the global financial crisis of 2007, there has been a significant percentage of problematic debts. Most of these non-performing loans (NPLs) are connected to these bad debts, which are normally recorded as a cost on the balance sheet and reduce the bank's profitability. (Chang, 1999 cited in Amuakwa-Mensah, 2015). The impact of these NPLs during the past ten years has contributed to certain bank failures globally. How well a bank performs is typically correlated with the quality of loans it has on its books.

The likelihood of these loans defaulting has increased pervasive in Ghana's banking sector. Banks find it challenging to timely settle their liabilities as NPLs continue to arise in the banking industry. It has a detrimental effect on the bank's ability to make private investments, which reduces the bank's ability to offer more loans to customers. Because NPLs have such a broad impact on an economy, managing them is essential for stability and long-term growth. Loans and advances in the Ghanaian banking system totaled GH 6208 million in 2010, up 11% from the 44.9% reported in 2008, according to PricewaterhouseCoopers' Banking Study

(PricewaterhouseCoopers, 2011, 2012). By December 2010, it was estimated that 17.6% of Ghana Banks' outstanding loans were non-performing Ghana Business & Finance (2011). In addition, the growth rates for bad debts in 2008 and 2009 were 180.4% and 77.8%, respectively (Amuakwa-Mensah, 2015). According to the GHAMFIN Annual Report (2014), the nonperforming loan ratio increased from 1.5% in 2010 to 2.8% in 2011, and by 2013, it had increased to 4.3% following a little decline in 2012.

Rising NPLs could negatively affect financial institutions' general effectiveness, profitability, and liquidity. The Ghanaian banking system is facing this problem. This research endeavor intends, among other objectives, to develop recommendations that will assist stop this deteriorating trend or at least help reduce the rate of loan default in financial institutions. The issue demands for an effective plan to repair it before it gets out of hand. Loans are one of the key revenue streams for the banking sector, hence NPLs may be regarded as a contributor to locked-up capital. In light of this, it is essential to conduct a study to determine the root causes of NPLs in the Ghanaian banking industry.

## **1.2 Statement of Problem**

The quality of a loan portfolio is a hotly debated subject because it is a key sign of how the banking industry is doing. A significant buildup of non-performing loans may cause a banking crisis, which eventually affects the entire economy. Monitoring the overall level of NPLs in the economy is therefore vital. In sequence to make money from making new loans in the future, a bank needs to maintain the amount of bad loans to a low. NPLs start to hurt banks' profitability from their credit business once they reach a particular threshold. In other words, banks should make precautions in case they write down or write off the loan by setting aside specific reserves. The banks have fewer resources available to make new loans because of both the provisioning and a decline in credit activity, which further lowers earnings. A bank that has many poor loans cannot adequately supply credit to the business and general public sectors, which in turn

reduces investment and job development. The economy as a whole is impacted when this issue spreads widely. As a result, supervisory agencies must give high levels of NPL extra consideration.

Khan et al. (2020) state that insufficient credit procedures, a shortage of qualified credit specialists, high markup spreads, lax credit principles, and a lack of borrower monitoring techniques are the main contributors to high NPLs. Given that some of these factors can be nation-specific, it is important to determine whether they apply to all countries. Because countries have different economic situations, it is wise to take a careful look at the factors that are specific to a given region or nation. This is where the current study comes in to investigate the causes of non-performing loans in Ghana's banking sector, an area that has not received much attention.

Some scholars in Ghana—including Amuakwah-Mensah (2015), Osei-Tutu (2021), Wood and Skinner (2018), and Kumar and Kishore (2019)—have written about the effects of nonperforming loans on bank operations, but they have not addressed the root causes of NPLs in rural banks. While loan administration in rural banks may differ differently from that in commercial banks, it is crucial to understand how they operate. Rural banks have sprung up all over Ghana, not just in rural communities but also in urban areas. This illustrates the contribution rural banks have made to the growth of Ghana's economy. In order to fill the vacuum, this study looked at what factors influence non-performing loans in rural banks.

### **1.3 Objective of the study**

The general objectives is to examine the determinants of non-performing loans among rural banks in Ghana. The specific objectives:

1. To explore the determinants of non-performing loans of rural banks
2. To examine the impact of non-performing loans on profitability of rural banks in

Ghana.

#### **1.4 Research Questions**

To investigate the determinants of non-performing loans among rural banks in Ghana, the study aims at providing answers to the following:

1. How to explore the determinants of non-performing loans of rural banks?
2. How does Non-performing loan predict profitability on rural banks in Ghana?

#### **1.5 Significance of the study**

For the banking institutions, other scholars, and the government, the study is extremely important. The study's findings will be used by the Bank of Ghana to create macroeconomic policy recommendations that would help to reduce NPLs. The study's findings can help bank managers and credit officers evaluate their loan acquisition and monitoring procedures in order to lower the rising number of non-performing loans. It will assist in highlighting the flaws in the current loan acquisition procedure so that credit officers can focus more attention on high-risk regions and therefore enhance its performance.

Management of banks would be made aware of the internal banking operations that contribute to the occurrence of nonperforming loans by examining the specific variables that pertain to the bank in determining NPLs. This would enable them to concentrate on loan quality rather than loan quantity. In addition to the aforementioned, the project's results will help rural banks implement practical solutions to the issue of a rising non-performing loan portfolio, enhancing the institution's financial performance and profitability. In addition, determining the profitability trend of rural banks would show the banks whether their profit margins are increasing. In the academic community, this study provides benchmark data for additional research and adds to the body of knowledge regarding non-performing bank loans.

In other words, the study can serve as a reference for scholars.

### **1.6 Scope of the study**

The researcher could have looked at in exploring non-performing loans many areas. However, the researcher only considered the determinants of non-performing loans in rural banks. It considered looking at the trends of non-performing loans and profitability the determinants of non-performing loans, and the impact of non-performing loans on profitability of rural banks in Ghana. The study restricted itself to rural banks in Kumasi Metropolitan.

### **1.7 Summary of Methodology**

A quantitative approach was used to demonstrate relationships between dependent variable; bank profitability and independent variables; Non-performing loan, Capital Adequacy Ratio, Bank Efficiency, Income Diversification, Bank Size, and Inflation. A descriptive design was adopted by the study to establish the causes and effects of the dependent and the independent variables. Moreover, fixed effect model was used and the data was evaluated and interpreted according to their significance.

### **1.8 Limitations of the Study**

The major setback of the study was that not all the rural banks operating in Ghana were included in the work. The study was limited to Twenty- Five (25) rural banks. This was mainly because the researcher relied on the published annual reports of the rural banks. The study was conducted for only Five (5) year period, from 2017 to 2021, so when circumstances pertaining to the period considered for the research change, then the findings of the study cannot be generalized in a broader perspective.

## **1.9 Organization of the study**

There are five chapters in the study. The backdrop of the study, the problem statement, the research questions, the objectives of the investigation, the significance of the study, the scope and limitations of the study, and the organization of the study are all included in the first chapter. The survey of literature in Chapter 2 provides a brief overview of the work that other scholars have done on the subject. In essence, the chapter gave the NPL idea, a theoretical study, and a review of empirical investigations. The study's methodology is presented in chapter three. The processes for the target population, the sample size and sampling method, the research tool, and data collection are described. Chapter four contains the data analysis, interpretation, and debates. The study's Summary, Findings, and Suggestions are presented in Chapter five.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

## **2.0 Introduction**

The chapter focuses on presentation of literature on the research topic. Thematic review was employed to simplify the review. Areas covered under the chapter include; conceptual review, empirical review, and theoretical review.

## **2.1 Conceptual Review**

### **2.1.1 An Overview of Banking System in Ghana**

The combined assets of the banks in December 2019 were GH129.06 billion, according to the Bank of Ghana (BoG, 2020). Compared to growth of 12.3% in 2018, this indicates an increase of 22.8%. A stronger expansion of the sector's assets in Ghana, both domestically and internationally, is indicated by the higher increase of total assets in December 2019. Compared to December 2018, when domestic assets rose by 12.5%, they rose by 23.1 percent in December

2019, or GH 118.69 billion. Foreign assets increased by 19.8% to a total of GH10.38 billion at the same time, outpacing December 2018's gain of 9.6 percent. The percentage of domestic assets has dramatically grown from 90.3% in December 2018 to 92.2% in December 2019, due to the acceleration of their expansion. On the other hand, during the same comparable period, the proportion of foreign assets decreased in line with this, from 9.7% to 7.8%. Again citing BoG (2020), total bank holdings, which comprise bills, securities, and stock, increased by 27.0 percent to GH48.45 billion in December 2019 from 33.6 percent the previous month. Due in major part to the special (long-term) resolution bonds issued to Consolidated Bank Ghana (CBG), total investments climbed significantly in 2018. As a result, in December 2018, long-term investments rose by 115.8% while short-term investments fell by 24.5 percent. In December 2019, the growth of long-term investments (securities) returned to normal at 30.1 percent (GH33.03 billion)..., a year after this development, while the growth of short-term investments (bills) climbed by 21.1 percent, or GH14.98 billion, as of the end of December 2019. Although the price of short-term bills increased more in December 2019 than in November, this discrepancy was caused by banks' preference for longer-dated instruments in that year. The most notable comeback in credit growth was the gross loans and advances, which increased 23.8 percent to GH45.17 billion in December 2019 from a decline of 3.5 percent a year earlier. The same is true for net advances, which grew by 25.7 percent to GH 39.96 billion after just edging up by 1.0 percent in December 2018 (gross loans adjusted for provisions and interest in suspense). From GH9.97 billion (15.5% year-over-year growth) in December 2018 for net advances, the foreign currency component climbed by 21.5 percent to GH12.12 billion in December 2019 for net advances. This was partly caused by the depreciation of the Ghana Cedi at the time.

### **2.1.3 Rural Banks Operational Policies in Ghana**

As the Rural Banks network expanded, the demand for a code to form new Rural Banks increased in 1985, the BoG created and released regulations for the creation of rural banks.

