A STUDY OF THE FACTORS INFLUENCING BANK LOAN PERFORMANCE IN ZAMBIAN COMMERCIAL BANKS

By

Lamine Chibawe

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DECLARATION

I, Lamine Chibawe, do hereby declare that this work is my original work achieved through personal reading and research. This work has never been submitted to the University of Zambia or any other Universities. All sources of used and literature on related works previously done by others, used in the production of this Dissertation have been duly acknowledged. If any omission has been made, it is not by choice but by error.

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APPROVAL

This Dissertation by Lamine Chibawe is approved as a partial fulfilment of the requirements for the award of the Degree of Master of Business Administration - Finance.

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ABSTRACT

This study investigates the relationship between macroeconomic indicators and the Non-Performing Loan (NPL) Ratio in Zambia over a two-decade period (2003–2022/23). The research was motivated by the persistent challenge of high NPLs in Zambia's banking sector, which undermines financial stability, restricts credit availability, and stifles economic growth. In analysing data from the Bank of Zambia's Financial and Other Statistics Booklet and BOZ Annual Reports (2004–2023), the study assesses how key macroeconomic variables including inflation, GDP growth, interest rates, and exchange rate volatility- influence loan performance. Semi-structured interviews with six banking experts further explore institutional and borrower-level factors contributing to NPLs. Descriptive statistics and regression analysis disclose that high inflation and exchange rate volatility significantly increase loan defaults, while lower lending rates enhance repayment capacity. Both economic contractions and rapid GDP growth periods correlate with elevated NPL ratios, which suggests that macroeconomic conditions alone cannot fully explain NPL dynamics. The study also identifies critical non-macroeconomic drivers, such as weak credit monitoring, corruption, and inadequate loan recovery mechanisms.

The findings have important implications for policymakers and financial institutions. They highlight the need for a multi-pronged strategy combining macroeconomic stability, tighter regulatory oversight, and institutional reforms to curb NPLs. Recommendations include establishing dedicated loan recovery units, forming asset management corporations, and strengthening credit vetting through a national credit reference bureau. Ultimately, this study emphasizes that sustainable reductions in NPLs require sound economic policies and systemic improvements in governance, risk management, and legal enforcement to ensure long-term financial sector resilience in Zambia.

KEY WORDS: Macroeconomic Factors, Loan Performance, Commercial Banks, Non-Performing Loan Ratio, Zambia

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DEDICATION

I dedicate this dissertation to my family, whose unwavering support and encouragement have been my foundation throughout this journey. To my Dad, thank you for your endless love, sacrifices and belief in me. To my siblings, thank you for your motivation and companionship through all the highs and lows. Thank you to my friends and mentors who stood by me with patience and inspiration – this work is for you.

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LIST OF ABBREVIATIONS AND ACRONYMS

BCBS	BASEL COMMITTEE ON BANKING SUPERVISION
BOZ	BANK OF ZAMBIA
ECB	EUROPEAN CENTRAL BANK
GDP	GROSS DOMESTIC PRODUCT
IMF	INTERNATIONAL MONETARY FUND
LTD	LOAN TO DEPOSIT
NPL	NON-PERFORMING LOANS
NPL RATIO	NON-PERFORMING LOAN RATIO
SHG	SELF-HELP-GROUPS

CHAPTER 1 RESEARCH BACKGROUND

1.0 Introduction

The global financial crisis of 2008/2009 heightened scholarly and policymaker interest in credit risk, bank stability, and non-performing loans (NPLs) as indicators of loan defaults. This study examines the factors influencing the prevalence of NPLs in Zambia's commercial banking sector. This chapter provides an overview of the research background, problem statement, objectives, questions, significance, and scope.

1.1 Background to the Study

The banking industry is a major sector in Zambia and it plays a central role in the operation of the economy. Its history dates back to the early 1960s when the country gained its independence. At that time only a few banks were in operation of which all were foreign-owned. The banking industry remained relatively small and underdeveloped until the early 1980s when the government initiated a series of economic reforms aimed at liberalizing the industry and promoting competition. These reforms led to the establishment of new banks and increased competition which helped spur growth in the economy.

The banking sector in Zambia is integral to the economy, dating back to the 1960s when only a few foreign-owned banks operated. The sector remained underdeveloped until the 1980s when economic liberalization fostered competition and growth. The introduction of new financial products, such as savings and loan schemes and microfinance institutions, expanded access to financial services. However, the 1990s brought challenges, including high inflation and economic instability, prompting further reforms such as bank privatization. These measures stabilized the sector, leading to significant growth in the 2000s (Simatele, 2004).

In spite of this progress, the global financial crisis of 2008-2009 negatively impacted the industry, increasing NPLs and reducing lending. Although the sector has since recovered, challenges persist, affecting bank profitability. The factors influencing bank profitability are broadly classified into bank-specific, industry-specific, and macroeconomic factors, including bank size, capital ratios, deposit ratios, liquidity, and overhead expense management.

Between 2014 and 2017, Zambia's banking sector witnessed a 103% increase in NPLs, with interest rates declining from 14.8% in 2014 to 12.4% in 2017, surpassing the Bank of Zambia's suggested 10% threshold. The African Development Bank (2013) reported a decline in the

return on assets (ROA) of Zambian banks, from 6% in 2009 to 0.1% in 2011, due to elevated NPLs and inefficient spending in state-owned banks (Adeola & Ikpesu, 2017). Media reports have increased discourse on this issue, prompting calls for impartial verification. The Bankers Association of Zambia and BoZ have noted that rising defaults have led some commercial banks to suspend lending, while regulatory authorities urge stricter loan management (Daily Mail, 2017). The IMF's 2017 Financial System Stability Assessment attributed the rise in NPLs to economic slowdowns, declining copper prices, electricity shortages, restrictive monetary policy, fiscal arrears, and funding challenges. This has constrained access to capital, particularly for SMEs, exacerbating private credit market fragility (Institute of International Finance, 2016).

Despite the establishment of a Credit Reference Bureau and Credit Risk Scoring system in 2014, NPLs have persisted (Bank of Zambia, 2017). Prior studies emphasize the need to examine local factors contributing to loan defaults (Zablon & Sambiri, 2015). Examining this issue is a priority for regulatory agencies and scholars, as trends in international banking underscore the importance of enhancing capital adequacy and early warning systems (Angelini, 2018). The BCBS continues to refine recommendations in response to financial crises, aiming to improve stress tests and risk assessments.

NPLs constrain banks' lending capacity, potentially leading to economic stagnation, particularly in developing nations (Ahmad & Guohui, 2016). Extensive research links NPLs to banking sector stability (Bilgrami-Jaffery, 2015) and investigates macroeconomic (Machacek & Melecky, 2018) and internal bank-specific factors (Beck & Jakubik, 2013). However, findings on the primary drivers of loan defaults remain mixed.

1.2 Statement of the Problem

The persistence of NPLs remains a challenge for Zambia's financial sector, with fluctuating NPL ratios over time. The ratio rose from 15.8% in September 2010 to 6.1% in December 2014, increased to 12.9% in March 2018, and declined to 9.4% in September 2019 (Funyina & Muhanga, 2021). These fluctuations indicate ongoing instability in loan performance, straining bank balance sheets and limiting their ability to function as financial intermediaries.

If left unaddressed, rising NPLs may further destabilize the financial sector, reduce investor confidence, and restrict credit access for productive economic activities. Studies have examined the impact of macroeconomic factors on NPLs globally, in Africa, and in Zambia,

revealing mixed effects of GDP growth, unemployment, inflation, interest rates, and exchange rates (Mustafa & Maimunah Ali, 2019; Živko & Čolak, 2022; Anita et al., 2022; Anzagi, 2016; Wahome, 2021; Mumba, 2019; Funyina & Muhanga, 2021).

However, the specific effects of macroeconomic factors on NPLs in Zambia's banking sector remain unclear. Additionally, systemic challenges, including weak credit monitoring, regulatory gaps, and borrower-related issues, may exacerbate NPL risks. This study explores the relationship between key macroeconomic variables (inflation, GDP growth, lending rates, and exchange rates) and NPLs while addressing broader systemic challenges.

1.3 Research Objectives

1.3.1 General Objective

This research study aims to explore and evaluate the factors that contribute to non-performing loans (NPLs) in the Zambian financial sector.

1.3.2 Specific Objectives

The following are the specific objectives of this study:

1. To obtain expert opinions on the factors contributing to the increase in non-performing loans (NPLs) in banks.
2. To assess the effect of macroeconomic factors on NPL ratios.
3. To explore strategies aimed at reducing NPLs in Zambian commercial banks.

1.4 Research Questions

The research questions that will be addressed in this study are as follows:

1. What factors contribute to the increase in non-performing loans (NPLs) in banks?
2. What is the effect of macroeconomic factors on NPL ratios?
3. How can banks develop and implement effective strategies to prevent, manage, and reduce non-performing loans (NPLs) in their lending portfolios?

1.5 Scope of the Study

This study investigated the determinants of non-performing loans (NPLs) within the Zambian commercial banking subsector. Specifically, it examined the impact of macroeconomic variables including economic growth, inflation rates, interest rates, and exchange rate fluctuations on NPL ratios in Zambia. The study focused exclusively on expert opinions from

Zambian commercial banks, ensuring a nuanced understanding of the local banking environment. The data collected spanned two decades (2003-2023), providing a comprehensive national perspective on the trends and patterns influencing NPLs in Zambia.

1.6 Significance of the Study

This study aimed to enhance our understanding of the factors contributing to the rise in non-performing loans (NPLs), considering the key role of lending in banking operations. From a policy standpoint**,** this study provides information for policymakers, particularly within the Zambian financial regulatory framework. Understanding how macroeconomic factors such as inflation, interest rates, GDP growth, and exchange rate fluctuations affect loan performance can help in formulating more forceful financial policies. Policymakers can use these insights to create measures that stabilize the banking sector, mitigate risks of loan defaults, and ensure more consistent economic growth. The study's findings could inform the development of regulations that balance the interests of banks and borrowers, ensuring that both are protected in volatile economic environments.

Regarding banking practices, the research is highly relevant for financial institutions in Zambia. Banks rely on loan performance for profitability, and this study provides useful insights into how external economic conditions impact loan repayments. The findings could encourage banks to adopt more flexible and innovative risk management strategies, incorporating macroeconomic indicators into credit risk assessments and loan approval processes. In understanding how shifts in key economic variables influence loan defaults or performance, banks can develop more resilient lending practices, improve credit monitoring, and adjust interest rates or loan terms to better manage risk.

In terms of filling the gap in the body of knowledge, this research contributes to the existing literature by offering localized insights into how broader economic trends shape the performance of loans in developing countries, providing a foundation for future academic exploration and comparative studies in African banking markets.

From a policy perspective, this research aims to generate information that would assist policymakers, especially those involved in the Zambian financial regulatory framework, in addressing the challenges posed by NPLs. The study could contribute to the formulation of more targeted and effective financial policies. Policymakers will be equipped with a clearer understanding of the multiple causes of poor loan performance and how they affect lending

practices and loan repayment behavior. Consequently, they can devise measures aimed at stabilizing the banking sector, minimizing the risk of loan defaults, and promoting sustainable economic growth. The study's potential findings could be the basis for the development of regulations that ensure the protection of both banks and borrowers in a volatile economic environment, thereby creating a more resilient financial sector.

For the banking industry, this research is of relevance to financial institutions operating in Zambia. By highlighting the relationship between the different causes of loan default as well as the effect of macroeconomic indicators on loan performance, this study could encourage banks to adopt more thorough and flexible risk management practices. The findings may promote the integration of macroeconomic, borrower specific, legal and socioeconomic factors into the banks' credit risk assessment models, loan approval processes, and overall lending strategies. Banks can use this research to refine their credit monitoring systems, make informed adjustments to interest rates and loan terms, and ultimately improve their ability to manage risk and ensure financial stability.