Additionally, a guidebook for the lending procedures of the rural banking sector was created. BoG required a minimum paid-up capital of old GH 1.5 million. Shareholders were expected to hold 67 percent of this, and the BoG was expected to contribute 33 percent. Individual shareholders were only permitted to purchase a maximum of 10,000 shares (old Ghana). This cap was put in place to prevent any shareholders from controlling the Rural Banks' governance and to ensure that all community shareholders could participate equally (BoG,

1985) cited in Amuakwa-Mensah & Boakye-Adjei (2014). The Rural Bank's lending procedures were also improved by the Bank of Ghana by creating an operational manual to make sure that it's financing supports the rural inhabitants and small-scale rural farmers.

According to the manual, applications could come from companies, associations, organizations, and individuals. A suggestion to reject an application needs to be backed up with particular, well-explained arguments; it cannot be founded on unproven assumptions. In addition, the Rural Banks were required to adopt a sectorial allocation in their lending operations. All of these guidelines ensured that the Rural Banks provided adequate service to the rural communities. Businesses like furniture manufacturing, building, woodcarving, Kente and fabric weaving, iron forging, dressmaking, and tailoring are examples of cottage industries. The major services and goods offered by the Rural Banks were credit and savings. The number of people with bank accounts increased along with the growth in Rural Banks. Rural bank networks were used to transfer civil officials' salary and pension deposits. From old GH 148,000 in 1976 to old GH 2.3 billion in 1988, the volume of deposits increased. The combined loan portfolio increased to almost US\$4 million with the addition of credit lines, with 30% of the portfolio going to cottage enterprises and roughly 50% going to agriculture (BoG, 1988).

Farmers were impacted by the drought and economic crisis in 1983, which impaired loan repayment performance. As a result, the percentage of non-performing loans (NPLs) increased from 5 percent in 1982 to 70% in 1986. Most rural banks did not have enough capital on hand to meet the cost of the subprime loans (IFAD, 2008). The BoG implemented various financial measures in an effort to address the RCBs' deteriorating financial performance. Other regulatory improvements were implemented along with the reorganization efforts.

Limits on shareholding percentages have taken the place of the previous absolute cap on both individual and corporate shareholding limits. Individuals and 10 percent could only hold 5 percent of the entire capital by businesses. The sector-specific credit allocation for industries apart from agriculture was eliminated, regarding the distribution of credit for this industry was decreased from 50% to 20%. High-priority sector concessional interest rates were also eliminated. Distressed Rural Banks were closed, and the BoG was given a bigger responsibility in inspecting and controlling Rural Banks (Amuakwa-Mensah & Boakye-Adjei, 2014). This direction was furthered by the 1989 approval of the Rural Financing Project, backed by the World Bank. By supporting the ARB and credit unions, streamlining the roles of the Rural Banking Department of the BoG and the Association of Rural Banks, and enhancing RCBs' capacity for rural credit appraisal, the project sought to strengthen the rural finance sector, in particular the RCBs (World Bank, 2000 cited in Amuakwa-Mensah & Boakye-Adjei, 2014). It also provided technical assistance for the restructuring of about 80 RCBs, This intervention had some success because some rural banks embraced a more forprofit business strategy and introduced cutting-edge goods like the microfinance saving and lending approach. According to Andah and Steel (2003), many RCBs started employing novel tactics, such as individual and group credit savings, individual credit savings, and individual credit savings. Between 2000 and 2008, the total deposits rose the total advances increased from GHC 7.1 (US\$2.4 million) to GHC 72.8 (US\$56.1 million) (World Bank, 2009), while the GDP increased from GHC 17.3

(US\$5.8 million) to GHC 100.6 (US\$77.5 million). According to the BoG, a rural bank must currently have GH150, 000 in paid-up capital. Locals should hold shares, and rural banks should only conduct business within a 25mile radius of the community. The Rural Banks can now decide who has access to their lending resources in the modern world.

#### **2.1.4 Rural banking industry challenges**

Despite years of effort and banking projects, the credit gap in the rural sector has not yet been closed by the organized financial sector. Low levels of per-person earnings, the main obstacles to the expansion of rural banks include a lack of infrastructure, a focus on the urban sector, and ineffective connectivity. (Kwarteng, 2020). Second, there are major barriers to the improvement of banking in the rural area, a lack of legal protection for recovery, directed lending, protracted processes, delays in loan approval, and drawn-out procedures.

In the previous years, emphasis has also traditionally been placed on the availability of loans at lower rates. When Rural Banks are compelled to lend at low interest rates, the non-target group of beneficiaries has a propensity to look for credit. The Rural Banks occasionally make large loans to importers and pricey contractors, who frequently become underperforming assets. It should be underlined that the majority of a credible bank's work is dictated by its capital. Interesting to note is the correlation between a bank's success and the strength of its capital sufficiency. The rural banking industry is perplexed by capital adequacy difficulties because the bulk of rural banks continue to be weak and undercapitalized. Due of this, they are unable to properly mediate financial transactions, which makes it difficult for them to build the rural credit necessary to drive rural growth (BoG, 2009). The Rural Banks must nevertheless address operational and reputational challenges. This is the outcome of both the strength of the employees working there and a lack of policies and processes that are appropriate for supporting the operations of rural banks. Because of this, this sector is more

susceptible to deceive and the loss of consumer capital, and as a result, majority of the clients have little faith in them.

Rural banks are having a difficult time preserving reserves for loan loss because of subpar loans and ineffective management techniques. Given that the majority of these Rural and Community Rural Banks (RCBs) are already insolvent as a result, if strict rules and regulations are not implemented to buck the trend, it is likely that this situation will continue, they may soon liquidate. The scenario claims that Ghana's efforts to offer top-notch banking services to rural communities have been hindered (Ampah, 2010 cited Amuakwa-Mensah & Boakye-Adjei, 2014). Ultimately, the reasons behind RCBs' subpar performance are a poor working environment and capacity restrictions.

As a result, both the financial and non-financial sectors have unclear prudential regulations, which leads to onerous direct lending requirements that limit the flexibility with which risk exposures can be managed. High default rates, insolvent lending programs, there are many obstacles they must overcome in order to support rural development, including high operational costs (Agabin and Daly, 1996). The concept's primary regulatory foundation is the legal and regulatory environment, as well as governance and capacity, were only a few of the several concerns that Bediako (2004) mentioned. Some of the specific problems he listed included a lack of qualified and skilled employees, poor financial management, operational difficulties, local politics, lax internal controls, inconsistently submitted prudential control returns, and a lack of a strong Apex body to support rural banks technically.

Ninety-eight (98) of Ghana's 122 rural banks were in trouble and unable to return depositors' money by 1991 around March, according to data from the Bank of Ghana. As a result, some rural banks had to close. Through the purchase of shares, members of the rural community own the rural and community banks, and under certain conditions they are permitted to provide financial intermediation. . The purpose of rural banks, which were first established in 1976,

was to serve rural communities that were not served by commercial or development banks by offering credit and savings mobilization services. The government's decision to replace cash payments to cocoa farmers with special Akafo cheques at the beginning of the 1980s caused a significant rise in rural banking services are in demand. The government's implementation of the Akafo cheque payment system severely taxed the few commercial banks' rural branches. To deposit their checks, farmers had to drive long distances or spend days at the closest banking institution, which caused them extra suffering. More banks that are rural were quickly opened to service areas lacking financial facilities in order to address this issue

(Amuakwa-Mensah & Boakye-Adjei, 2014).

### **2.1.5 The Concept of Loan**

According to the law a credit facility is a contract between two parties in which one, the creditor, agrees to lend money to the debtor, who then commits to repay the loan either in full at once or by a series of payments over a certain period of time. (Osei-Tutu, 2021). For as long as the borrower (debtor) has control of the cash, the agreement may call for additional rental payments on the money advanced to the borrower. The additional payments, such as interest fees, processing costs, commissions, and monitoring costs, are typically made in addition to the loan's principle. In fact, if these extra payments are made in compliance with the credit facility's terms, the lender or creditor will get interest revenue.

Therefore, a loan or credit facility may be seen to be performing if both principal and interest payments are current in accordance with the terms established by the lender and the borrower. Loans are classified as current by the Bank of Ghana (BoG) if the principle and interest payments are up to date. Additionally it states that if there is regular activity (swing) in the account and no signs of a debt rising, an overdraft is classed as current or performing. (BoG, 2008).

Therefore, performing loans are those that have made on-time principal and interest payments, and they comprise the balanced asset portfolio. The phrases "NPL", "bad loans", and "damaged loans" are all interchangeable, according to Fofack (2005). Berger and De Young (1997) cited in Ozurumba (2016) have referred to these loans as "trouble loans" at times. Loans that persistently incur interest and principal payments despite the terms and circumstances of the loan arrangement are referred to as non-performing loans. The literature has numerous descriptions of non-performing loans. According to some studies (Morakinyo & Sibanda, 2016), whereas some nations utilize qualitative criteria, such as understanding of the customer's financial status and management judgment regarding future payments, others rely on quantitative criteria, such as the number of days the credit facility is past due. Makri et al (2014), who were cited in perceived NPLs as lending facilities from which banks do not benefit as they have defaulted. Nonperforming loans are ones that financial organizations can't pay back in the time range specified by a country's rules and regulations. If the principal and interest are both over 90 days past due, it is considered a debt. (IMF, 2009). A loan is deemed NPL in accordance with Moradi et al (2016) if it has been at least 90 days since it last generated income or principal interest. NPLs are loans with an unpredictable cash flow, for which the bank does not feel they will be able to get money until they make a profit from the loan, and for which the interest rate has been decreased because of the borrowers' issues (Laryea et al., 2016).

According to Islam (2018), a NPL is one that cannot be paid off within the allotted period. Therefore, the lending institution has the authority to determine whether a loan is performing or not. Nonetheless, a debt that is a poor loan is often one that is 90 days or more past due or that is no longer accruing interest, as it is frequently referred to (Jameel, 2014). In other words, when the principal and/or interest have not been paid for at least 90 days, a loan is considered to be non-performing. According to Ivanovic (2016), NPL is a key factor in predicting the

caliber of credit. NPLs are a concern that can seriously harm a financial institution's ability to expand (Hassan et al., 2015). When a loan is nonperforming, there is typically a minimal likelihood that it will be repaid in full (Hue, 2015).

Even if the entire debt has not yet been repaid, an NPL loan becomes a re-performing loan after the debtor starts making payments once more. For instance, uniCredit Ghana Ltd repeatedly had to alter repayment terms for NPL and under-performing loans, endangering the institution's solvency and harming customer satisfaction and retention. NPLs decreased from 12.9% in July 2013 to 12.3% in July 2014 in the banking section of Ghana.

Additionally, the proportion of total loans to loan loss provisions fell, from 5.8% in July 2013 to 5.3 percent in July 2014. However, the position for NPLs net of provisions in July 2014 was down from the level of 10.3%% in July 2013. The adjusted NPL ratio, which is the NPLs ratio less the loss category, stayed constant at 5.3 percent in July 2014 from July 2013. (BoG Report, 2015).

#### **2.1.6 Bank of Ghana Report on NPLs**

Non-performing loans dominate the market mostly in the private sector, which also holds a higher share of overall credit than the state sector, according to a 2018 report on nonperforming loans from the Bank of Ghana. While the public sector's proportion of NPLs in the industry climbed from 2.5% to 9.3% over the same period, the private sector's share fell from 97.5% in April 2017 to 90.7% in April 2018. The industry of commerce and finance , which, in April 2018, accounted for 29.2% of the total NPLs in the industry and had the largest percentage of the outstanding balance at 25.1% , in line with the sectoral NPLs by economic activity breakdown. The research states that as of April 2018, the Service sector was responsible for 13% of all NPLs that were yet unpaid, and the Mining and Quarrying sector for 3.5%. The Bank of Ghana's efforts to resolve these problems, which aim to make sure that the banking

system is dependable and strong enough to support and develop the economy, would likely improve sector performance over the medium term, claims the research.

The central bank has already taken steps to dissolve the banks UT and Capital, as well as UniBank and place it under KPMG's management for a six-month period. Sovereign Bank has also engaged a special advisor. These steps are anticipated to preserve depositors' money and stabilize the already unstable industry. In addition to these adjustments, the Bank of Ghana has simplified risk management and corporate governance by enacting a number of regulations and raising declared capital from GHC 120 million to GHC 400 million by the end of December 2018.

In April 2018, the Basel Regulatory Capital Requirement Directive, Basel II/III supervisory framework implementation plans, and a continuous assessment of industry rules, directives, and regulations in light of Specialist deposit-taking institutions and new banks were all unveiled. To encourage banks to implement better corporate governance and risk management practices, the corporate governance directive was published in April 2018 as part of these recommendations and regulatory measures (Act 930). In April 2018, bank loans and advances increased by 0.5% from GHC 30.99 billion in April 2017 to GHC 30.84 billion, emphasizing the growth of non-performing loans (NPLs) and measures to minimize them. According to the study, alterations in banks' overall securities and bills investments in April 2018 led to a shift in favor of longer-dated assets. While banks' holdings of short-term investments (bills), which reached 19.36 billion in April 2018, their holdings of securities (long-term investment instruments/bonds) rose by 126.3% to GHC 15.7 billion, a gain of 8.5% year over year. In contrast, there was an increase of 43.3% in April 2017.

### **2.1.7 Some Solution to the Challenges of Rural Banks Credit Management Practices**

By keeping credit risk exposure within acceptable bounds, credit risk management essentially seeks to increase a bank's risk-adjusted rate of return (Tawiah, 2018). The best practices strive for coordinated actions specifically created to manage risk. The procedures include the following: i) locating prospective credit risks; ii) gauging their gravity; iii) attending to any credit risks that are found; and iv) monitoring and ensuring that credit risks are effectively under control. These tactics are workable, but only if the fundamentals of credit risk management are followed.

However, its expansion plans depend on the investments it makes with the money it makes from the interest on this loan, when a customer to whom a bank offers credit skips on the payment, the bank is in significant danger. However, it is predicted that banks would exercise greater caution when making loans, and lending regulations should be more stringent. As a result, reckless and indiscriminate lending will decline, which will lower the risk of default. When a good financial model underpins the entire company and real-time credit score monitoring is practiced, implementing a risk solution is crucial (Eckles et al., 2014). Client contact is crucial for collections, according to Stijepovi et al. (2014), and rural banks routinely train staff on how to handle decisions that cannot entirely be left up to the discretion of a loan officer, such as how to approach clients, what product to offer, how to handle broken promises, how to handle lost or missing clients, and many other matters. Sakyi et al (2014) added that acquiring high-quality client information is equally important for client location success as constant client contact is for a successful collection process. Similar to this, most rural banks may need a variety of details during the first application process comprised of the applicant's entire name, address, phone number, clear directions (including a map), and references from both their personal and professional lives. According to Kwarteng (2020), the majority of rural banks do not maintain client information, which would make it simple to communicate with the client. Rural banks must nonetheless create processes and tools for updating client data in

the database without jeopardizing data security or integrity. According to Kumar and Kishore (2019), creating a staff incentive program to promote correct and timely database updates is one technique to assure the integrity of the data. Rural banks establish internal methodological control units, also known as methodological audit units, systems for monitoring and controlling the specific goods and services. The database supports these units (Hassan et al., 2015). In addition, the Eastern Caribbean Central Bank's study from 2010 it was highlighted that in order to track and manage credit risk, financial institutions need have comprehensive policies and information systems in place. To make sure that these accounts are evaluated, carefully monitored, and given the necessary repairs, these procedures should include cautious methods for recognizing flaws, exposing those that already exist, and reporting accounts that may have concerns. The quality of management information systems plays a significant role in how successful the credit risk management framework is (Howell, 2014).

The debt recovery unit also performs a daily task of ensuring that the client and the bank repay loans supplied to bank clients in line with the conditions of the contract that was signed (El-Maude et al., 2017). This staff is also in charge of writing demand letters for loan defaulters in collaboration with attorneys and delivering them to clients who are missing payments. Many business institutions have created various credit monitoring and recovery procedures. Many of the pains and annoyances brought on by effective loan supervision can prevent sluggish and challenging credit. With care, a fantastic loan can be maintained. It can require going to the borrowers' sites to evaluate the general upkeep and condition of the machinery and equipment. Again, monitoring deposits and balances exposes details about the debtors' situations. A debt rescheduling is when the terms of a loan are modified. If a bank determines that deferring payment on a debt is in the government's best interests and that recovering all or some of the debt is likely to happen, it should take this into consideration (Collaku & Aliu, 2021).

Additionally, before rescheduling a debt, the agency should reassess the debtor's financial status and ability to pay the amount if rescheduled, comparable to installment payments (Do et al., 2020). The agency must decide whether to demand pre-authorized debit payments from the debtor. Rescheduling provisions of any Repayment Plan, including the Acceleration Provision, shall be in writing and signed by Debtor. The bank should forbid unofficial debtor workout agreements. Each Bank shall implement comparable scheduling and other workout policies, practices, and standards for each Program Region. According to the guidelines of credit management standards, it shall record gains and losses on rescheduled accounts in compliance with its policies and processes (Kwarteng, 2020).

As part of a credit recovery strategy, banks may also use credit-scoring algorithms (Dunyoh et al., 2022). A borrower's credit score, which is a number obtained from a statistical analysis of their credit history, demonstrates how creditworthy they are. Information from credit reports makes up the bulk of a credit score. Like banks, lenders use credit ratings to assess the risk of extending credit to borrowers and to reduce bad debt losses. Financial firms utilize credit ratings to decide who is eligible for loans, the interest rate, and credit limits (Umoh, 1994 cited in Kwarteng, 2020).

The bank will not take any legal or other recovery actions, such as taking the security back without giving the required written notice, but it may use written correspondence, telephone reminders, or in-person visits by bank representatives to the borrowers' place of business or residence as loan follow-up measures. In order to get back the security, the bank will assess all applicable legal procedures and take all required actions. Financial institutions should also implement internal controls to make sure that the roles for credit initiation, approval, review, administration, payments, and workout are kept as different as feasible, according to Kono and Takahashi (2010), cited in Kwarteng (2020). Violations of internal controls and procedures must be reported to the appropriate level of management.

Financial institutions must also establish a system for routinely assessing their methods for managing credit risk, with the outcomes of the evaluations being directly linked to the relevant division. Policies governing the official assessment and grading of individual credits should be part of each institution's credit risk management program. In addition to the regular account officer study and credit rating, a credit evaluation must be conducted independently.

Due to their frequent interactions with borrowers, account officers are in a position to identify changes in a borrower's activities or financial situation (Adjirackor et al., 2016). The governing board of rural banks should be in charge of endorsing and routinely (at least once a year) assessing the bank's primary credit risk strategy and credit risk approach, according to Mkandawire (2011), cited in Kwarteng (2020).

According to Ahmad (2015), each bank should have a credit risk methodology or arrangement that outlines the objectives driving its loan-granting activities and contains key techniques and strategies for managing such activities. The board must be aware that introducing credit poses a significant risk and that all bank operations must be covered by the system and regulations. Arhin et al (2019) argues that these strategies should be in line with the bank's tolerance for risk as well as the level of profit it hopes to make from introducing different credit risks.

## **2.2 Theoretical Review**

### **2.2.1 Asymmetric Information Theory**

The asymmetric information theory, according to Bhattara (2014), contends that it may be difficult to distinguish between good and bad borrowers, particularly in a country where there is a lack of knowledge regarding the borrower's credit viability. Typically, this makes it difficult to choose the ideal borrower and causes moral hazard issues. According to the asymmetric information theory, the borrower in this case would be entitled to negotiate the terms and

conditions of the product more favorably than the lender because they have more accurate knowledge about the specific product that needs to be marketed. The other party, who has limited knowledge of the goods to be promoted, may make a judgment call that is incorrect or correct. This connects to financial organizations that could know little or nothing about the borrower and allows the borrower to receive a loan. This left the financial institution with the choice of either receiving the borrower's loan repayment or not. If the financial institution makes the incorrect evaluation and decision based on the scant information provided, it faces the risk of losing the loan provided to the customer and generating a non-performing loan. This theory also stressed how moral hazard and poor selection cause banks to acquire non-performing loans (Aminu et al., 2014).

### **2.2.2 The Theory of Deflation**

The origins of deflation theory can be found in Fisher's work (1933). According to this hypothesis, financial institutions with a lot of debt may go through debt liquidation, which causes deposits to shrink, and distressed asset sales. The fall in pricing levels brought on by the deposit contraction significantly reduces the business's net worth. Due to the anticipated circumstance, which causes bankruptcies to be hastened, the concerned financial institutions are forced to operate at a loss by reducing their output through decreased labor employment and in trade. These cycles lead to complex disturbances such as the appreciation of money's value and an increase in interest rates.