From an academic standpoint, this study aims to fill a critical gap in the literature on the relationship between macroeconomic, borrower specific, legal-regulatory and other variables with loan performance, particularly in the context of developing countries. Although global studies have explored these dynamics, there is limited research on how such factors specifically affect the banking sector in Zambia and other African nations. The results of the current study may provide as foundation for future academic exploration and comparative studies in African banking markets, potentially influencing both theoretical and practical approaches to understanding non-performing loans in similar economic contexts.

This research investigation into the relationship between macroeconomic variables and loan performance within Zambia's banking sector represents an academically rigorous and professionally relevant undertaking that aligns precisely with the student's disciplinary focus in finance, banking, or economics. The study systematically examines critical operational challenges confronting financial institutions and regulatory authorities, particularly concerning the impact of inflation dynamics, interest rate fluctuations, and GDP growth patterns on loan repayment behaviors. Through this scholarly inquiry, the researcher develops substantive expertise in two fundamental domains: financial risk assessment methodologies and macroeconomic policy analysis - both of which are essential competencies for comprehending banking sector stability mechanisms.

The investigation extends beyond theoretical conceptualization to cultivate applied analytical proficiencies, including financial data interpretation, regulatory framework analysis, and evidence-based decision-making. These transferable skills hold particular value for professional trajectories in commercial banking operations, financial advisory services, or macroeconomic policy formulation. The research design intentionally bridges academic scholarship with practical banking sector applications, thereby enhancing both the student's conceptual understanding and professional preparedness within the financial services industry. This dual focus on theoretical knowledge and practical application ensures the study's relevance for both academic advancement and career development in financial sector professions.

1.7 Limitations

1.7.1 Objective 1: Expert Opinions

A limited sample size of experts interviewed (six experts from three selected banks), which may not be representative of the entire banking industry in Zambia. Potential biases in expert opinions, as may be influenced by their personal experiences, bank policies, or individual perspectives.

1.7.2 Objective 2: Macroeconomic Factors

Reliance on secondary data sources (e.g., Bank of Zambia's Financial and Other Statistics Booklet and BOZ Annual Reports), which may have limitations in terms of data quality, accuracy, or completeness.

There was over focus on a limited set of macroeconomic factors, which may not have captured the full range of influences on NPL ratios.

1.7.3 Objective 3: Strategies to Reduce NPLs

Limited scope of strategies explored, which may not be exhaustive or representative of all possible approaches.

1.7.4 Methodological Limitations

Sampling bias: The study may be limited to a specific subset of banks or experts, which may not be representative of the entire banking industry in Zambia.

Data quality issues: The study relies on secondary data sources, which may be subject to errors, inconsistencies, or biases.

Limited generalizability: The findings may not be generalizable to other countries, banking systems, or economic contexts.

1.7.5 Practical Limitations

Time and resource constraints: The study was limited by time and resource constraints, which could have restricted the scope, depth, and quality of the research.

1.8 Thesis Outline

The remainder of this thesis is organized as follows:

- Chapter 2 presents the literature review, which places the problem of loan defaults and non-performing loans (NPLs) in the context of theory and existing empirical research on the causes of these problems and possible solutions.
- Chapter 3 presents the Theoretical and Conceptual Frameworks
- Chapter 4 outline the Methodology that was Applied in the study
- Chapter 5 presents the research findings.
- Chapter 6 will conduct a Discussion of the Research findings
- Chapter 7 summarizes the conclusions and policy implications of the study.

CHAPTER 2 LITERATURE REVIEW

2.0 Introduction

This chapter presents the Empirical Studies that have been conducted on the causes of loan default and the strategies and policies that have been proposed to mitigate them. The chapter will systematically review research conducted at global, African and Zambian level. This will be done to acquaint the reviewer with the key findings, so as to identify the potential methodological and knowledge gaps that could be filled by the current research.

2.1 Review of Empirical Studies

2.1.1 Global Perspective

The literature on non-performing loans (NPLs) extensively explores their determinants and relationship with macroeconomic and bank-specific factors across various economic and organizational contexts.

Louzis, Vouldis, and Metaxas (2012) investigate the determinants of NPLs in the Greek banking sector, focusing on mortgage, business, and consumer loans. The authors find that macroeconomic variables, such as GDP, unemployment, interest rates, and public debt, significantly influence NPLs across all loan categories. Additionally, bank-specific factors, particularly management quality, play a critical role. Notably, non-performing mortgages are the least responsive to macroeconomic changes. However, the study is limited to Greece, which restricts its generalizability. It is therefore need to explore whether these findings apply to other economies, particularly those with different banking systems and regulatory frameworks. Moreover, the study does not examine the role of institutional factors, such as governance or corruption, which could provide deeper insights into NPL determinants.

Messai and Jouini (2013) analyze NPL determinants in Italy, Greece, and Spain during 2004–2008. The authors find that NPLs are negatively correlated with GDP growth and bank profitability, and positively correlated with unemployment, loan loss reserves, and real interest rates. Macroeconomic factors are found to have a stronger impact than bank-specific variables. However, the study is limited to three Eurozone countries during a specific crisis period. Future research could expand the geographic and temporal scope to include non-Eurozone countries and periods of economic stability. Additionally, the study does not explore the role of institutional or regulatory factors, which could provide a more comprehensive understanding of NPL drivers.

Beck, Jakubik, and Piloiu (2013) extended this analysis globally across 75 countries, finding that GDP growth, share prices, exchange rates, and lending interest rates significantly influence NPLs, with the effects of share prices and exchange rates varying based on specific country contexts, such as the extent of foreign exchange lending or the size of stock markets relative to GDP. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Klein (2013) examines NPLs in Central, Eastern, and South-Eastern Europe (CESEE) from 1998 to 2011. The study finds that macroeconomic conditions, such as GDP growth, unemployment, and inflation, are the primary drivers of NPLs. Bank-specific factors have limited explanatory power. The paper also highlights strong feedback effects between NPLs and macroeconomic performance, suggesting that high NPLs hinder economic recovery. Despite these insights, the study does not explore the role of institutional or governance factors. Further research could investigate how institutional quality and regulatory frameworks influence NPLs in the CESEE region.

Makri, Tsagkanos, and Bellas (2014) analyze NPL determinants in the Eurozone from 2000 to 2008. The authors find strong correlations between NPLs and macroeconomic variables (such as GDP growth, public debt, unemployment) as well as bank-specific factors (e.g., capital adequacy ratio, return on equity). Public debt and unemployment are particularly significant. However, the study is limited to the pre-crisis period, and its findings may not apply to post-crisis or pandemic contexts. Future research could explore how NPL determinants have evolved in response to recent economic shocks. Additionally, the study does not examine the role of institutional or governance factors.

Skarica (2014) examines NPL determinants in seven Central and Eastern European (CEE) countries from 2007 to 2012. The study finds that real GDP growth is the primary driver of NPLs, with inflation and unemployment also playing significant roles. The paper highlights the challenges faced by central banks in balancing expansionary monetary policy with inflation control. However, the study focuses on a specific region and time period, limiting its generalizability. Further research could explore NPL determinants in other emerging markets and during periods of economic stability. Additionally, the study does not investigate the role of institutional or governance factors.

Quang and Nhi (2017) identified a consistent relationship between macroeconomic factors and NPL levels in Vietnamese commercial banks, noting that unemployment and GDP growth

positively influence NPLs, while inflation's impact varies with economic irregularities. Yet, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Mazreku et al. (2018) studied transition economies and found GDP growth and inflation to be negatively correlated with NPLs, whereas unemployment was positively associated. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Koju, Koju, and Wang (2018) focused on Nepalese commercial banks and discovered that NPLs are positively related to inefficiency, asset size, and the export-to-import ratio but negatively associated with GDP growth, capital adequacy, and inflation, highlighting low economic growth as a key driver of high NPLs. Nevertheless, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Rachman et al. (2018) analyze bank-specific factors affecting NPLs in Indonesia from 2008 to 2015. The authors find that higher profitability and credit growth reduce NPLs, as profitable banks can afford better credit management practices. The study emphasizes the importance of maintaining profitability and credit supply to minimize loan defaults. Nonetheless, the study is limited to Indonesia, and its findings may not apply to other developing countries. Future research could explore the role of macroeconomic and institutional factors in influencing NPLs in similar contexts.

Vaicondam et al. (2019) examine the impact of inflation, unemployment, and interest rates on NPLs in Malaysia from 2009 to 2018. The authors find that all three factors significantly influence NPLs, with unemployment having the strongest impact. Even so, the study focuses exclusively on macroeconomic factors and does not explore bank-specific or institutional determinants. Further research could provide a more comprehensive analysis by including these variables.

Yilmaz (2019) explores NPL determinants in emerging markets from 2000 to 2013. The authors find that economic growth, inflation, economic freedom, and bank profitability reduce NPLs, while unemployment, public debt, and financial crises increase NPLs. Nonetheless, the study does not examine the role of non-economic factors, such as political instability or natural disasters, which could provide deeper insights into NPL drivers in emerging markets.

In Malaysia, Mustafa and Maimunah Ali (2019) used ARDL modeling to confirm that GDP growth negatively impacts NPLs, while unemployment has a positive effect, with inflation showing no significant correlation. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Kozarić and Dželihodžić (2020) examined Bosnia and Herzegovina and emphasized that better macroeconomic conditions improve credit quality and financial stability, showing that NPLs decrease with GDP growth but rise with unemployment and inflation. Yet, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Karadima and Louri (2021) investigate NPL determinants in Greece from 2003 to 2020. The authors find that macroeconomic factors, particularly public debt and fiscal balance, significantly influence NPLs. The study highlights the long-term impact of fiscal expansion on NPLs. However, the study is limited to Greece, and its findings may not apply to other economies. Further research could explore the role of fiscal and monetary policies in influencing NPLs in different contexts.

Kepli et al. (2021) further explored the Malaysian banking sector, demonstrating that exchange rates positively affect NPLs in the long run, whereas industrial production and money supply exert a negative impact. Inflation was found to be insignificant in this context. Yet, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Baş and Kara (2021) analyzed Turkish banking data, concluding that rising interest rates and total loan volumes significantly increase NPLs in both short and long terms. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Ferreira (2022) analyzes NPL determinants in 80 countries from 1999 to 2019. The authors find that economic growth, bank profitability, and market stability reduce NPLs, while high bank costs and regulation increase NPLs. The study highlights the importance of promoting economic growth to reduce NPLs. Nevertheless, the study does not explore the role of non-economic factors, such as governance or corruption, which could provide a more comprehensive understanding of NPL drivers.

Similarly, Džidić, Živko, and Čolak (2022) found in Bosnia and Herzegovina that GDP growth reduces NPLs, while rising unemployment and consumer prices increase them. In spite of this, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Anita et al. (2022) expanded the analysis to the SAARC countries, establishing that GDP, sovereign debt, inflation, and money supply are negatively associated with NPLs, whereas the government budget balance has a positive relationship. Nonetheless the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Khan et al. (2023) examine NPL determinants in Islamic and conventional banks in Bangladesh from 2010 to 2021. The authors find that bank profitability, size, and efficiency reduce NPLs, while inflation, unemployment, and exchange rates increase NPLs. The study highlights differences between Islamic and conventional banks. In spite of this, the study is limited to Bangladesh, and its findings may not apply to other countries. Further research could explore NPL determinants in other Islamic banking systems.

Salas et al. (2024) analyze NPL determinants in 1,631 banks across 111 countries from 2007 to 2021. The authors find that bank size, profitability, unemployment, and interest rates significantly influence NPLs. Yet, the study does not explore the role of non-economic factors, such as political instability or natural disasters, which could provide deeper insights into NPL drivers.