Complex disruptions can be categorized into internal (micro and macro variables) and external (both) factors, as was already noted, that alter the ratio of debt between creditors and debtors, or both, and that may lead to defaults on loans made to customers (Beaton et al., 2016).

### **2.2.3 Justification for using the theories**

The research makes use of both the deflation theory and the idea of asymmetric information to identify the causes of NPLs and their effects on bank profitability. The asymmetric information hypothesis contends that financial institutions have trouble telling the difference between risky and reliable borrowers. This results from the lack of accurate information provided by the borrower. By offering the debtors a loan, the bank, which stands to profit from the transaction, makes a mistake. Due to the borrowers' refusal to repay the debt, the banks' capital is reduced and their NPLs rise, which causes the banks' LTD ratio to be high.

A high LTD suggests that the banks may not have enough cash on hand to compensate such loan defaulters and that they may not be making as much money as they could, which lowers their profitability. According to the deflation theory, NPLs start to rise as debt grows because of borrowers who do not pay back their loans. Therefore, debt liquidation begins. Due to the dwindling of the deposits and the subsequent distressed sale, currency sets in. Low CAR results from this. The low CAR makes it more probable that the banks will not be able to sustain non-performing loan losses, which hurts the banks' earnings. As a result, the deflation theory and asymmetric information theory are compatible with our research.

## **2.3 Empirical Review**

The causes of non-performing loans are the subject of the empirical research in this section.

Empirical research on the factors that influence non-performing loans

### **2.3.1 Determinants of Non-Performing Loans'**

The main goal of a study by Alnabulsi et al. (2022) was to investigate the variables of nonperforming loans in the Middle East and North Africa. This was done specifically by looking at the role of macroeconomic and bank-specific elements during the global financial crisis and the COVID-19 pandemic, a health catastrophe that also causes an economic crisis.

This study uses the two-stage system generalized method of moment estimator to investigate 74 banks from 11 MENA countries from 2005 to 2020. The entire sample is split into two subsamples for a side-by-side comparison. The first one is about Middle Eastern nations, and the second is about North African nations. The empirical findings show that bank-specific variables have a greater impact on the amount of non-performing loans than macroeconomic factors. When it comes to macroeconomic factors, the number of NPLs is significantly influenced by the macroeconomic environment and institutional quality. No observable effects of the COVID-19 pandemic have been discovered.

Four businesses in the Kasoa city, Central Region, were the focus of a Ghanaian study by Arhin et al. (2019), which examined the factors influencing the non-performing loan (NPL) conditions of Micro-Finance Institutions (MFIs) in Ghana. The study combined a quantitative and qualitative approach and employed the practical (haphazard) sampling strategy to collect a sample from 10 MFIs. Two credit managers, an executive director, and a branch manager from each MFI were the respondents. The study focused on the loan categories that MFIs provide in addition to those that are frequently sought, the reasons why loans are nonperforming, how non-performing loans are managed, the sources of income and profitability, and the effects of NPL on enterprises' operations.

NPLs are a problem for MFIs, especially those in Kasoa city, according to the study's findings. The study recommended that MFIs organize training programs to adequately equip staff members who are involved in loan granting and recovery, that clients who get loans should be closely monitored to ensure that the money is used for what it was intended for, and that MFIs should make a concerted effort to enforce the protections already in place because doing so will help with the NPL problem. The study also discovered that accurate client profile is required to ascertain clients' financial status and assist in establishing interest rates that will promote loan repayment.

Agbavor (2019) looked at the perspectives of credit officers regarding the reasons behind non-performing loans in Ghanaian commercial banks. A qualitative case study methodology was used. According to the report, challenges with businesses and their industries, the state of the economy, alterations to the law and new regulations, NPLs in commercial banks are primarily caused by inadequate collateral security and non-performing loans.

The report recommends that commercial banks ensure that loans issued to loan applicants are carefully reviewed and efficiently monitored. Additionally, institutions must keep in regular contact with loan applicants and modify the terms of payment if they have financial difficulties. Finally yet importantly, it was suggested that there must be a reputable institution-referencing organization that enables banks to communicate with one another regarding the credit histories of their customers. Henerietta (2020) looked at the connection between profitable and non-performing loans: An example of some banks that are listed on the Ghana Stock Exchange, for this to be accomplished, the study looked at the trajectory of non-performing loans (NPL), bank profitability, and the reasons of non-performing loans, which included macroeconomic and bank-related issues in particular. The study used secondary information that covered the years 2006 through 2017 and was panel-organized. The Bank of Ghana's website and the banks' financial reports were used to collect the secondary data. NPLs for the selected banks were decreasing, according to the findings. The Loan to Deposit Ratio (LTD), Capital Adequacy Ratio (CAR), Return on Equity (ROE), Inflation Rate (INF), and Gross Domestic Product (GDP) (NPL) all have a substantial impact on nonperforming loans. NPL negatively impacted ROE significantly but only somehow negatively impacted ROA.. According to the study, increasing ROE and ROA would aid banks in lowering their exposure to non-performing loans. The study suggested employing moderate lending rates to decrease their non-performing loans. Khan et al. (2020) focused on the Pakistani banking sector from 2005 to 2017 while examining the causes of nonperforming loans (NPLs).

Profitability, operational effectiveness, capital sufficiency, and revenue diversification were among the banking characteristics evaluated. The outcome show that while there is a negative correlation between operating efficiency and profitability indicators and NPLs, it is statistically insignificant. Additionally, there is a link between NPLs, enough capital, and income diversification that is negative. Morakinyo and Sibanda (2016) analyzed the primary variables affecting non-performing loans in the MINT (Mexico, Indonesia, Nigeria, and Turkey) economies. The four economies' non-performing loan ratios for each bank appear to be the return on assets, total bank credit, capital adequacy ratio, and liquidity ratio. The liquidity ratio, capital adequacy ratio, and return on assets did not show any positive or highly significant associations with non-performing loans however the nominal exchange rate, rate of expansion of the money supply, total bank credit, and lending rate did. The final factor is the institutional variable of corruption, which has been found to have a very strong positive relationship with non-performing loans.

Between 1991 and 2015, Wood and Skinner (2018) examined the macroeconomic and elements unique to each bank that impacted the non-performing loans at Barbados' commercial banks. The empirical outcome demonstrated that NPLs were significantly influenced that they were significantly influenced by the bank-specific factors return on equity, return on assets, capital adequacy ratio, and loan to deposit ratio, but were also considerably influenced by the macroeconomic variables GDP growth, unemployment, and interest rate.

For twelve (12) banks in Jordan between 2008 and 2012, Rajah (2016) study of the macroeconomic and bank-specific contributing factors to NPLs. The empirical results demonstrated that, Non-performing loans were highly impacted positively and significantly by the loans to asset ratio and the dummy variable representing the global financial crisis, but significantly negatively by economic growth and inflation, additionally, the non-performing

loans provided evidence of persistence. The rate of lending and the size of the bank have minimal impact on the changes in non-performing loans in Jordanian banks. Using quarterly data from the years 1996 to 2015, Beaton et al. (2016) evaluated the macroeconomic and bank-specific causes of non-performing loans for thirty-four banks in the Eastern Caribbean Currency Union (ECCU). The outcome demonstrated that macroeconomic changes at both the global and national levels had an impact on non-performing loans in the ECCU. The fact that growth in advanced economies has a significant negative impact on nonperforming loans suggests that there has been positive spillover from global macroeconomic patterns. Contrarily, it was discovered that non-performing loans were significantly positively impacted by tourism growth (a proxy for domestic economic activity), demonstrating how lending to the tourism industry is inherently risky. Also discovered to be significant predictors of non-performing loans were bank-specific characteristics. NPLs were significantly impacted favorably by exposure to the construction industry and household lending. The type of bank ownership (represented by a foreign bank dummy) had a negative and significant impact on profitability and credit to the private sector delayed, as measured by the ROA. In addition, a dummy variable for 2008–2015 that represents the global financial crisis shows a considerable positive impact throughout the evaluation process on NPLs in the ECCU.

### **2.3.2 The Impact of NPLs on Profitability**

Uddin (2022) recently investigated non-performing loans' impact on profitability while accounting for operating effectiveness. The state-owned commercial banks in Bangladesh were the subject of the study. The sample banks are chosen through intentional sampling. The financial reports of the sample banks were used to collect secondary data. The study found that non-performing loans have a little but positive impact on operating efficiency while having a

tiny but unfavorable impact on profits. Non-performing loans have a negative and considerable influence on profitability even in the presence of operating efficiency, according to a statistical analysis of the direct effect of these loans on profitability. The PROCESS

Macro mediation effect research indicate that, there is no connection between the profitability of state-owned commercial banks and non-performing loans that can be accounted for by operational effectiveness.

In order to improve banks' profitability, the report encourages bank management to take the necessary steps in lowering the operating expense to operating income ratio and the percentage of NPLs. In Indonesian banks, Dewi and Badjra (2020) assessed the impact of NPL, LDR, and operational costs of operating income (BOPO) on return on income. The paper claims that BOPO is the factor that has the greatest influence on bank profitability. According to the inferential analysis, BOPO and NPL both significantly and negatively affect profitability or ROA. The study shows that governments should enhance management and operational effectiveness if banks see increasing profitability.

Hosen and Rahmawati (2016) utilised the Stochastic Frontier Approach (SFA), a parametric approach, was used to calculate banks' efficiency (BOPO) and the Return on Assets (ROA) ratio to evaluate profitability in the Indonesian Islamic banking sector). The study's findings indicate that in order to retain their financial stability, Islamic banks should run their banking operations as profitably and effectively as they can.

In a 2017 empirical study, Akter and Roy analyzed the effect of non-performing loans on listed banks' profitability on Bangladesh's Dhaka Stock Exchange (DSE). Non-performing loans statistically have a considerable negative impact on net profit margin or on the profitability of banks listed on the DSE during the study period. The article's conclusion underlines that the

number of subprime or not just in industrialized nations but also in underdeveloped and developing nations, the number of NPLs in banks is agonizingly rising.

Biswas et al. (2021) investigated over a five-year period, from 2014 to 2018, the effect of non-performing loans on the profitability of Bangladesh's commercial and public banks. Statistics demonstrate that there is a poor correlation between bank size, non-performing loans, and return on assets. According to the study, banks were unable to measure the volume and rate of NPLs in the banking industry because of improper credit risk management.

Amoako (2017) found in Arhin et al (2090 conducted study examines how poor loans affect rural banks' ability to make money and extend credit many rural banks in Ghana's Ashanti area. The findings showed that the non-performing loan ratios (NPL) of the chosen banks are consistently increasing, which raises questions about how well they are managing credit risk. The study also found that the ability of the banks selected for the study to lend money is significantly harmed by NPLs (bad loans). It was also demonstrated that, the impact of NPLs on bank profitability is negative, but it is not very noticeable. The article's other findings indicate that insufficient credit monitoring, the primary reasons for problematic loans among the chosen institutions include a subpar evaluation system and a dearth of efficient credit management procedures to control how loans are disbursed to borrowers.

Gizaw et al. (2015) did a study in Ethiopia to find out how credit risk has affected performance in terms of profitability. Between the years of 2003 and 2014, the writers gathered data from eight different banks. The researcher's outcomes showed that variables used to gauge credit risk, such as NPLs, provisions for bad loans, and CAR had a favorable effect on Ethiopian banks' profitability. The authors finalised that this influence was significant.

Chimkono et al. (2016) looked at the correlation between a number of variables, bank profitability, and the proportion of non-performing loans in banks in Malawi. Their research

encompassed a seven-year span, from 2008 to 2014. In their study, nonperforming loans were represented by the NPLs ratio and the ROA was utilized to gauge financial success. It was found that the cost efficiency ratio, the NPL ratio, and the lending rate had a big impact on the banks' profits.

From 2010 to 2019, Collaku and Aliu (2021) looked at the impact of non-performing loans on Kosovo banks' profitability. According to the data, non-performing loans have a statistically significant negative influence on profitability, when other variables are held constant, the Return on Assets drops by 0.19% for every 1% increase in NPL.

Budiarto (2020) in an effort to solve the issue of collectability in non-performing loans and enhance the financial performance of BPR in Central Java, the empathetic credit risk model was examined. 150 BPR leaders from a group of 260 leaders at the BPR in the Central Java Province were chosen as responders using a purposive sample technique. Credit collectibility (enterprise prospects, debtor performance, and ability to pay) shows a positive, substantial link with non-performing loans, according to data analysis utilizing SEM AMOS (NPLs). Non-performing loans have a detrimental impact on institutions' financial health. The influence of company prospects, debtor performance, and repayment capacity on nonperforming loans (NPLs) is moderated by empathy credit risk.

## **2.4 Conceptual Framework**

The conceptual framework diagram is shown in depth in Figure 1. The Bank Profitability represents the dependent variable, while Non performing loan, Capital Adequacy loan, bank efficiency and income diversification as independent variables. The control variables are bank size and inflation.

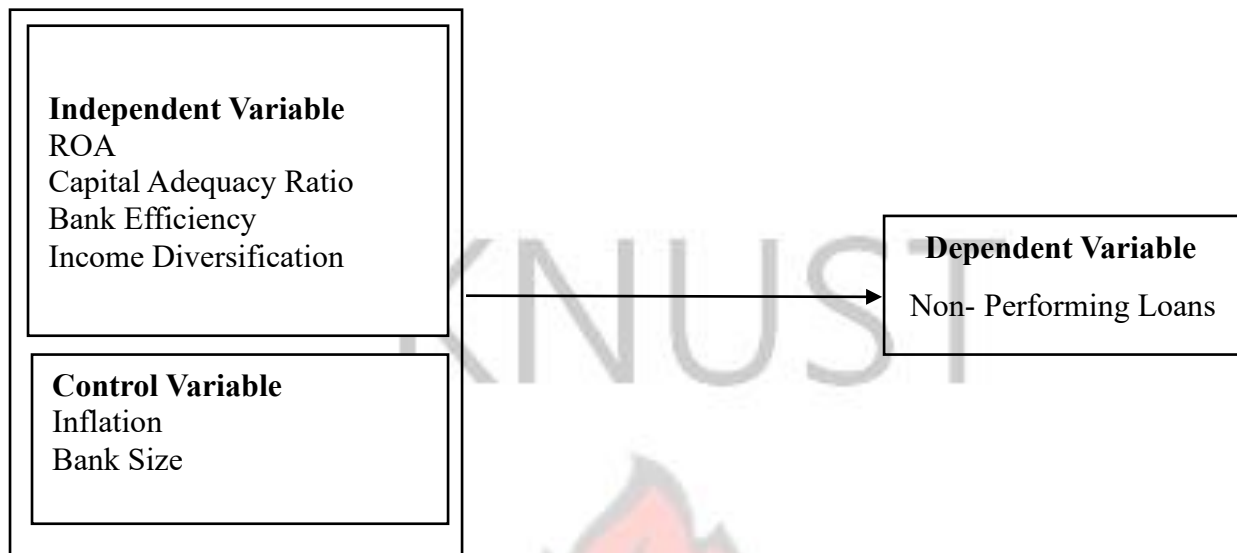


Figure 2.1: Conceptual Framework

Source: Author's Construct, 2023

## 2.5 Summary of Chapter

This section summarized the literature review and look at the ideas behind the study's variables and those used in other studies. The Government of Ghana thought about assisting in the creation of community rural banks in the rural regions that would be committed to supplying those areas with financial services. The lower per capita incomes, the dearth of infrastructure, and the poor connection in rural areas are the key barriers to rural banks' expansion. If both principal and interest payments are made on time and according to the terms agreed upon by the lender and the borrower, the loan is said to be performing. The private sector, according to the 2018 Bank of Ghana report on non-performing loans accounts for the majority of NPLs in the industry and also has a larger share of total credit than the public sector .On how to control credit risk exposure, these are some of the procedures; to spot the prospective credit risks, gauging their severity, assigning the found credit risks the proper care and monitoring and guaranteeing adequate control over credit risk. The theory used in this study were asymmetric information theory and deflation. On the conceptual framework, the bank profitability

represents the dependent variable, while non-performing loan, capital adequacy loan, bank efficiency and income diversification are the independent variables and the control variables are the bank size and inflation.

# KNUST



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This section is devoted to discussion of the methodological approach employed for the study. It also captures the research design, population of the study, and sample size and sampling technique. The data collection instrument, data collection procedure, and data analysis are also presented under the methodology. The ethical concerns were not left out in this chapter.

#### **3.1 Design of the study**

According to Asvoll (2014), a research design is a framework that outlines how different study variables relate to one another, starting with a method for locating the sources and progressing to the type of data that will be used to answer the research questions. However, according to Brierley (2017), a research process' overarching strategy or plan is employed to give analysis of an explicit testable study research issue that is relevant to the researcher. The descriptive survey method was the research's main focus.

Descriptive research is typically utilized in the early stages of study due to its capacity to reveal information that is updated with the current occurrences and thus in coherence with existing variables as well as other environmental aspects (Creswell, 2017). The analysis by Alvesson and Skoldberg (2017) emphasizes this point further by pointing out that descriptive information seeks to both reveal and calibrate the relationship between the cause and effect in the variables under study.

According to Creswell (2017), this approach offers a broad range of precise information that enables the gathering and evaluation of the available data as well as the presentation of the data throughout a specified time. The descriptive method is better appropriate for this study since it can provide an efficient and effective way to collect data from the community.

According to Brierley (2017), descriptive methods are crucial when data collection is possible within the context of previously acquired data that is concentrated on a bigger study group.

### **3.2 Rural Banking in Ghana**

This section of the thesis provides an overview of rural banking in Ghana, setting the context for the study on the determinants of non-performing loans (NPLs) in selected rural banks. Rural banking plays a crucial role in promoting financial inclusion and economic development in rural areas, where access to formal financial services is limited. In Ghana, rural banks serve as important intermediaries between rural communities and the formal banking sector, facilitating savings mobilization and credit provision to support agricultural and rural-based economic activities.

Rural banks in Ghana are specialized financial institutions established under the Rural Banking Act of 1976. They are designed to cater specifically to the financial needs of rural areas and provide banking services to individuals, small businesses, and agricultural cooperatives. The primary objective of rural banks is to promote rural development and reduce poverty by facilitating access to finance and fostering entrepreneurship in rural communities.

One distinguishing feature of rural banks in Ghana is their ownership structure. They are typically community-based and owned by shareholders from the local communities they serve. This ownership structure ensures that the decision-making process reflects the specific needs and interests of the rural population. As a result, rural banks are often more closely aligned with the economic and social priorities of the communities they serve, contributing to their sustainability and relevance.

Rural banks in Ghana offer a range of financial products and services, including savings accounts, current accounts, loans, overdraft facilities, and money transfer services. These services are tailored to meet the unique needs of rural clients, taking into consideration the

seasonal nature of agricultural activities and the cash flow patterns of rural businesses. The emphasis on personalized and customer-centric services distinguishes rural banks from their urban counterparts and contributes to building strong relationships with their clients.

Despite their important role in rural development, rural banks in Ghana face various challenges. Limited infrastructure, including inadequate transportation and communication networks, can hinder their operations and outreach efforts. Additionally, the vulnerability of rural economies to external shocks, such as changes in commodity prices and adverse weather conditions, can significantly impact the loan repayment capacity of borrowers, potentially leading to higher levels of non-performing loans.

Understanding the dynamics of NPLs in rural banks is critical for ensuring the long-term sustainability and effectiveness of these institutions in supporting rural development. By identifying the determinants of NPLs in selected rural banks in the Ashanti, Greater Accra, Western, and Eastern regions, this study contributes to the existing knowledge on credit risk management in the context of rural banking in Ghana. The findings of the research will provide insights for designing effective risk mitigation strategies and improving loan portfolio quality, thereby enhancing the stability and performance of rural banks and facilitating their continued contribution to rural development in Ghana.