Added to this, Smith (2024) emphasized the importance of understanding the relationship between economic conditions and NPLs for forecasting financial stability risks. Economic recessions and rising unemployment are particularly critical in increasing NPL levels, underlining their role as indicators of asset quality and systemic health. Nonetheless, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

2.1.2 African Perspective

Gezu (2014) analyzed NPL determinants in Ethiopian commercial banks using panel data from 2002 to 2013, employing a fixed-effect model to identify relationships between variables. The study revealed that even though loan-to-deposit (LTD) ratio positively influenced NPLs, inflation had a negative but insignificant effect. Nevertheless, bank profitability measured by return on equity (ROE), capital adequacy ratio, and lending rates exhibited a negative and

statistically significant relationship with NPLs, while profitability measured by return on assets (ROA) and effective tax rates had a significant positive impact. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Nyong'o (2014) investigates the relationship between credit risk management and NPLs in Kenyan commercial banks. The study finds that most banks in Kenya have sound credit risk management systems, which help reduce loan defaults and NPLs. Senior management plays a critical role in developing policies for identifying, measuring, monitoring, and controlling credit risk. The study also emphasizes the importance of considering future economic conditions when assessing credit portfolios. In spite of this, the study is limited to Kenya and does not explore the role of macroeconomic or institutional factors in influencing NPLs. Future research could expand the scope to include other African countries and examine the interplay between credit risk management and external economic conditions.

Similarly, Sheefeni (2015) focused on macroeconomic determinants of NPLs in Namibia using quarterly data from 2001 to 2014. Through unit root and co-integration tests, the study established long-term relationships between NPLs and variables such as GDP, interest rates, and inflation. The findings also showed unidirectional causality from interest rates to NPLs. Nonetheless, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Fofack (2015) examines the causes of NPLs in Sub-Saharan Africa during the 1990s banking crises. The study finds that macroeconomic volatility, such as GDP growth, real exchange rate appreciation, and real interest rates, significantly drives NPLs. The results highlight the vulnerability of undiversified African economies to external shocks. The study also reveals differences between CFA and non-CFA countries, with the latter experiencing higher financial costs. However, the study focuses on a specific crisis period, limiting its applicability to current economic conditions. Future research could explore how NPL determinants have evolved in response to recent economic shocks, such as the COVID-19 pandemic.

Anzagi (2016) investigated macroeconomic influences on NPLs in Kenya's commercial banks between 2012 and 2017. Employing panel regression and diagnostic tests, the study found a significant negative relationship between inflation and NPLs, whereas lending interest rates positively affected NPLs. The research emphasized the importance of anticipating price level fluctuations to minimize defaults. Nevertheless, the study does not explore the role of

institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Muriithi, Waweru, and Muturi (2016) analyze the effect of credit risk on the financial performance of Kenyan commercial banks. The study finds that credit risk, measured by capital-to-risk-weighted assets, loan loss provisions, and asset quality, negatively impacts financial performance. The authors recommend robust credit risk management practices to mitigate these effects. However, the study is limited to Kenya and does not explore the role of macroeconomic or institutional factors. Future research could investigate how external economic conditions and governance frameworks influence credit risk and NPLs in other African countries.

Mpofu and Nikolaidou (2018) study the determinants of credit risk in the Central African Economic and Monetary Community (CEMAC) banking system. The authors find that factors such as the loan-to-asset ratio, return on assets, and loan-to-deposit ratio increase NPLs. The study highlights the importance of bank-specific factors in driving credit risk. Yet, it does not explore the role of macroeconomic or institutional factors. Future research could examine how external economic conditions and governance frameworks influence credit risk in the CEMAC region.

Makori (2018) examines the relationship between credit risk management and NPLs in Kenyan commercial banks. The study finds that credit risk identification, assessment, and monitoring positively influence loan performance. The authors recommend robust credit risk management practices to reduce NPLs. However, the study is limited to Kenya and does not explore the role of macroeconomic or institutional factors. Future research could investigate how external economic conditions and governance frameworks influence credit risk management and NPLs in other African countries.

Mburu, Mwangi, and Muathe (2020) analyze the effect of credit management practices on loan performance in Kenyan commercial banks. The study finds that debt collection policies and lending policies significantly improve loan performance, while client appraisal has no significant effect. The authors recommend regular evaluation and updating of credit management practices to mitigate credit risk. On the other hand, the study is limited to Kenya and does not explore the role of macroeconomic or institutional factors. Future research could examine how external economic conditions and governance frameworks influence credit management practices and NPLs in other African countries.

Wahome (2021) expanded on this by examining the effect of macroeconomic volatility on NPL growth in Kenyan banks, identifying interest rates and foreign exchange rates as significant positive predictors. In contrast, GDP growth showed a negative relationship with NPLs. Regression analysis further underscored the significant impact of interest rates and forex rate volatility on loan performance. Nevertheless, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Ndichu (2021) investigates the effect of credit management practices on loan performance in self-help groups (SHGs) in Kenya. The study finds that credit terms, client appraisal, credit risk control, and credit collection policies significantly improve loan performance. The authors recommend robust credit management practices to reduce loan defaults. In spite of this, the study is limited to SHGs in Kenya and does not explore the role of macroeconomic or institutional factors. Additional research may examine how external economic conditions and governance frameworks influence credit management practices and NPLs in other African contexts.

Karanja and Simiyu (2022) examine the impact of credit management practices on loan performance in Kenyan microfinance banks. The study finds that credit policy, client appraisal, collection policy, credit conditions, and credit risk management significantly improve loan performance. The authors recommend effective credit risk management practices to mitigate loan defaults. Yet, the study is limited to microfinance banks in Kenya and does not explore the role of macroeconomic or institutional factors. Future research could investigate how external economic conditions and governance frameworks influence credit management practices and NPLs in other African countries.

Agaba, Tamwesigire, and Eton (2022) study the relationship between credit risk management practices and loan performance in Ugandan commercial banks. The study finds that credit risk identification, assessment, monitoring, and control significantly improve loan performance. The authors recommend adopting the 5Cs of credit management to reduce NPLs. Nevertheless, the study is limited to Uganda and does not explore the role of macroeconomic or institutional factors. More research is needed to examine how external economic conditions and governance frameworks influence credit risk management and NPLs in other African countries.

Obae and Jagongo (2022) analyze the effect of credit management practices on loan performance in Kenyan commercial banks. The study finds that debt collection and client

appraisal significantly improve loan performance. The authors recommend adopting robust credit management practices to reduce NPLs. Nonetheless, the study is limited to Kenya and does not explore the role of macroeconomic or institutional factors. Future research could investigate how external economic conditions and governance frameworks influence credit management practices and NPLs in other African countries.

In Nigeria, Aliyu (2023) used an autoregressive distributed lag (ARDL) error correction model to analyze the influence of macroeconomic variables on NPLs from 1990 to 2021. The study highlighted that factors such as tax revenue, recurrent expenditures, and real interest rates could resolve long-term NPL issues, while mismanagement of money supply and exchange rates could exacerbate loan defaults. However, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Kamun and Olweny (2023) examined the role of macroeconomic indicators on NPLs of public listed banks across East Africa between 2006 and 2020. Their correlational research revealed that interest rates, money supply, and bank size positively influenced NPLs, while inflation had an insignificant effect. The study concluded that effective management of these variables could mitigate NPL issues. Likewise, Kigamwa and Mutwiri (2023) explored macroeconomic factors in Kenya's banking industry, finding positive correlations between real interest rates and NPLs, alongside a negative relationship with inflation. The study recommended stabilizing exchange markets, controlling inflation through fiscal policies, and managing interest rates to curb NPL growth. On the other hand, the study does not explore the role of institutional or governance factors, which could provide a more comprehensive understanding of NPL drivers.

Ahiase et al. (2024) investigate the influence of macroeconomic cyclical indicators and country governance on NPLs in African countries. The study finds that debt-to-GDP ratio, unemployment, regulatory quality, government effectiveness, and inflation significantly influence NPLs. The authors highlight the importance of good governance in mitigating the adverse effects of macroeconomic volatility on NPLs. Conversely, the study does not explore the role of bank-specific factors. Future research could examine how bank-specific factors interact with macroeconomic and governance factors to influence NPLs.

Juma and Jemaiyo (2025) review the literature on the impact of NPLs on the financial performance of Kenyan commercial banks. The study finds an inverse relationship between NPLs and bank performance, emphasizing the importance of a diversified loan portfolio. The authors highlight the mediating role of lending rates in this relationship. Yet, the study is

limited to a review of existing literature and does not provide new empirical evidence. Future research could conduct empirical studies to validate these findings and explore the role of macroeconomic and institutional factors.

2.1.3 Zambian Perspective

Dixon, Ritchie, and Siwale (2006) conducted a study on loan officers and loan delinquency in Zambia, focusing specifically on the Christian Enterprise Trust of Zambia (CETZAM). Their research examined the crisis at CETZAM and its practices for managing loan defaults. They found that loan officers faced intense hierarchical pressures and employed problematic methods to enforce repayments, which, in turn, were stressful and potentially harmful to CETZAM's long-term viability. The approach adopted by CETZAM was seen as detrimental to maintaining client loyalty and trust, jeopardizing both short-term and long-term survival of the institution.

Mumba (2019) investigated the determinants of loan defaults in Zambia's financial institutions from the perspective of bank employees. It employed a multistage cluster sampling technique, selecting 11 banks and two microfinance institutions (MFIs), and gathered responses from 78 credit department staff. The study identified several critical factors at the bank level that contribute to loan defaults, including inadequate supervision of clients, poor loan appraisal processes, insufficient client training, lack of repayment reminders, lenient penalties for defaulters, delayed loan disbursements, non-compliance with credit policies, and deficiencies in staff training and competence. Among these, the most significant drivers of loan defaults were found to be insufficient client supervision, lack of repayment reminders, and inadequate client training. On a broader scale, the research indicated that macroeconomic conditions such as high interest rates, unfavorable exchange rates, and high unemployment levels were the most significant contributors to loan defaults. The study's correlation analysis indicated that macroeconomic factors had a more substantial impact on loan defaults than internal bank-specific factors, suggesting that employees perceive broader economic conditions as more influential than internal bank issues.

Bwalya (2019) examined the challenges faced by teachers in Lusaka with respect to utilizing microcredit. The research aimed to address high levels of debt and increasing reliance on borrowing among teachers. The findings indicated that teachers successfully used microcredit to fund their own and their families' education, and to start businesses, thereby contributing to

personal and economic growth. Teachers reported improvements in living standards through asset acquisition and property development. Additionally, microloans were beneficial in managing emergencies such as medical and funeral expenses, highlighting the quick processing time of MFIs. However, the study also revealed challenges, such as concerns over high and fluctuating interest rates, leading many teachers to feel excessively indebted. A substantial number of teachers (72%) took additional loans from other MFIs, and not all achieved their financial goals, with some businesses experiencing losses and funds being consumed rather than invested. Despite these challenges, Bwalya concluded that the positive impacts of microcredit outweighed the negatives, underscoring its significant contribution to the Zambian economy.

Chikweti (2020) explored the risk-return trade-off and loan default considerations in lending decisions through a case study of Whence Financial Services. The research aimed to construct a decision-making model to address inconsistencies in lending practices. The study used various data collection methods, including documentary reviews, surveys, interviews, and workshops. The findings indicated that dysfunctions in lending were primarily due to risk considerations exacerbated by information asymmetry between lenders and borrowers. The proposed decision-making model incorporates risk management measures to address this asymmetry. The results also identified a default risk of approximately 36%, significantly higher than the internationally accepted 2% for microfinance institutions. To mitigate this risk, the study recommended increased government and central bank involvement in regulating and monitoring microfinance startups. It was proposed that such oversight would help manage risk exposure, improve institutional credibility, and foster stakeholder confidence, which are crucial for resolving the challenges posed by information asymmetry.

Funyina and Muhanga (2021) adds further depth to this discussion. Their research investigates bank-specific and macroeconomic determinants of non-performing loans (NPLs) in Zambia, using a dynamic panel data approach. Their findings indicate that the depreciation of the Kwacha increases NPLs in big and foreign banks but lowers them in small and domestic banks. They also note that inflation impacts small and domestic banks but not big and foreign ones. Additionally, higher fiscal deficits and interest rates contribute to higher NPLs, while higher GDP growth, copper prices, credit-to-GDP ratio, and inflation reduce NPLs. The study underscores the impact of both bank-specific and macroeconomic variables on NPLs but highlights the need for a more granular analysis of individual banks and their specific risk management practices. The study's reliance on aggregate data across 16 banks may obscure

individual differences and evolving banking practices, suggesting a need for further research that delves into these specific dynamics.