### **3.3 Population of the study**

A population, according to Blaikie and Priest (2019), is made up of all the objects, persons, or occasions that have a certain visible attribute in common. Brierley (2017) pointed out that a population can be thought of as a collection of all the qualities from which a researcher can make reliable inferences. A population is, in this sense, the largest subset of a set of verified observations, of which the smallest set is known as a sample. The population of the study consisted of rural banks that have registered under Registrar General. Rural banks within

Ashanti Region, Greater Accra, and Western and Eastern region were considered for the study. Twenty five (25) rural banks were targeted and they are Asokore Rural Bank, Atwima Kwanwoma Rural Bank, Ahantaman Rural Bank, Jomoro Rural Bank, Adansi Rural Bank, Otuasekan Rural Bank, ARB Apex Bank, Sefwiman rural bank, South Akim rural bank, Mponua rural bank, Suma rural bank, Manya Krobo rural bank, Bosomtwe rural bank, Dumpong rural bank, Akuapemg rural bank, Anlo rural bank, Kintampo rural, Okomfo Anokye rural bank, Amenfiman rural bank, GA rural bank, Agave rural bank, Mumuadu rural bank, Juaben rural bank, LA Community rural bank and Wamfie rural bank.

### **3.4 Data and Sampling Techniques**

Panel data were used in the study. This is due to the robustness of panel data against variation across different units. The combining of cross-sectional and time series data to produce highly useful data is one property of panel data. According to Hayes and Preacher (2014), panel data can assess and identify impacts that are challenging to spot in time series data. The secondary source of data, which is a panel source, was used as the data source for the study. Brierley (2017) asserts that secondary data sources are chosen since they are already prepared and cost less to gather in terms of both time and money. According to Kothari (2004), unpublished or released documents can be used to collect secondary data.

The bank's well-audited financial statements and the BoG website served as the secondary data sources. Macroeconomic variables and a few bank-related elements are included in this data. The data were gathered over a 5-year span, between the years of 2017 and 2021. The data on the bank particular variables alone looks to be more time series data because it focused on a single circumstance (bank specific factors) at multiple time intervals. They are typically collected on a regular basis, like annually or yearly. When the elements pertaining to banks and the macroeconomic variables were incorporated, the study's focus shifted to different

circumstances (macroeconomic variables and bank-specific factors) at various time scales, in this case annually. As a result, the study's data format is essentially a panel data.

Creswell (2017) defines sample size as the number of observations included in a study, it is a number of data points selected from a larger population to represent it statistically. The researcher selected 25 rural banks for the purpose of this work. The selection was based on the accessibility to the annual reports of these rural banks. The researcher used a sampling method called purposive. A purposeful selection is a method of choosing several groups of units in order to produce, when added together, a totality with characteristics that have been seen statistically, as near to the same average percentage as possible. Focusing on important demographic traits that are intriguing and will help you answer to your study issue the best is the main goal of purposeful sampling.

### **3.4.1 Sample Selection**

The process of sample selection is crucial in ensuring the representativeness and validity of the study's findings. In this section, the criteria for including and excluding rural banks in the sample are discussed.

#### **Inclusion Criteria**

The study aimed to capture the dynamics of non-performing loans (NPLs) in rural banks across different regions in Ghana. Therefore, rural banks operating in the Ashanti, Greater Accra, Western, and Eastern regions were considered for inclusion. These regions were chosen to encompass both urban and rural areas, providing a comprehensive understanding of

NPLs in different settings.

To capture a range of rural banks with varying levels of resources and operations, the sample included both small and large rural banks. This criterion ensured that the study examined NPLs across a spectrum of institutions, accounting for differences in their lending practices, risk management frameworks, and customer bases (Patino & Ferreira, 2018). The inclusion of rural

banks in the sample relied on the availability of relevant data for the research. It was essential to ensure that the necessary data on loan portfolios, financial indicators, and other variables could be obtained for analysis.

### **Exclusion Criteria**

Rural banks that were not actively operating during the study period were excluded from the sample. This criterion ensured that the analysis focused on banks with current loan portfolios and recent performance data, providing a more accurate representation of NPL dynamics (Connelly, 2020). Rural banks with incomplete or inadequate data on NPLs and other relevant variables were excluded from the sample. It was crucial to have comprehensive and reliable data to conduct a robust analysis and draw meaningful conclusions. In cases where multiple rural banks shared common ownership or were part of the same banking group, only one representative bank was included in the sample to avoid duplication and potential bias in the analysis (Patino & Ferreira, 2018).

### **3.5 Data Analysis and Presentation**

According to Hayes and Preacher (2014), research data must be handled and assessed in line with the study's goals. Every information gathered from the banks was examined to determine its sufficiency, suitability, accuracy, and dependability. Using the panel data collected from the years 2017–2021, descriptive and econometric models were applied to ascertain how nonperforming loans affects the financial performance of banks. Microsoft Excel was used to input the information from the involved banks in order to prepare it for analysis. After that, the data were analyzed using the STATA version 15 software. The properties of the study variables were presented and described using tools like means, maximums, and minimums. To meet the requirements of the conventional linear regression model, diagnostic tests for multicollinearity and heteroscedasticity were performed on the data to evaluate their robustness. To determine whether the variables were collinear, correlation analysis and the variance inflation factor (VIF)

were employed. The regression analysis results were presented in tabular form, and explanations of each parameter were given in line with the conclusions of earlier investigations.

### 3.5 Variable Description and Measurement

VARIABLES	DESCRIPTION	MEASUREMENT
ROA	Bank Profitability (Dependent Variable)	It is measured by dividing the net profit with total assets.
NPL	Non-Performing Loan (Dependent Variable)	Non- Performing loan ratio is measured by NPLs divided by gross loan.
CAR	Capital Adequacy Ratio (Independent Variable)	It is measured by total equity divided by total asset
BE	Bank Efficiency (Independent Variable)	It is calculated as the non-interest to interest revenue ratio.
ID	Income Diversification (Independent Variable)	It is calculated as the non-interest income to total income ratio.
BS	Bank Size Control Variable	The natural logarithm of the total assets is used to calculate it.
INF	Inflation (Control Variable)	It measures the macroeconomic environment. It is measured as a consumer price index

### 3.6 Model Specification

The study employs the Fixed effect (FE) as an auxiliary estimator. The FE is more efficient than the OLS. Fe assumes that the intercepts vary across units and time. In its simplified form, the FE model is written as:

$$Y_{it} = X'_{it} \beta + Z_i \alpha + \varepsilon_{it} \text{ -----(1)}$$

*To investigate the determinants on NPL*

$$NPL_{it} = \beta_0 + \psi_1 ROA_{it} + \sigma_2 BE_{it} + \tau_3 ID_{it} + \lambda_4 BS_{it} + \varphi_5 INF_{it} + e_{it} \dots \dots \dots (2)$$

*To examine the effect on NPL on bank profitability*

$$ROA_{it} = \beta_o + \psi_1 NPLS_{it} + \sigma_2 BE_{it} + \tau_3 ID_{it} + \lambda_4 BS_{it} + \varphi_5 INF_{it} + e_{it} \dots \dots \dots (2) \quad \text{Where}$$

ROA is return on assets, BE is bank efficiency, ID is income diversification, BS is bank size and INF is inflation.

Fixed effects model is time invariant and does not change over time; it allows different crosssectional units to have distinct intercepts. On the other hand, the random effect model uses distinct intercepts for various cross-sectional units that are time invariant. It appears to be a fixed effects model as a result. However, Brooks (2014) distinguished between the two models by pointing out that the various units of the intercepts that random effect models produce share a similar mean. The Hausman-Test is used to decide between the fixed effect model and the random effect model. In order to determine if it is preferable to adopt the fixed effects model rather than the random effect model, Brooks (2014) claims that the Hausman- Test is used to evaluate the effectiveness of the random effects model. The fixed effects model would be used if the Hausman-Test p-value were significant; otherwise, the randomeffects model would be chosen.

### 3.7 Diagnostic Test

For the variables, diagnostic tests including multicollinearity and heteroscedasticity tests were run. Using both the correlation and the variance inflation factor, multicollinearity, which reveals the strength of the link between the explanatory and independent variables, was done (VIF). When two variables have a correlation coefficient of 0.8 or higher, the regression analysis excludes one of those variables. VIF was used to validate multicollinearity in the variables after utilizing correlation to evaluate it. Variables having VIF values of 10 or higher are not included in the study. The heteroscedasticity test was used to determine whether the variance of the disturbance terms was equal or not. The Breusch-Pagan test was used to establish whether heteroscedasticity existed. Using this test, if the p-value is significant (pvalue

less than 0.05) at the 95% confidence level, there is a heteroscedasticity issue in the data set. If the p-value is negligible, however, there is no such issue.

### **3.8 Chapter Summary**

This chapter talks about how the research was done. Quantitative approach was used because it allows for rigorous estimation on a panel secondary data, which produces rigorous results. The study adopts a descriptive design to describe the relationship among the explored variables. This study employs the fixed effect (FE) as an auxiliary estimator.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.0 Introduction**

This chapter presents results and discussions on the topic. The chapter has seven (7) sections. Section 4.1 presents descriptive statistics and trends analysis. Section 4.2 presents correlation of variables. Sections 4.3 to 4.4 present empirical results. 4.5 presents robustness checks and section 4.6 summarizes the chapter, discusses the results.

#### **4.1 Preliminary Analysis**

##### **4.1.1 Summary Statistics**

Table 4.1 examines the econometric and statistical properties of the data before estimating the empirical results. The mean ROA is 0.014, while the standard deviation is 0.020. This suggests that just 2% of the 25 Rural Banks in the analyzed population have a ROA of 1.5%. This suggest that Rural Banks rarely make returns from the assets invested and describe the poor development of Rural Banks in Ghana. Furthermore, the mean for non-performing loans is

0.066, and the standard deviation is 0.057, indicating that 6.6 per cent of the total advanced loans was not settled or gone bad. Income diversification records an average of 0.159 and suggest that the banks accrued 15.9 percent income from other sources other than interest earnings. In addition, the banks are poorly capita since the average for the bank capita is 11.4 per cent. The banks are smaller judging from their average total assets of GHS 78 million.