Mahlangu and Chowa (2022) investigated the causes and challenges of non-performing loans (NPLs) in Zambia's banking sector using a quantitative approach. Their study, which employed a descriptive survey design and simple random sampling of 78 respondents, highlighted several major factors contributing to NPLs. These included economic downturns, high interest rates, loss of stable income, and poor credit collection and monitoring practices. The research found that moral hazard and imprudent lending by bank staff and owners, along with high unemployment rates, were significant contributors to NPLs. The study recommended that banks improve client information management, strengthen credit policies, and ensure continuous staff training to enhance risk management processes. Proper credit assessments and risk management techniques were suggested to minimize the bank's exposure to high levels of NPLs.

2.2 Lessons Learnt

The consolidation of the literature on non-performing loans (NPLs) presents a broad consensus on the influence of macroeconomic and bank-specific factors on loan performance, though regional differences and methodological variations lead to varied findings. Multiple studies consistently identify GDP growth, unemployment, and inflation as central determinants of NPLs, yet the direction and magnitude of their effects end to vary. These inconsistencies expose the gaps that necessitate further research to refine the current knowledge on the factors that influence NPLs in different contexts.

Across numerous studies, macroeconomic factors such as GDP growth, unemployment, interest rates, and inflation consistently are important determinants of non-performing loans (NPLs). For instance, Louzis et al. (2012), Messai and Jouini (2013), and Beck et al. (2013) all observe the strong influence of GDP growth and unemployment on NPLs, a finding that is supported in regional studies from Africa (including Sheefeni, 2015; Wahome, 2021) and Asia (such as Quang and Nhi, 2017; Khan et al., 2023). Unemployment, in particular, is universally found to have a positive correlation with NPLs, as higher unemployment reduces borrowers' ability to repay loans.

In addition, bank-specific factors such as profitability, management quality, and credit risk management practices are frequently emphasized. Studies like Rachman et al. (2018) and Nyong'o (2014) reiterate how profitability and strong credit risk management can reduce

NPLs. Capital adequacy and loan-to-deposit ratios are also cited as important factors (as observed by Makri et al., 2014; Mpofu and Nikolaidou, 2018).

Nevertheless, many studies acknowledge limitations in their geographic scope and timeframes, often focusing on specific regions or periods, which restricts the generalizability of their findings. A recurring theme across these studies is the lack of exploration into institutional factors such as governance, corruption, and regulatory frameworks, with Beck et al. (2013) and Ferreira (2022) explicitly noting the absence of governance-related variables in their analyses. Moreover, several studies, including Klein (2013) and Skarica (2014), highlight the bidirectional relationship between NPLs and macroeconomic performance, where high NPLs hinder economic recovery, and poor economic conditions exacerbate NPLs.

In spite of these similarities, there are evident contradictions in the findings. For example, the effect of inflation on NPLs is inconsistent across studies. Anzagi (2016) and Koju et al. (2018) find a negative relationship, suggesting that inflation reduces the real value of debt, making it easier for borrowers to repay. In contrast, Kozarić and Dželihodžić (2020) and Yilmaz (2019) report a positive relationship, arguing that inflation increases borrowing costs and reduces repayment capacity. Similarly, the relative importance of bank-specific versus macroeconomic factors varies. While some studies, such as Messai and Jouini (2013) and Klein (2013), find that macroeconomic factors dominate in explaining NPLs, others, like Rachman et al. (2018) and Nyong'o (2014), emphasize the importance of bank-specific factors such as profitability and credit management practices.

The impact of exchange rates on NPLs also varies by context. Kepli et al. (2021) find that exchange rates positively affect NPLs in Malaysia, while Beck et al. (2013) note that the effect depends on the extent of foreign exchange lending in a country. Additionally, the role of public debt and fiscal policies in influencing NPLs is contested. Studies like Karadima and Louri (2021) highlight the significant influence of public debt and fiscal policies on NPLs, particularly in crisis-affected economies like Greece, whereas Ferreira (2022) does not find public debt to be a major driver of NPLs in their global sample.

These inconsistencies call attention to the need for further research to clarify the precise role of macroeconomic and institutional factors in influencing NPLs. The mixed findings from prior studies suggest that country-specific factors, banking sector dynamics, and regulatory environments contribute to variations in NPL determinants. Understanding these interactions

is critical for designing effective policies and risk management strategies that mitigate loan defaults.

Regional differences further complicate the understanding of NPL determinants. Studies in developed economies, such as those focusing on the Eurozone, often emphasize the role of macroeconomic stability and regulatory frameworks. In contrast, studies in developing economies, such as those in Sub-Saharan Africa and South Asia, highlight the vulnerability to external shocks and the importance of governance. These regional disparities underscore the need for context-specific analyses and policies.

Studies from the Zambian context collectively indicate that while there is agreement on the significance of institutional practices and macroeconomic conditions, there are notable differences in emphasis and findings that show the complexity of the issue. They generally depict an active interaction between internal practices, external economic factors, and borrower-specific challenges in determining the likelihood of loan default.

Dixon, Ritchie, and Siwale (2006) demonstrated the importance of effective risk management and client relations in reducing the incidence of loan default. Chikweti (2020) complements this perspective and identifies information asymmetry between lenders and borrowers as a key factor contributing to high default rates. Thus, part of credit risk management should involve reducing information asymmetry through robust regulatory frameworks and greater information transparency with the aim of mitigating default risks.

Mumba (2019), on the other hand, acknowledges the impact of internal bank practices on defaults and yet also notes the influence of macroeconomic conditions, such as high interest rates and unemployment, as significant factors. This dual focus highlights how both internal practices and external economic conditions interact in influencing loan default rates. Mahlangu and Chowa (2022) support Mumba's findings regarding the impact of economic downturns, high interest rates, and unemployment on NPLs. Mahlangu and Chowa also emphasize the role of poor credit collection and monitoring practices, which align with Mumba's identification of internal factors like inadequate client supervision and training. This convergence suggests that addressing both institutional inefficiencies and broader economic conditions is crucial for managing NPLs effectively.

Research on borrower characteristics and their impact on loan defaults provides additional insights into the complex nature of microfinance in Zambia. Bwalya (2019) also reveals challenges such as high interest rates, indebtedness, and the misuse of funds. The study

suggests that while microcredit has significant benefits, the associated risks and challenges require careful management to ensure its effectiveness. The mismanagement/misuse of credit may increase the likelihood of defaulting on a loan. Unlike the other studies reviewed, this investigation places the responsibility for loan default on the individual borrower.

Several disparities emerge when comparing the findings of different studies. For instance, Mumba (2019) and Mahlangu and Chowa (2022) both emphasize the role of macroeconomic factors in loan defaults, such as high interest rates and unemployment. However, while Mumba's study suggests that macro-level factors outweigh bank-specific issues, Bwalya (2019) presents a more varied view by highlighting that micro-level bank-related factors such as high interest rates and flexible loan terms significantly affect borrower experiences.

2.3 Critique of Reviewed Literature

The existing literature on non-performing loans (NPLs) reveals several contradictions and research gaps, particularly in the interplay between macroeconomic, bank-specific, and institutional factors. These inconsistencies and gaps highlight the complexity of NPL determinants and underscore the need for a more holistic approach to understanding them.

A synthesis of the contradictions and gaps in the literature is presented below, organized thematically.

1. Macroeconomic Variables

The impact of macroeconomic variables on NPLs is not uniform across studies, leading to contradictions in findings. For instance, while most studies (e.g., Louzis et al., 2012; Messai and Jouini, 2013; Skarica, 2014) find that GDP growth negatively impacts NPLs, some studies (e.g., Quang and Nhi, 2017) suggest that GDP growth can positively influence NPLs in certain contexts.

Similarly, the impact of inflation on NPLs is inconsistent. Yilmaz (2019) finds that inflation reduces NPLs, while Skarica (2014) and Kozarić and Dželihodžić (2020) find that inflation increases NPLs.

Interest rates also show mixed effects. Most studies (such as Vaicondam et al., 2019; Baş and Kara, 2021) find that higher interest rates increase NPLs, while Gezu (2014) finds that lending rates have a negative relationship with NPLs in Ethiopia.

2. Bank-Specific Factors

Contradictions also exist in the role of bank-specific factors. For example, while Rachman et al. (2018) and Ferreira (2022) find that higher profitability reduces NPLs, Gezu (2014) finds that return on assets (ROA) positively impacts NPLs in Ethiopia.

3. Institutional Factors

The role of governance and institutional factors is another area of contradiction. Ahiase et al. (2024) highlight the importance of good governance in reducing NPLs, but many studies (e.g., Louzis et al., 2012; Messai and Jouini, 2013) do not explore the role of governance at all.

2.4 Research Gaps

One significant research gap is the lack of context-specific studies. Many studies focus on specific regions or periods, limiting their generalizability.

Additionally, most studies reviewed focus on economic variables, such as GDP growth, inflation, and interest rates, but neglect non-economic factors, such as borrower characteristics and prevailing regulations.

There is also a need for more research on credit risk management practices. Though studies like Nyong'o (2014) and Makori (2018) emphasize the importance of credit risk management, there is limited research on how specific practices, such as credit scoring models or digital lending platforms, influence NPLs.

2.5 Methodological Gaps

Most studies focus on short-term determinants of NPLs, but there is limited research on the long-term effects of macroeconomic and institutional factors.

Another methodological gap is the limited exploration of feedback effects. Klein (2013) and Ahiase et al. (2024) highlight the feedback effects between NPLs and macroeconomic performance, but there is limited research on how these feedback loops operate in the Zambian banking sector.

2.6 Theoretical Framework

2.6.1 Credit Risk Theory

Credit Risk Theory examines the likelihood of borrowers defaulting on their loan obligations due to various risk factors. It provides a framework for analyzing how lenders assess, manage, and mitigate the risks associated with lending, particularly in the context of fluctuating economic conditions (Bank for International Settlements, 2000; Basel Committee on Banking Supervision, 2017)). At its core, the theory is rooted in the idea that credit risk arises from the uncertainty surrounding a borrower's ability or willingness to repay a loan. This uncertainty is influenced by both borrower-specific factors, such as financial health and credit history, and external factors, such as macroeconomic conditions. Through a systematic analysis of these factors, Credit Risk Theory helps financial institutions predict and manage the potential for loan defaults, which directly impacts the prevalence of Non-Performing Loans (NPLs) (Bank for International Settlements, 2000).

Key components of the theory include borrower-specific risk factors, macroeconomic risk factors, systemic risk, and credit risk management strategies. Borrower-specific factors focus on the financial stability, credit history, and repayment capacity of individual borrowers, with lenders using tools like credit scoring models and financial statement analysis to assess these risks (CFA Institute, 2025).

Macroeconomic factors, on the other hand, emphasize the role of variables such as GDP growth, inflation, unemployment, interest rates, and exchange rate volatility in influencing borrowers' ability to repay loans. Systemic risk, which refers to risks affecting the entire financial system, such as economic recessions or financial crises, further amplifies credit risk by creating widespread economic instability (Bank for International Settlements, 2000).

Credit Risk Theory also highlights the importance of credit risk management strategies, including credit scoring models, loan diversification, collateral requirements, and loan monitoring and recovery mechanisms, which help financial institutions mitigate the risks associated with lending (CFA Institute, 2025).

When applied to the current investigation, Credit Risk Theory is particularly relevant for understanding the factors driving high NPL ratios in the commercial banking subsector. The Zambian economy has experienced significant macroeconomic volatility, including fluctuating GDP growth, high inflation, and currency depreciation, all of which have contributed to increased credit risk (Funyina and Muhanga, 2021). By applying Credit Risk Theory, the study

can analyze how these macroeconomic factors interact with internal bank practices to influence NPL ratios.

The first objective of the study is to establish the factors that lead to increased NPLs. Credit Risk Theory highlights the vital role of internal credit risk management practices in mitigating loan defaults. In applying Credit Risk Theory, the study can identify gaps in internal controls and risk management frameworks, providing recommendations for strengthening these areas to reduce NPLs.

The second objective focuses on assessing the effect of macroeconomic factors on bank loan performance. Credit Risk Theory underscores how external economic conditions directly impact borrowers' ability to repay loans. Macroeconomic variables such as GDP growth, inflation, unemployment, and exchange rate volatility are critical determinants of loan performance. Using Credit Risk Theory, the study can analyze the relationship between these macroeconomic factors and NPL ratios, providing insights into how economic shocks influence loan performance in Zambia.

The third objective is to propose strategies that can enhance bank loan performance. Credit Risk Theory provides a foundation for developing practical solutions to mitigate credit risk and improve loan performance. The theory can offer an all-inclusive set of strategies tailored to the Zambian context, helping banks and policymakers address the challenges associated with high NPLs.

2.7 Conceptual Framework

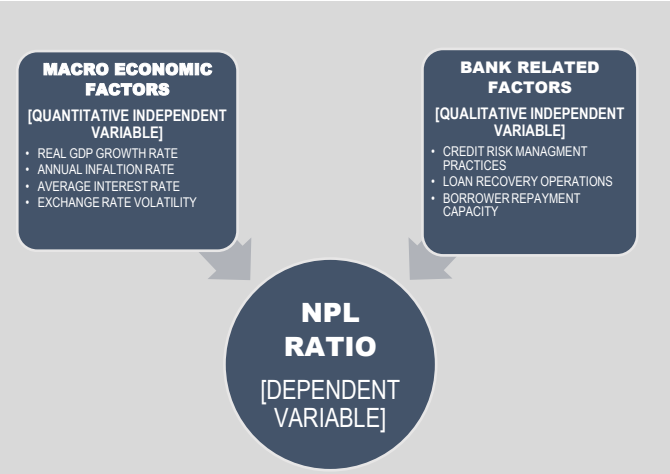
A conceptual framework provides a visual and explanatory representation of the key variables and their relationships in a study. The conceptual framework for the study, internal bank factors**,** macroeconomic factors, and their combined influence on Non-Performing Loan (NPL) ratios. The framework also highlights the strategies that can enhance bank loan performance. Figure 1 outlines this conceptual framework.

In the current study, the intention is to examine how macroeconomic factors and bank-related factors interact to influence the non-performing loan (NPL) ratio, with the NPL ratio serving as the key dependent variable. The study aims to explore how changes in macroeconomic variables such as Real GDP growth rate**,** annual inflation rate**,** average interest rate, and exchange rate volatility impact the ability of borrowers to repay loans, thereby affecting the NPL ratio. The Real GDP growth rate is expected to be explored for its potential link to economic conditions that may either foster or hinder loan repayment, as periods of economic

contraction might lead to higher NPLs, while growth could reduce defaults. The study will also examine how annual inflation might erode borrowers' purchasing power and increase the likelihood of defaults, in contrast to a more stable inflationary environment that could promote better loan performance. The influence of average interest rates on borrowers' repayment capacity will also be considered, with an expectation that higher rates may create repayment challenges, leading to more defaults. Additionally, the study will investigate how **exchange rate volatility** might contribute to fluctuations in loan performance, particularly in cases where borrowers' loans are denominated in foreign currencies, which could increase the default risk as the local currency depreciates.

On the other hand, the study will explore bank-related factors as qualitative influences that could further explain variations in the NPL ratio. These factors include the banks' credit assessment and monitoring processes, Loan recovery operations and borrower capacity to pay among others which are critical in determining loan quality and repayment likelihood. The study intends to analyze how banks' operational efficiency, loan recovery practices, and management strategies may affect their ability to mitigate the impact of macroeconomic challenges on loan performance. In particular, the study will examine whether banks with more robust risk management practices can better withstand macroeconomic pressures, potentially leading to lower NPL ratios compared to institutions with weaker operational frameworks.

Figure 1: CONCEPTUAL DIAGRAM FOR THE STUDY



Source: The Researcher, 2025

2.8 Operationalization of Hypotheses

Table 1 outlines the key variables for each specific objective, defining them through specific indicators and detailing the methods for measurement.

Table 1: OPERATIONALIZATION OF KEY VARIABLES

Type of Variable	**Key Variables**	**Definition/Indicators**	**Measurement/Method**
Dependent Variable	Bank Loan Performance	Percentage of Loans that are in default or close to being in default.	- Annual Non-Performing Loan (NPL) Rate: Annual percentage of total loans that are non-performing. - Loan delinquency data from banks. -Senior Loan Officers Analysis of bank loan performance.
Independent Variables	Annual GDP Growth Rate	Overall economic growth rate in the monetary amount of goods and services produced within the borders of the country.	- -IMF/World Bank Annual Economic Reports for Zambia.
	Annual Inflation Rate	The rate at which prices for goods and services rise, reducing purchasing power	IMF/World Bank Annual Economic Reports for Zambia.
	Annual Real Interest Rate	The lending interest rate adjusted for inflation.	IMF/World Bank Annual Economic Reports for Zambia.

	Year on Year (Y-O-Y) Exchange Rate Fluctuation	The monetary change in the value of the Zambian Kwacha against major currencies from one year to the next.	IMF/World Bank Annual Economic Reports for Zambia.

Type of Variable	**Key Variables**	**Definition/Indicators**	**Measurement/Method**
Dependent Variable	**Bank Loan Performance**	- **Net Non-performing Assets to Total Assets**: Percentage of non-performing assets relative to total assets. - **Non-performing Loans to Total Loans**: Ratio of NPLs to total loan portfolio. - **Allowance for Loan and Lease Losses to Total Loans**: Proportion of loan and lease losses relative to total loans. - **Allowance for Loan and Lease Losses to NPL**: Percentage of loan loss	BOZ annual financial statistics bulletin. BOZ Annual Report

		allowances set aside for non-performing loans.	
Independent Variables	**Annual GDP Growth Rate**	Overall economic growth rate in the monetary amount of goods and services produced within the country.	IMF/World Bank Annual Economic Reports for Zambia.
	Annual Inflation Rate	The rate at which prices for goods and services rise, reducing purchasing power.	IMF/World Bank Annual Economic Reports for Zambia.
	Annual Real Interest Rate	The lending interest rate adjusted for inflation.	IMF/World Bank Annual Economic Reports for Zambia.
	Year-on-Year (Y-O-Y) Exchange Rate Fluctuation	The monetary change in the value of the Zambian Kwacha against major currencies from one year to the next.	IMF/World Bank Annual Economic Reports for Zambia.

The conceptual and theoretical framework emerges directly from the literature review by reflecting the gaps and inconsistencies identified in previous studies on non-performing loans (NPLs). The literature review establishes that prior research has often examined macroeconomic factors and internal bank practices in isolation, which leads to fragmented perspectives into the determinants of loan performance. This necessitates a more integrated analytical approach, which is provided by the Credit Risk Theory and the conceptual framework.

The Credit Risk Theory arises from the emphasis in literature on the relationship between borrower-specific risks and external macroeconomic conditions. The theory provides a structured means of assessing how internal banking policies, such as credit risk management

strategies, interact with economic variables like GDP growth, inflation, and exchange rates to influence NPL ratios. The literature review has shown inconsistencies in prior findings on the impact of these macroeconomic factors. This giveS emphasis to the need for a theoretical foundation that can systematically explain their effects. Credit Risk Theory attends to this need by providing a coherent explanation of how financial institutions can anticipate and mitigate loan default risks through improved credit assessment, loan monitoring, and risk management practices.

Similarly, the conceptual framework emerges as a response to the literature's gaps in explaining the combined effect of internal and external factors on NPLs. While existing research has explored individual determinants, it lacks a comprehensive model that captures their interconnected influence. The conceptual framework bridges this gap by visually representing the relationships between macroeconomic conditions, internal bank strategies, and loan performance. It operationalizes the theoretical foundation provided by Credit Risk Theory, enabling a structured analysis of how banks can mitigate credit risk and improve loan repayment outcomes.

Thus, both the theoretical and conceptual frameworks are as essential tools for rectifying the deficiencies in the literature. The theoretical framework provides the foundation for explaining the mechanisms underlying credit risk and loan performance, while the conceptual framework offers a structured representation of these relationships, ensuring a systematic approach to examining the study's research objectives.

Hypotheses for Development

Dependent Variable: Bank Loan Performance (Annual NPL rate)

Independent Variable: Macroeconomic Factors

Hypothesis	**Rationale**
H_1: Higher GDP growth rates are negatively correlated to the Annual NPL rate.	Stronger economic growth typically leads to improved borrower income and business profitability, reducing the likelihood of defaults.

H_2: Higher Annual Inflation Rate are positively correlated to the Annual NPL rate.	Inflation erodes the purchasing power of borrowers, potentially making loan repayment more challenging.
H_3: Higher Annual Real Interest rates are positively correlated to the Annual NPL rate.	Increased interest rates result in borrowers having to pay higher amounts of money to service their loans. Under conditions where their income does not increase to match the interest rates, customers ae likely to default.
H_4: Higher Exchange Rate fluctuations positively correlated to the Annual NPL rate.	Exchange rate volatility can increase the cost of servicing foreign-denominated loans and reduce the value of borrowers' income if earned in local currency. This can lead to a higher likelihood of loan defaults.

These hypotheses provide a framework to investigate how macroeconomic conditions and external economic shocks influence loan defaults in the Zambian financial sector. The expected outcomes are given below:

Hypothesis	**Economic Indicator**	**Dependent Variable**	**Expected Relationship**
H_1	GDP Growth Rate	Annual NPL rate	Negative
H_2	Annual Inflation Rate	Annual NPL rate	Positive
H_3	Annual Real Interest Rates	Annual NPL rate	Positive
H_4	Y-O-Y Exchange Rate Fluctuation	Annual NPL rate	Positive

2.9 Chapter Summary

The body of research on non-performing loans (NPLs) highlights both areas of consensus and points of divergence, particularly concerning macroeconomic determinants, bank-specific influences, and regulatory factors**.**

A common finding across studies is that macroeconomic stability is a major factor in determining NPL levels. Research consistently indicates that economic contractions lead to higher loan defaults, whereas economic expansion improves repayment capacity. Likewise, inflation is widely recognized as a contributing factor to NPL growth, as it diminishes borrowers' real income. In addition, studies largely agree that bank-specific characteristics, such as weak management practices, excessive risk-taking, and inadequate credit monitoring, significantly contribute to rising NPL levels. Institutions with strong capital reserves are generally found to have lower default risks, reinforcing the importance of financial soundness. Moreover, regulatory inefficiencies are frequently associated with elevated NPL ratios, with studies emphasizing that stringent supervision, clear loan classification standards, and strong legal frameworks are critical in mitigating credit risks.

Despite these widely accepted conclusions, contradictions persist in the literature regarding the effects of interest rates, inflation, bank size, and government interventions. Though some studies argue that high interest rates contribute to increasing NPLs, others suggest they may curb excessive lending. Similarly, research on inflation presents mixed results, with some scholars proposing that moderate inflation could enhance debt servicing. The role of bank size also remains debated, as some studies assert that larger institutions benefit from superior risk management, whereas others contend they engage in riskier lending behaviors. Additionally, the impact of government interventions in managing NPLs is uncertain, with concerns about the potential for moral hazard.

Therefore, while there is a consensus on the critical role of macroeconomic and bank-specific factors in driving NPLs, the relative importance of these factors and the impact of variables like inflation and exchange rates vary by region, economic context, and methodological approach. Thus, the contradictions in findings and research gaps highlight the complexity of NPL determinants and the need for a more holistic approach to understanding them. Key areas for future research include context-specific studies, the role of non-economic factors, governance and institutional frameworks, policy interventions, and methodological innovations.