**Table 4.1: Descriptive Statistics**

<b>Variable</b>	<b>Observation</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
<b>ROA</b>	125	0.014	0.020	-0.083	0.117
<b>NPLs</b>	125	0.066	0.057	0	0.580
<b>Income Diversification</b>	125	0.159	0.065	0.025	0.393
<b>CAR</b>	125	0.114	0.053	0.010	0.266
<b>Bank Efficiency</b>	125	6.015	4.015	0.647	26.891
<b>Bank size</b>	125	7.800	0.386	7.117	8.876
<b>Inflation</b>	125	9.471	1.699	7.143	12.371

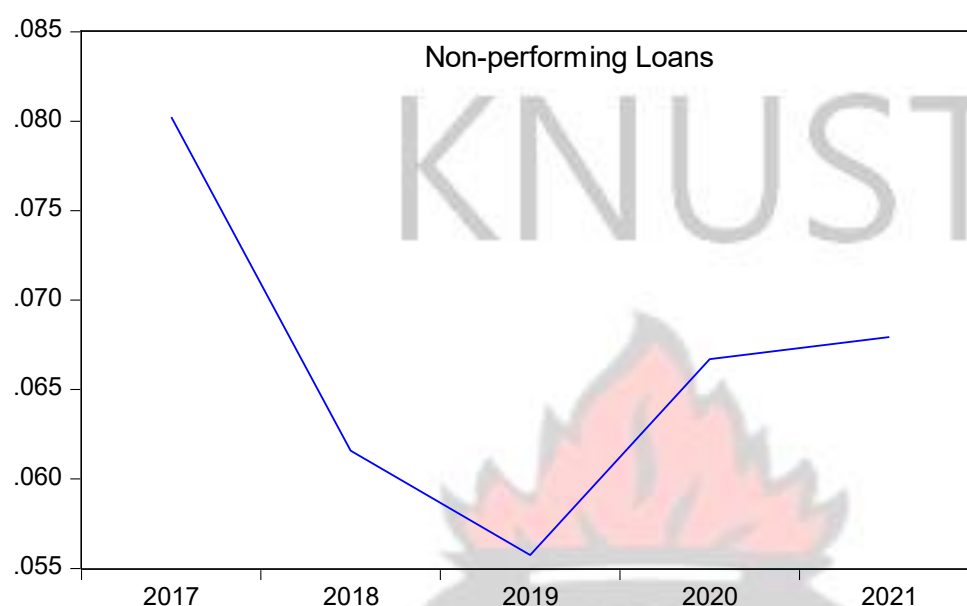
**Source:** Author's analysis with data from banks' financial reports from 2017 to 2021 and WDI

#### **4.1.2 Trends in Non-Performing Loans and Return on Assets of RCBs from 2017 to 2021**

##### **4.1.2.1 Trends in Non-Performing Loans from 2017 to 2021**

Figure 4.1 shows trends in non-performing loans of Rural and Community banks in Ghana from 2017 to 2021. The results show a high NPLs of 8.5 per cent of the total advanced loans for the year in 2017. However, it reduced drastically to 6 per cent in 2018, and continued with the decrease to 2019 at 5.6 per cent. By 2020, it had further increased to 6.5 per cent, and maintained the same rate to 2021. The stability in the rate from 2020 to 2021 can be attributed to the financial restructuring and regulations that occurred within the period. Therefore, within

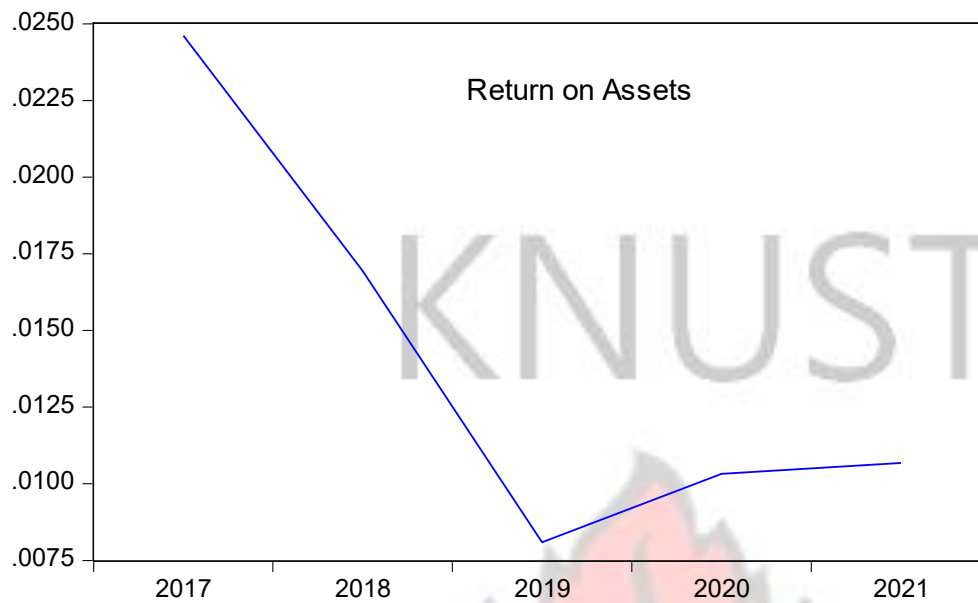
the period of 2017 to 2021, NPLs has decreased from 8 per cent to 6.5 per cent, by 18.75 per cent.



**Figure 4.1: Trends in NPLs of Rural Bankss in Ghana from 2017 to 2021**

#### **4.1.2.1 Trends in Return on Assets from 2017 to 2021**

Figure 4.2 shows trends in return on assets of Rural Banks in Ghana from 2017 to 2021. From the results, ROA was high at 2.5 per cent in 2017 and 1.56 per cent in 2018. However, in 2019, ROA experienced a sudden fall to 0.7 per cent. The fall can be attributed to the economic challenges in the country within that period due to the collapse of some universal banks, which diminished people's confidence in the general banking system. From 2019 after recapitalization exercise, ROA started increasing and by 2021, it had increased to 1 per cent. Therefore, within the study period, ROA decreased by 60 per cent.



**Figure 4.2: Trends in return on assets of Rural Banks from 2017 to 2018**

## 4.2 Diagnostic Tests

### 4.2.1 Correlation

A correlation matrix and the variance inflation factor (VIF) are used to display the degree of correlation between the variables in Table 4.2. The findings show that there is a moderate association between the factors. For instance, the capital adequacy ratio and income diversification are adversely connected ( $\text{Beta} = 0.562$ ,  $p\text{-value} > 0.05$ ), while bank efficiency and income diversification are negatively correlated ( $-0.321$  at a 5% significance level). The standard for a high correlation or multicollinearity issue, according to Kennedy (2009), is (0.8). None of the coefficients, meanwhile, is greater than 0.8. Additionally, Table 4.3's VIF values all fall below 10, which is a threshold that indicates the lack of a multicollinearity issue. As a result, there are no issues with multicollinearity or collinearity with the variables (Wooldridge, 2016).

**Table 4.2: Correlation Matrix and Variance Inflation Factor**

Var	ROA	NPLs	ID	CAR	BE	BS	INF	VIF
ROA	1							1.56
NPLs	-0.029	1						1.32
ID	-0.225*	-0.077	1					2.00
CAR	0.231*	0.057	-0.562*	1				2.32
BE	0.189*	0.147	-0.321*	0.432*	1			2.97
BS	-0.169	0.100	-0.082	-0.118	-0.019	1		1.76
INF	0.046	-0.044	-0.044	0.052	0.015	-0.051	1	1.86

**Note:** ROA is the return on assets; NPLs is non-performing loans; CAR is capital adequacy ratio; BS is bank size; BE is bank efficiency and INF is inflation.

\*denotes a statistical significance level of 5%

**Source:** Author's analysis with data from firms' financial reports from 2017 to 2021 and WDI

### 4.3 Panel Regression Results

The empirical findings of the factors that affect the non-performing loans of Ghanaian community and rural banks are shown in Table 4.3. The model is fitted since the adjusted Rsquared is 0.654, which indicates that roughly 65.4% of variability in the dependent variables are explained by the independent variables. The empirical results show that return on assets has a negative and significant ( $\beta = -0.487$ ,  $p\text{-value} > 0.1$ ) effect on NPL. This suggests that an increase in ROA decreases NPLs by 48.7 per cent. Furthermore, the capital adequacy ratio is negatively and significantly ( $\beta = 1.034$ ,  $p\text{-value} > 0.05$ ) related to NPLs, indicating that a percentage increase in CAR accounts for more than a 100 per cent increase in NPLs.

Lastly, from the results, bank size has a positive and significant ( $\beta = 0.108$ ,  $p\text{-value} > 0.05$ ) effect on NPL, demonstrating that larger size banks has high NPLs.

**Table 4.3: Regression Results**

Variables	NPL	ROA
Return on Assets	-0.487*	
	(0.284)	
Non-performing loans		-0.061**
		(0.036)
Income Diversification	0.034	0.041
	(0.157)	(0.055)
Capital Adequacy Ratio	1.034***	0.263**
	(0.286)	(0.105)
Bank Efficiency	0.002	0.0004
	(0.002)	(0.0007)
Bank Size	0.108**	-0.004
	(0.053)	(0.019)
Inflation	0.0001	0.0005
	(0.002)	(0.0009)
Constant	-0.920**	0.006
	(0.435)	(0.159)
Adjusted R-squared	0.654	0.453
<b>F. Stats</b>	8.876	4.342
<b>Prob.</b>	0.000	

**Note:** \* represent (0.1 sig.); \*\* represent (0.05 sig.); and \*\*\*represent (0.01 sig.)

**Source:** Author's analysis with data from RCBs annual statements and WDI.

The Table 4.3 the effect of NPLs on the ROA of Rural Banks in Ghana. The adjusted rsquared is 0.453 which demonstrates that the explanatory variables explain about 45.3 percent

variations in the ROA. From the empirical results, NPLs have a negative and significant effect ( $\beta = -0.061$ ,  $p\text{-value} > 0.05$ ) on ROA, signifying that a percentage increase in NPLs reduces ROA by 6.1 per cent. Turning to the control variables, the capital adequacy ratio shows a positive and significant ( $\beta = 0.263$ ,  $p\text{-value} > 0.05$ ) effect with ROA, which suggests that a percentage increase in CAR improves ROA by 26.3 per cent.

#### **4.4 Determinants of Non-performing Loans of Rural Banks.**

The results show that return on assets, capital adequacy ratio and bank size have significant effects on NPLs, thus, making them a strong determinant of NPLs. However, each has a unique impact on NPLs. For instance, according to other empirical studies, return on assets has a positive impact on ROA. (e.g., Khan et al., 2019; Alnabulsi et al., 2022; Dimitrios et al., 2016; Anggriani and Muniarty, 2020). High ROA highlights bank efficiency in converting assets into profit and therefore suggests that the bank is being managed efficiently. Good bank management should lead to lower NPLs. Additionally, banks with high profits have fewer incentives to use loans to generate high income and therefore, when banks achieve higher profits, in order to lessen the risk of making bad loans, they typically cut back on lending. Concerning firm size showing a positive effect on NPLs, larger banks tend to lend more due to greater investments in assets and the need to earn returns on such investments (Kartikasary et al., 2020)

Furthermore, the capital adequacy ratio has a positive effect on NPLs, and thus a strong determinant of NPL. Consistent with the risk-return hypotheses by Merton (1980). The theory states that banks with greater capital pursue riskier investments to achieve higher returns. The more capital a bank has, the greater it lends, in pursuit of more interest income (Anggriani and Muniarty, 2020; Kartikasary et al., 2020). However, because of bad luck hypotheses, an unfavorable business environment can lead to loan default. In general, banks

with greater capital lend more than banks with less capital. Contrarily, other studies demonstrate a bad correlation between adequate capital and NPLs. (Khan et al., 2020). They explain that well-capitalized banks have less incentive to increase performance through riskier lending.

#### **4.5 Effect of Non-performing Loans on the Profitability of Rural Banks**

According to the research, non-performing loans have a negative and considerable impact on a company's performance. Non- Performing Loans has a magnitude of 0.061 therefore, a change in NPL will negatively affect the Bank's profitability by 0.061. The results are consistent with period empirical studies (Phung et al., 2022; Hassan et al., 2022; Apergis, 2022). In addition, the outcomes support Berger and DeYoung's (1997) bad luck hypothesis. According to the theory, unexpected default on loans by borrowers can hurt the bank. The non-performing loan increases bank costs, reduces capital and can cause bankruptcy.

Moreover, the empirical results reveal that the capital adequacy of banks has a positive and significant effect on bank performance. The results support the empirical conclusion (e.g., Velliscig et al., 2022; Boamah et al., 2023; Bouteska et al., 2023). The positive association between bank capital and profit is explained by the risk-absorption hypotheses by Berger and Bouwman (2009). Greater capital insulates banks from possible financial frictions in the financial system and avoids bankruptcy. In addition, banks with higher capital have access to greater investment opportunities to earn interest income and returns. Studies report that banks with greater capital seldom lend to riskier borrowers to avoid possible non-performing loans.

#### **4.6 Robustness of Results**

This study performs robustness check to verify the accuracy of the previous results using different measures for non-performing loans (i.e., NPL ratio) and ROE as profitability measure.

Model 1 shows results of the determinants of NPLs, and Model 2 shows the effect of NPLs on ROE. From the results, it can be seen that they bear similarities with the results in Tables 4.3 and 4.4 for the determinants of NPLs and the effect of NPLs on ROA, respectively. This confirms that the results are robust with other measures of NPL which is NPLS rates and ROE.

**Table 4.4: Robustness**

Variables	NPL Ratio	ROE
	(1)	(2)
ROE	-53.588** (31.087)	
Non-performing loans		-0.024 (0.031)
Income Diversification	-3.704 (17.168)	-0.020 (0.046)
Capital Adequacy Ratio	109.134*** (31.277)	0.084** (0.047)
Bank Efficiency	0.249 (0.222)	0.0001 (0.0006)
Bank Size	14.219** (5.785)	-0.008 (0.006)
Inflation	0.066 (0.295)	0.0003 (0.0009)
Constant	-117.343** (47.565)	0.073 (0.053)
Adjusted R-squared	0.654	0.176
F. Stats	8.876	2.564
Prob.	0.000	0.000

**Note:** \* represent (0.01 sig.); \*\* represent (0.05 sig.); and \*\*\*represent (0.001 sig.)

Values in parentheses are standard errors

**Source:** Author's analysis with data from Rural Banks annual statements and WDI.

#### 4.7 Discussion

This part presents a concise overview of the primary outcomes derived from the investigation on the factors influencing non-performing loans (NPLs) in rural banks. It is supplemented with

a comprehensive examination of pertinent scholarly works and citations that substantiate the identified conclusions.

The research conducted successfully identified a number of key factors that significantly influence the occurrence of non-performing loans (NPLs) in rural banks. The initial findings indicate that the degree of economic advancement in the areas where rural banks conduct their operations exerts a substantial influence on non-performing loans (NPLs). The aforementioned discovery aligns with other scholarly investigations that emphasize the impact of macroeconomic variables on the likelihood of credit risk (Borio & Lowe, 2002). In areas characterized by elevated levels of economic development, borrowers typically exhibit enhanced repayment capacity and demonstrate a reduced likelihood of loan default.

Additionally, the research revealed that the makeup of loan portfolios exerts a substantial impact on non-performing loans (NPLs) inside rural banks. The presence of a greater number of agricultural loans in the portfolio exhibited a positive correlation with non-performing loans (NPLs). This discovery is consistent with other research that highlights the inherent hazards associated with agricultural loans, which are influenced by factors such as seasonality, weather patterns, and market fluctuations (Galema et al., 2013; Mersland & Strøm, 2009).

Furthermore, the findings of the investigation indicate a strong correlation between the quality of internal risk management techniques and non-performing loan (NPL) levels in rural banks. The study revealed a significant correlation between the implementation of robust risk assessment procedures, diligent loan monitoring mechanisms, and well-designed internal control systems, and the observed decrease in non-performing loan (NPL) ratios. The aforementioned discovery aligns with previous studies that highlight the significance of strong risk management frameworks in the mitigation of credit risk and the reduction of nonperforming loans (Berger & Udell, 2006; Klapper & Panos, 2011).

Moreover, the research has revealed that the degree of financial inclusivity in rural regions exerts a noteworthy influence on non-performing loans (NPLs). There is a negative correlation between the availability of formal financial services, such as savings mobilization and credit facilities, and non-performing loan (NPL) levels. This discovery provides further evidence in line with existing academic literature that emphasizes the favorable correlation between financial inclusion and the ability to repay loans (Beck et al., 2007; Klapper & Panos, 2011).

In general, the outcomes of this research contribute to the comprehension of non-performing loan (NPL) drivers in rural banks and offer valuable insights into efficient credit risk management strategies within the rural banking industry. The findings underscore the importance for rural banks to take into account regional economic circumstances, loan portfolio structure, internal risk management strategies, and efforts towards promoting financial inclusion when evaluating and handling credit risk.

#### **4.8 Summary of Chapter**

In this chapter, the key findings of the research are summarized and discussed. The study aimed to identify the determinants of non-performing loans (NPLs) in selected rural banks operating in the Ashanti, Greater Accra, Western, and Eastern regions. Through data analysis and hypothesis testing, the research uncovered significant insights into the factors contributing to NPLs in these rural banks.

The findings revealed that several factors have a significant impact on the occurrence of NPLs. Economic factors, such as GDP growth rate, inflation rate, and unemployment rate, were found to be important determinants. Higher inflation rates and unemployment rates were associated with increased NPLs, indicating the vulnerability of borrowers during economic downturns. Additionally, financial factors like interest rates, loan-to-deposit ratio, and bank size were found to be influential. Higher interest rates and loan-to-deposit ratios were linked to higher NPLs, emphasizing the importance of prudent lending practices. Furthermore, institutional

factors, including regulatory environment, loan recovery mechanisms, and governance practices, were identified as critical determinants. A supportive regulatory environment and effective loan recovery mechanisms were associated with lower NPLs, highlighting the significance of strong institutional frameworks in managing credit risk.



## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter summarises the findings of the study, concludes and provides recommendations. It has four (4) main sections. 5.1 summarises the findings. 5.2 concludes the study. 5.3 provides policy implications and recommendations, and 5.4 provides suggestions for further studies.

#### 5.1 Summary of Findings

This study looks into what causes non-performing loans and whether they have an impact on the financial performance of Ghana's rural and community banks. The outcomes are outlined as follows:

##### 5.1.1 Determinants of Non-performing Loans

The empirical findings indicate that ROA, capital adequacy and bank size have a strong significant effect on non-performing loans. ROA has a negative impact on NPL, suggesting that when banks make more profit, they lend less. Banks with greater profits have less incentive to lend more in pursuit of interest income. Furthermore, capital adequacy has a positive impact on NPL, suggesting that a well-capitalized bank has the capital support to increase lending. Firm size has a positive effect on NPL, proving that bigger banks have an appetite for greater risk and tend to lend more.

##### 5.1.2 Effect of Non-performing Loans on Bank Profit

The findings demonstrate that non-performing loans significantly and negatively affect bank profits. This demonstrates that excessive non-performing loans can constrain the bank's investment opportunities and therefore reduce the bank's financial performance.

## **5.2 Conclusion**

This study examines the factors that contribute to the non-performing loans of Ghana's rural and community banks. It also investigates how non-performing loans affect banks' profits. This study uses a dataset of 25 Rural Banks from 2017 to 2021. Employing the fixed effect method, the evidence shows that bank profit, capital adequacy and bank size have a significant impact on non-performing loans, indicating that aforementioned factors strongly influence what causes non-performing loans. The findings also demonstrate how nonperforming loans harm banks' financial performance. According to the study's findings, nonperforming is a major cause of rural and community banks' subpar performance.

## **5.3 Policy Implications and Recommendations**

The results have several implications for bank managers and policymakers in designing micro-prudential and fiscal policies to enhance bank profit and strengthen overall financial sector stability. For instance, the results reveal that NPLs constrain bank financial performance. Based on these findings, this study recommends that Rural Banks must be empowered to adopt and comply with effective lending practices such as rigorous loan screening to avoid moral hazards and the selection of riskier applicants. Moreover, regulators must ensure the creation of a proper credit register to avoid adverse selection.

## **5.4 Suggestion for Further Research**

This study has limitations. For instance, it only investigates how overall NPLs affect bank performance. However, different loan types/categories influence NPLs, which consequently affect bank performance.

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