Chapter 2 has also has presented the theoretical and conceptual frameworks that will underpin the research. The chapter reviews Financial Theory**,** focusing on Minsky's Financial Instability Hypothesis, which explains how periods of economic prosperity can lead to speculative borrowing, resulting in financial crises. Minsky's theory categorizes borrowers into hedge, speculative, and Ponzi types, each with different levels of financial risk. This theory is applied to understand the macroeconomic dimensions of non-performing loans, especially how economic cycles influence borrowing behaviors and loan performance.

The chapter has also presented the conceptual framework, which identifies the key variables - internal bank factors and macroeconomic conditions-that affect bank loan performance. This framework sets the stage for the study's empirical investigation, linking theoretical insights to the practical realities of the Zambian financial sector.

CHAPTER 3 - RESEARCH METHODOLOGY

3.0 Introduction

Chapter 4 outlines the methodology that will be used for this study. In this regard, the chapter presents the research philosophy, research design and research strategy for this study. There after the chapter will outline the techniques and methods that will be used to determine the sample size, select the sample as well as those that will be used to collect and analyse the data. The study will thereafter discuss the ethical considerations that will be applied to this investigation.

3.1 Research Philosophy

The study is grounded in pragmatic philosophy, which was selected for its ability to bridge positivist and interpretivist paradigms (Morgan, 2014). This philosophical stance is particularly appropriate for three fundamental reasons. First, the multifaceted nature of NPLs demands an approach that can accommodate both objective economic data and subjective managerial perspectives. Second, pragmatism's emphasis on practical problem-solving aligns with the study's goal of generating actionable policy recommendations. Third, this philosophy's methodological flexibility (Tashakkori & Teddlie, 2010) allows for the integration of diverse data types while maintaining academic rigor. The philosophical foundation informs every subsequent methodological decision, ensuring coherence throughout the research design.

This philosophy is consistent with the study's goal of exploring and evaluating the factors contributing to NPLs in Zambia, with the aim of providing actionable recommendations for improving credit policy management.

3.2 Research Design

The study employs a descriptive research design with explanatory sequential mixed methods implementation. The design involves collecting and analysing data through interviews, questionnaires, and secondary sources, and presenting the results using descriptive statistics and data visualization techniques. This design was selected after careful consideration of four critical factors. The descriptive nature of the design enables comprehensive documentation of NPL phenomena in Zambia's unique financial context, as recommended by Jonker and Pennink (2010) for studies examining complex financial behaviours. The mixed-methods approach addresses the study's dual requirements: quantitative analysis provides statistical evidence of macroeconomic influences, while qualitative methods uncover the institutional dynamics that

shape lending practices (Saunders et al., 2019). The sequential implementation allows quantitative findings to inform qualitative exploration, creating a logical progression from general patterns to specific insights. Finally, the design facilitates methodological triangulation, enhancing the validity of findings through convergence of evidence from different sources (Bryman, 2016). The triangulation of findings through the combination of qualitative and quantitative data increases the validity and reliability of the results. The rationale for this mixed-methods approach lies in its ability to offer both the depth of qualitative insights and the breadth of quantitative generalizability, providing a more holistic view of the problem.

3.3 Data Collection Methods

3.3.1 Quantitative Data Collection

The quantitative component relies on secondary data from Bank of Zambia reports spanning 2004-2023. Three compelling arguments justify this approach. Firstly, as the nation's central banking authority, the Bank of Zambia maintains the most comprehensive and reliable financial records available (Bank of Zambia Act, 1996). Secondly, the standardized reporting format across years ensures data consistency, which is crucial for longitudinal analysis (IMF, 2017). Thirdly, these official publications contain all necessary variables - including NPL ratios, GDP growth rates, inflation figures, interest rates, and exchange rate fluctuations - in a single verified source, eliminating concerns about data compatibility that might arise from using multiple sources.

3.4 Qualitative Data Collection

The qualitative component employs semi-structured interviews with six banking experts, selected through a combination of purposive and snowball sampling techniques. The purposive sampling ensures participants possess specific qualifications: minimum five years of credit risk management experience, senior positions in risk or credit departments, and direct involvement with NPL management. This stringent selection criteria guarantees that respondents can provide authoritative insights into lending practices. The snowball sampling supplements this by identifying additional qualified experts who might otherwise be inaccessible. The interview format was chosen because it allows for in-depth exploration of complex issues (King & Horrocks, 2010) and captures professional expertise that cannot be obtained through documentary analysis alone. This approach provides the necessary context to interpret quantitative findings meaningfully.

3.5 Data Analysis Techniques

3.5.1 Quantitative Analysis

The quantitative analysis follows a rigorous three-stage process designed to progressively reveal different layers of insight. Descriptive statistics establish basic patterns and trends in the data, providing an essential foundation for more complex analysis. Correlation analysis examines pairwise relationships between macroeconomic indicators and NPL ratios, identifying potential areas of significant association. The multiple regression analysis employs an econometric model that simultaneously evaluates the influence of GDP growth, inflation, interest rates, and exchange rate volatility on NPL ratios. This model specification follows established practices in financial research (Gujarati & Porter, 2009) and allows for testing specific hypotheses about the relative importance of different economic factors. The staged analytical approach ensures that findings are both statistically robust and economically interpretable.

3.5.2 Qualitative Analysis

The qualitative data undergoes systematic thematic analysis following Braun and Clarke's (2006) six-phase framework. This method was selected because it provides a structured yet flexible approach to identifying, analysing, and reporting patterns within qualitative data. The process begins with thorough familiarization through repeated reading of transcripts, ensuring deep engagement with the material. Systematic coding then identifies key concepts and ideas, which are subsequently organized into meaningful themes. These themes are rigorously reviewed and refined to ensure they accurately represent the data. The final stage involves weaving the themes into a coherent narrative that illuminates institutional practices and challenges. This methodical approach ensures that qualitative findings are both credible and analytically substantial.

3.6 Validity and Reliability

Validity refers to the accuracy of the data in measuring what it is intended to measure (Noble & Smith, 2015). The study incorporated multiple safeguards to ensure research quality. For the quantitative component, the study verified data source reliability through comparison with international financial reports and diagnostic tests to confirm that regression assumptions are met. Sensitivity analyses assess the robustness of findings to alternative model specifications

were also done. This study also ensured validity by focusing on data that directly relates to the variables being studied, namely, macroeconomic factors and bank loan performance. The choice of indicators, such as NPL rates, net non-performing assets, loan loss provisions, inflation rates, and GDP growth, ensured that the data is appropriate for assessing the influence of macroeconomic conditions on loan performance.

The qualitative component employed member checking, where participants review preliminary findings to confirm accurate representation of their views. Detailed audit trails documented all analytical decisions, enabling scrutiny of the research process. These measures collectively addressed potential validity threats while ensuring the study meets the highest standards of academic rigor (Onwuegbuzie & Johnson, 2006).

Reliability refers to the consistency of data and its ability to produce the same results when subjected to repeated analysis (Noble & Smith, 2015). This study ensured reliability by using secondary data from the Bank of Zambia's Financial and Other Statistics Booklet (2024) and Annual Reports for the years 2004-2023. These sources are official, standardized, and widely recognized as credible within the financial and academic communities.

3.7 Chapter Summary

This chapter has presented a fully articulated methodological framework that addresses all aspects of the research process. The descriptive design with mixed-methods implementation provides comprehensive coverage of both economic and institutional dimensions of NPLs. Each methodological choice has been carefully justified with reference to both the study's specific requirements and established research practices. The rigorous approach to data collection and analysis ensures that findings will be both academically valid and practically relevant. The methodology thus provides a robust foundation for investigating Zambia's NPL challenges and generating meaningful policy recommendations.

CHAPTER 4-RESULTS

4.0 Introduction

This chapter presents the findings of the study. The results are presented in separate sections each of which provides data on a specific objective.

4.1 Expert Opinions on the Causes of Poor Loan Performance in Zambian Commercial Banks

The study engaged experts from three different banks and asked them to give their opinions on the causes of poor loan performance in their banks. The thematic analysis of the key ideas it presented in Table 1, below:

Table 2: THEMATIC ANALYSIS OF THE CAUSES OF POOR LOAN PERFORMANCE IN ZAMBIAN BANKING SECTOR

THEME	SUBTHEME	KEY INFORMATION FOR SUBTHEME
CAUSES OF NPLs	**Borrower-Related Issues**	- Diversification of funds or poor financial management. - Lack of entrepreneurial knowledge or business failure. - Lack of transparency or integrity (e.g., falsified financial statements). - Death of a key person in family-owned businesses. - Wilful default by borrowers with capacity but no willingness to repay.
	Bank-Related Issues	- Weak loan portfolio management (e.g., inadequate credit analysis). - Unfaithfulness or corruption among bank staff. - Lack of dedicated resources or specialized units for loan recovery.
	Economic and Environmental Conditions	- Natural calamities (e.g., droughts, floods) disrupting business operations. - Adverse economic conditions (e.g., inflation, recession, currency devaluation).
	Regulatory and Legal Challenges	- Changes in country policies or laws unfavourable to lending.

		- Court injunctions delaying asset disposal or low prices fetched during liquidation.
	Market Information Gaps	- Lack of reliable market information leading to poor decision-making by borrowers and lenders.

These themes and subthemes are reflected in the following expert opinions:

Expert 1: Financial Analyst and Risk Management Specialist

.... When borrowers divert loan proceeds to non-productive ventures or fail to allocate resources efficiently, repayment capacity is severely compromised

.... I can also say that inadequate credit analysis during the loan origination phase, exacerbates the problem. This includes insufficient due diligence on the borrower's financial health, cash flow projections, and collateral valuation

.... Borrowers who provide falsified financial statements or misrepresent their business operations create a high-risk environment for lenders

.... Excessive regulatory requirements or unfavourable tax regimes, can also lead to a surge in NPLs

.... In some situations, the delay the disposal of mortgaged assets or the realization of low prices during asset liquidation can also hinder recovery efforts.

Expert 2: Credit Risk Consultant

In the hard economic environment, we are facing; business failure is a leading cause of NPLs

.... stemming from inexperienced or inadequate entrepreneurial knowledge on the part of borrowers. Many small and medium enterprises (SMEs) lack the strategic foresight or operational expertise to survive competitive markets, leading to cash flow disruptions and default

.... last year **[2024];** *the drought has created a some more challenging economic conditions...we have longer hours of load shedding and for our customers in the farming sector, there was a lot of crop failure.... this is on top of that very disruptive Covid-19 situation....* **[These Problems]** *have devastated the Zambian economy and we can argue that thy have led to a reduction in borrowers' ability to service debt....*

The death of a key person in family-owned businesses or sole proprietorships can also cause our customers to default.... these entities often rely heavily on the expertise and leadership of a single individual. On the institutional side, it can also be considered that unfaithfulness of bank staff, including corruption or collusion with borrowers to approve high-risk loans, can lead to more NPLs. This unethical behaviour undermines the integrity of the lending process and increases the likelihood of defaults....

.... the lack of reliable market information hampers both borrowers and lenders. Without accurate data on market trends, demand forecasts, or competitive dynamics, borrowers may make poor business decisions, while lenders may misjudge creditworthiness.

Expert 3: Economist

A high percentage of non-performing loans is often a reflection of systemic and structural issues within the economy....

.... economic conditions, such as the current high inflation, depreciation of the Kwacha have eaten away at borrowers' repayment capacity, especially for our SMEs

.... we are also having problems caused by climate change; which has this year **[2025]** *led to a lot of heavy rains with a lot of floods throughout the city of Lusaka, the whole Lusaka province and even in the Western, Southern and Copperbelt provinces*

.... this has come after a prolonged droughts las t year **[2024]** *.... the rains for this year have destroyed business infrastructure for some of our clients.... some farmers have lost crops and livestock to a combination of the drought and the flooding.... we are also facing power interruptions .... some disruption of critical supply chains....* **[These Problems]** *have reduced agricultural or industrial output and have caused a lot of our clients to restructure their debt and even to defaults.*

.... *weak loan portfolio management by banks, including inadequate monitoring and follow-up on existing loans, allows potential NPLs to go undetected until they become irrecoverable.*

.... fraudulent practices, such as overstating assets or underreporting liabilities, create a false sense of security for lenders.

.... court injunctions that delay the enforcement of collateral rights or the disposal of assets at depressed prices exacerbate recovery challenges.

..... *policy changes at the national level, such as sudden shifts in interest rate policies or regulatory frameworks, can create an unfavourable environment for both lenders and borrowers, and this can induce a rise in NPLs.*

Expert 4: Financial Strategist

.... When borrowers fail to allocate loan proceeds to the intended purpose or invest in high-risk, non-productive ventures, it severely impacts their ability to generate sufficient cash flow for repayment. For instance, a business might use a loan meant for capital expansion to cover operational expenses or speculative investments, which do not yield immediate returns. Poor financial planning, such as inadequate budgeting or mismanagement of working capital, further exacerbates the problem.

.... borrowers who lack a clear strategic vision or fail to adapt to market dynamics often find themselves in financial distress. This mismanagement has

a negative effect on the borrower's ability to repay and increases the risk exposure for lenders, leading to a higher incidence of NPLs....

.... particularly weak credit analysis at the outset, contributes to the increase in NPLs. The loan origination process is the first line of defence against credit risk, and any lapses in this stage can have far-reaching consequences. Inadequate credit analysis often stems from insufficient due diligence, such as failing to verify the borrower's financial statements, cash flow projections, or collateral quality. For example, a bank might approve a loan based on overstated revenue figures or undervalued liabilities, leading to a misjudgement of the borrower's repayment capacity. Likewise, poor risk assessment frameworks and over-reliance on historical performance rather than forward-looking indicators can result in the approval of high-risk loans. Weak monitoring mechanisms post-disbursement further compound the issue, as early warning signs of financial distress are often overlooked.

Expert 5: Forensic Accountant

.... fraudulent manners done by some customers, which can include providing falsified financial statements, inflating asset values, or concealing liabilities, create a false impression of creditworthiness. For instance, a borrower might overstate inventory levels or underreport outstanding debts to secure a larger loan than they can realistically repay. This lack of transparency undermines the lender's ability to accurately assess risk and make informed lending decisions. In some cases, borrowers may also divert loan funds to personal use or unrelated ventures, which diminishes their ability to meet repayment obligations....

.... borrowers may obtain injunctions to delay the sale of mortgaged properties, often citing procedural errors or contesting valuation methods. These delays tend to prolong the recovery process and increase holding costs, such as maintenance and legal fees, which further erode the value of the collateral.... when banks are finally able to dispose of assets, they often fetch prices significantly below market value due to distressed sales or unfavourable market

conditions. This discrepancy between the loan amount and the realized value of the collateral creates a shortfall, which directly impacts the bank's balance sheet.

Expert 6: Business Consultant and Entrepreneurship Expert

.... *inexperienced entrepreneurs may mismanage working capital, overestimate demand, or underestimate operational costs, resulting in financial distress. In some cases, borrowers lack the technical skills or industry knowledge required to run a successful business, further increasing the likelihood of failure.*

.... there are businesses that rely heavily on the technical expertise of its founder or depend on the owner's relationships with suppliers and customers. When this main man passes away unexpectedly, the business may struggle to continue operations.... the lack of a clear succession plan or internal disputes among family members can further destabilize the business.

.... Accurate and timely market data is very important for assessing demand and identifying growth opportunities. We have seen situations where a borrower takes out a loan to expand operations based on outdated or incomplete market research, only to find that consumer preferences have shifted or that the market is oversaturated. Similarly, lenders rely on market information to evaluate the viability of a borrower's business plan and the potential risks associated with a loan. Without access to reliable data, lenders may overestimate a borrower's repayment capacity or fail to identify emerging risks, such as declining industry trends or regulatory changes. This information gap can lead to the approval of high-risk loans that are more likely to default.

4.2 The Relationship between Macroeconomic Variables and NPLs

4.2.1 Real GDP Growth Rate vs. Non-Performing Loan (NPL) Ratio

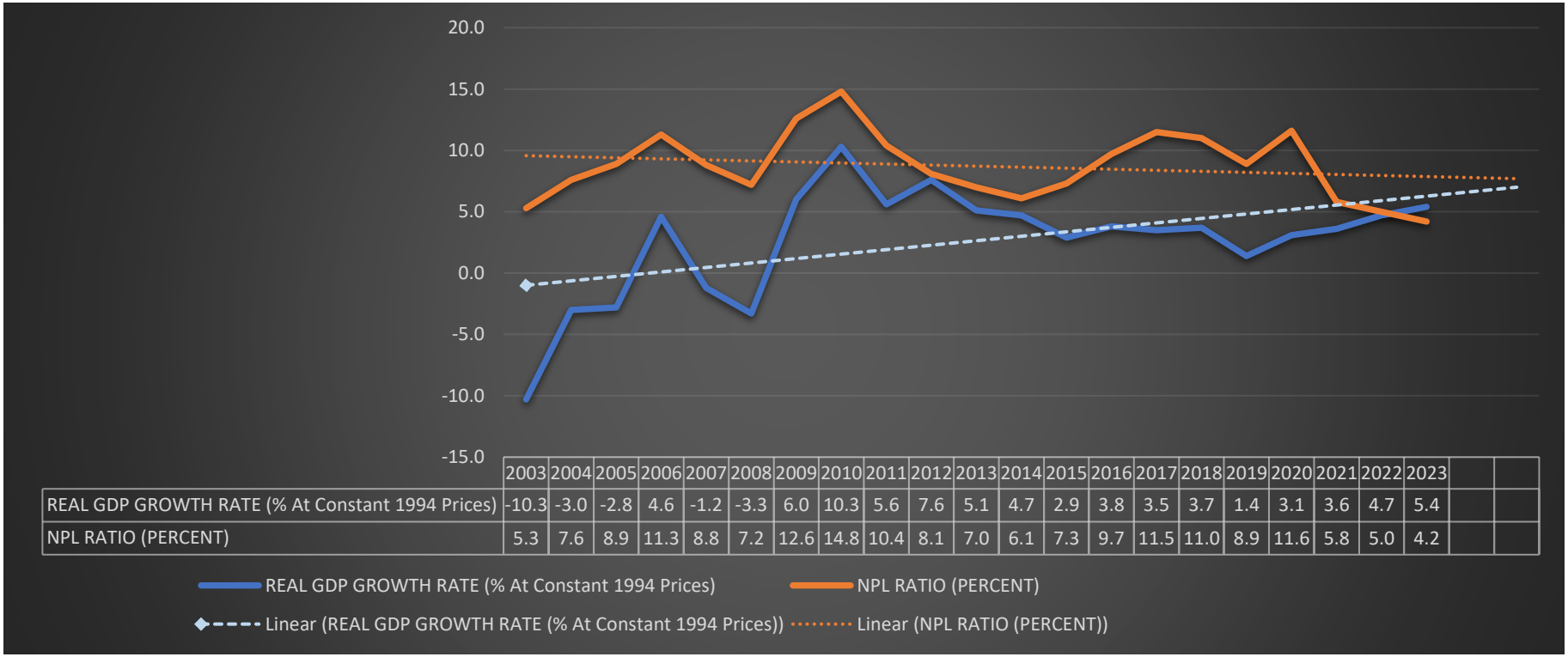
a. Descriptive Analysis

Figure 2 and Table 1 provide a descriptive analysis of data on the Real GDP Growth Rate (measured at constant 1994 prices) and the Non-Performing Loan (NPL) Ratio across the years 2003 to 2023.

Table 3: REAL GDP (At Constant 1994 Prices) Vs. NPL RATIO FROM 2003 to 2023

YEAR	REAL GDP GROWTH RATE (% At Constant 1994 Prices)	NPL RATIO (PERCENT)
2003	-10.3	5.3
2004	-3.0	7.6
2005	-2.8	8.9
2006	4.6	11.3
2007	-1.2	8.8
2008	-3.3	7.2
2009	6.0	12.6
2010	10.3	14.8
2011	5.6	10.4
2012	7.6	8.1
2013	5.1	7.0
2014	4.7	6.1
2015	2.9	7.3
2016	3.8	9.7
2017	3.5	11.5
2018	3.7	11.0
2019	1.4	8.9
2020	3.1	11.6
2021	3.6	5.8
2022	4.7	5.0
2023	5.4	4.2
MEAN	**2.6**	**8.7**
Std.Dev	**4.551**	**2.775**

Figure 2: REAL GDP (At Constant 1994 Prices) Vs. NPL RATIO FROM 2003 to 2023



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
REAL GDP GROWTH RATE (% At Constant 1994 Prices)	-10.3	-3.0	-2.8	4.6	-1.2	-3.3	6.0	10.3	5.6	7.6	5.1	4.7	2.9	3.8	3.5	3.7	1.4	3.1	3.6	4.7	5.4
NPL RATIO (PERCENT)	5.3	7.6	8.9	11.3	8.8	7.2	12.6	14.8	10.4	8.1	7.0	6.1	7.3	9.7	11.5	11.0	8.9	11.6	5.8	5.0	4.2

According to Figure 2 and Table 1, the Real GDP Growth Rate shows substantial volatility over the period under consideration, with values ranging from a low of -10.3% in 2003 to a high of 10.3% in 2010. The mean growth rate over the entire period is 2.6%**,** with a standard deviation **of** 4.551. This represents the variability and inconsistent nature of economic growth during these years.

The early 2000s exhibit a period of economic contraction, notably in 2003 (-10.3%) and 2004 (-3.0%), reflecting possible structural weaknesses in the economy or external shocks, which severely hindered growth. During this period, the economy struggled to generate positive growth, with a minimal recovery in 2005 (-2.8%).

A sharp improvement is observed in 2006, when GDP growth surged to 4.6%**,** marking a clear recovery from the prolonged contraction. However, this was followed by another contraction in 2007 (-1.2%) and 2008 (-3.3%), indicating that the recovery was not sustainable in the short term, possibly due to external shocks such as the global financial crisis or domestic inefficiencies.

The period between 2009 and 2012 marks a phase of economic expansion, with the economy growing by 6.0% in 2009, peaking at 10.3% in 2010, and continuing at elevated growth rates in subsequent years (7.6% in 2012**).** This period likely reflects favorable global conditions, improved investment climate, or commodity price booms, particularly in key export sectors. The high growth in 2010 could also be attributed to post-crisis recovery strategies, which led to a temporary economic boom.

From 2013 onwards, growth rates moderated but remained positive, fluctuating between 2.9% in 2015 and 5.4% in 2023. This period reflects a relatively stable but subdued growth trajectory, with minor contractions and recoveries, indicating that while the economy remained resilient, it did not achieve the same levels of robust growth as observed during the earlier expansionary phase. Particularly, the economy managed to maintain positive growth even during the global challenges posed by the COVID-19 pandemic, recording 1.4% in 2019, 3.1% in 2020, and 3.6% in 2021, signaling resilience amidst adverse conditions.

The most recent data points to an upward trend in growth rates from 2022 **(**4.7%**)** to 2023 **(**5.4%**),** potentially reflecting renewed economic momentum, improved domestic conditions, or recovery from earlier downturns.

The NPL Ratio**,** a key indicator of loan performance in the banking sector, also exhibits significant variation across the years. The ratio ranges from a low of 4.2% in 2023 to a high of 14.8% in 2010, with a mean value of 8.7% and a standard deviation of 2.775. The elevated standard deviation indicates considerable fluctuations in the ratio, which can be linked to economic cycles and financial sector performance.

In the early 2000s, the NPL ratio was relatively low, starting at 5.3% in 2003 but began rising sharply, reaching 8.9% in 2005 and 11.3% in 2006. This increase suggests rising financial

distress among borrowers, which could be attributed to the negative economic growth during the early part of the decade. The elevated NPL ratio is a reflection of borrowers' inability to service their debts amid deteriorating economic conditions.

The NPL ratio reached its peak in 2010 at 14.8%**,** coinciding with the highest GDP growth rate in the period. This suggests that despite strong economic growth, the banking sector was under stress, potentially due to a lagging effect where high growth may not have immediately translated into improved financial health for all borrowers. Additionally, the rapid expansion of credit during boom periods often leads to increased lending to riskier segments, contributing to higher NPLs.

Following 2010, the NPL ratio gradually declined, falling to 10.4% in 2011**,** 8.1% in 2012, and further to 6.1% in 2014. This trend suggests an improving financial environment, likely due to better lending practices or enhanced regulatory frameworks aimed at reducing the incidence of non-performing loans. The moderation of the NPL ratio during this period aligns with sustained GDP growth, which may have improved the repayment capacity of borrowers.

Nevertheless, from 2015 onwards, the NPL ratio once again began to rise, peaking at 11.6% in 2020. This rise is indicative of renewed financial stress within the banking sector, possibly exacerbated by external shocks, including global economic uncertainties and the COVID-19 pandemic. The rise in NPLs during this period likely reflects the broader economic challenges, including reduced incomes and increased unemployment, which impacted borrowers' ability to meet their loan obligations.

The data from 2021 to 2023 shows a significant decline in the NPL ratio, falling to 5.8% in 2021, 5.0% in 2022, and 4.2% in 2023, the lowest level observed in the dataset. This improvement coincides with moderate GDP growth rates during these years, suggesting that the financial sector had stabilized, likely due to improved borrower performance, better credit risk management, and possibly government intervention or stimulus measures during the recovery from the pandemic.

b. Regression Analysis

Table 2 presents the regression analysis conducted on the dataset, both in terms of the model's overall fit and the significance of the individual predictor variable.

Table 4: REGRESSION ANALYSIS REAL GDP (At Constant 1994 Prices) Vs. NPL Ratio

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.391908							
R Square	0.153592							
Adjusted R Square	0.109044							
Standard Error	2.619505							
Observations	21							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	23.65808	23.65808	3.447793	**0.07891**			
Residual	19	130.3743	6.861805					
Total	20	154.0324						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8.088524	0.664877	12.16544	2.06E-10	6.69692	9.480127	6.69692	9.480127
REAL GDP GROWTH RATE (% At Constant 1994 Prices)	**0.239007**	0.128718	**1.856823**	**0.07891**	-0.0304	0.508418	-0.0304	0.508418

Table 2 shows that the Multiple R value is 0.3919, indicating a weak linear relationship between the predictor variable (Real GDP Growth Rate) and the dependent variable NPL Ratio. The R-Square value is 0.1536, suggesting that approximately 15.36% of the variance in the dependent variable is explained by the Real GDP Growth Rate. This is relatively low, indicating that the model does not account for a substantial portion of the variance in the outcome. The Adjusted R-Square, which adjusts for the number of predictors in the model, is slightly lower at 0.1090. The R-Square and Adjusted R-Square highlights that the model may be improved by adding more explanatory variables, as it currently has limited

predictive power. The Standard Error of 2.6195 reflects the average distance that the observed values fall from the regression line. Given the scale of the dependent variable, this error may be seen as relatively large, further suggesting that the model is not a very strong fit for the data.

The ANOVA table analyses the significance of the model. The F-statistic is 3.4478, and the corresponding Significance F value is 0.0789. This value is above the conventional threshold of 0.05, indicating that the overall model is not statistically significant at the 5% level. Nonetheless, it is close to the 0.10 threshold, suggesting marginal significance at the 10% level, which implies the model has some predictive ability, though not conclusively.

The coefficient for the Real GDP Growth Rate is 0.2390, which indicates that for every one-unit increase in the GDP growth rate, the dependent variable is expected to increase by 0.239 units. The standard error for this coefficient is 0.1287, yielding a t-statistic of 1.8568 and a p-value of 0.0789. Although this coefficient is not statistically significant at the 5% level (p-value < 0.05), it is marginally significant at the 10% level. The 95% confidence interval for this coefficient ranges from -0.0304 to 0.5084. The fact that the lower bound of this confidence interval is slightly negative (-0.0304) suggests that the effect of Real GDP Growth Rate on the dependent variable is uncertain; it could be positive, but there is also a small chance that it could have a near-zero or negative effect.

4.2.2 The Annual Inflation Rate Vs. Non-Performing Loan (NPL) Ratio

a. Descriptive Analysis

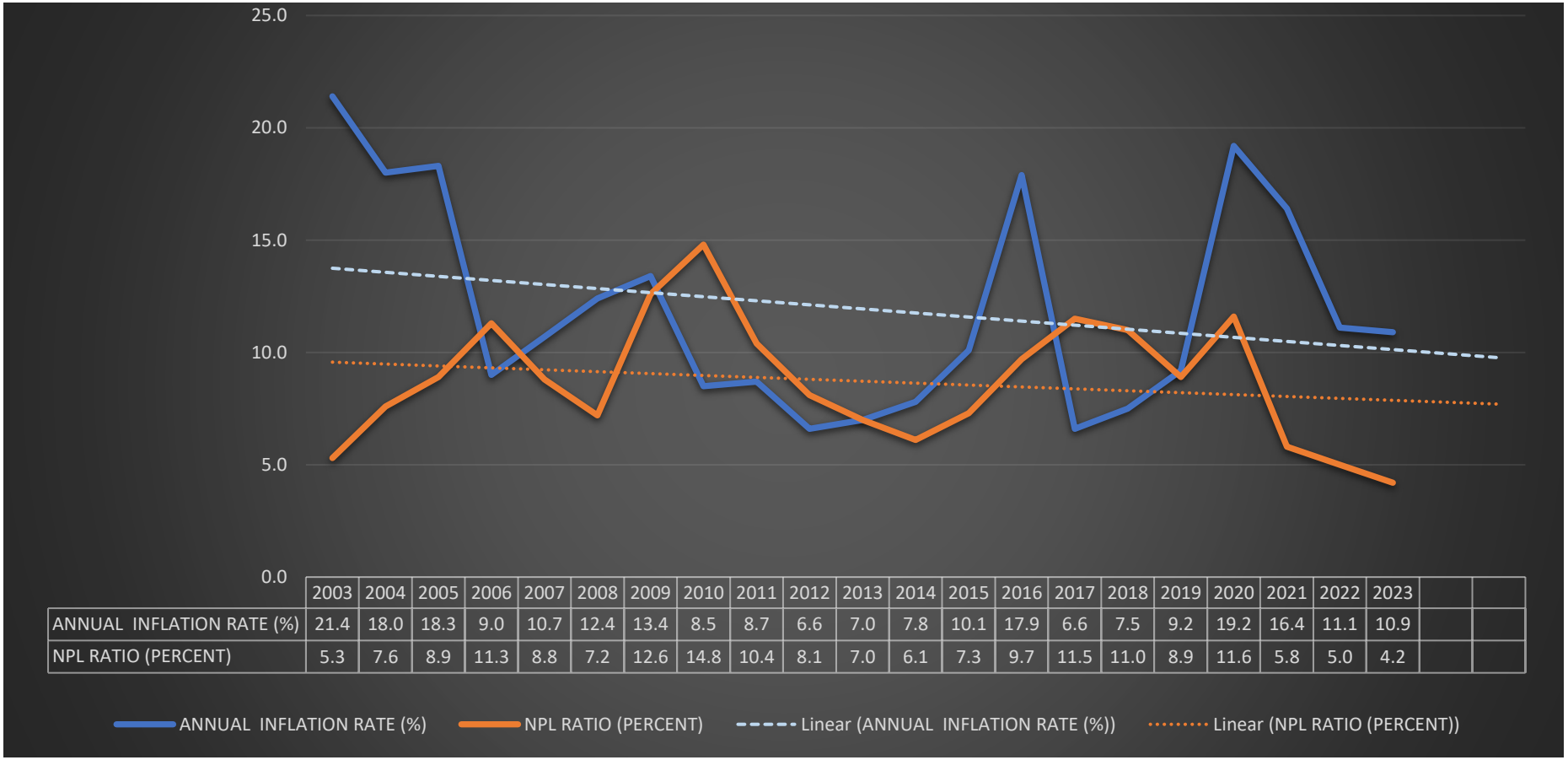
Figure 3 and Table 3 analyses the data on the Annual Inflation Rate and the Non-Performing Loan (NPL) Ratio from 2003 to 2023 portrays the relationship between inflation, a broad measure of price stability, and the NPL ratio, a key indicator of loan performance in the banking sector.

Table 5: ANNUAL INFLATION RATE VS. NPL RATIO FROM 2003 to 2023

YEAR	ANNUAL INFLATION RATE (%)	NPL RATIO (PERCENT)
2003	21.4	5.3
2004	18.0	7.6
2005	18.3	8.9
2006	9.0	11.3

2007	10.7	8.8
2008	12.4	7.2
2009	13.4	12.6
2010	8.5	14.8
2011	8.7	10.4
2012	6.6	8.1
2013	7.0	7.0
2014	7.8	6.1
2015	10.1	7.3
2016	17.9	9.7
2017	6.6	11.5
2018	7.5	11.0
2019	9.2	8.9
2020	19.2	11.6
2021	16.4	5.8
2022	11.1	5.0
2023	10.9	4.2
MEAN	**11.9**	**8.7**
Std.Dev.	**4.694**	**2.775**

Figure 3: ANNUAL INFLATION RATE VS. NPL RATIO FROM 2003 to 2023



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
ANNUAL INFLATION RATE (%)	21.4	18.0	18.3	9.0	10.7	12.4	13.4	8.5	8.7	6.6	7.0	7.8	10.1	17.9	6.6	7.5	9.2	19.2	16.4	11.1	10.9		
NPL RATIO (PERCENT)	5.3	7.6	8.9	11.3	8.8	7.2	12.6	14.8	10.4	8.1	7.0	6.1	7.3	9.7	11.5	11.0	8.9	11.6	5.8	5.0	4.2		

The data shows that the Annual Inflation Rate exhibits notable fluctuations throughout the period, with values ranging from a low of 6.6% in 2012 and 2017 to a high of 21.4% in 2003. The mean inflation rate across the period is 11.9%**,** with a standard deviation of 4.694, indicating moderate volatility in price levels over the two-decade period.

The early 2000s are characterized by high inflationary pressures, peaking at 21.4% in 2003. This elevated inflation could have been driven by factors such as weak monetary policy controls, supply-side constraints, or high fiscal deficits. During this period, the economy was likely facing challenges in controlling price stability, leading to significant upward pressure on general price levels. This high inflation gradually subsided in subsequent years, falling to 18.0% in 2004 and further to 18.3% in 2005. Despite the reduction, inflation remained relatively high, suggesting that while there may have been some stabilization efforts, underlying inflationary pressures persisted.

By 2006, inflation dropped sharply to 9.0%**,** signaling a potential policy shift or improvement in economic fundamentals such as increased agricultural output, currency stabilization, or improved supply chain efficiency. This trend of reduced inflation continued into 2007 (10.7%) and 2008 (12.4%), albeit with some short-term spikes. These fluctuations may have been influenced by external shocks such as global commodity price hikes or domestic supply disruptions.

The period from 2009 to 2014 saw relatively stable and low inflation rates, averaging around 8.5% in 2010, 8.7% in 2011, and 7.8% in 2014. This era of moderate inflation is reflective of a more stable macroeconomic environment, where effective monetary policies were likely in place, contributing to greater price stability.

On the other hand, beginning in 2015, inflation once again began to rise, reaching 10.1% in 2015 and surging to 17.9% in 2016, an increase likely due to external factors such as currency depreciation, commodity price shocks, or fiscal imbalances. The spike in inflation during this period is consistent with a challenging economic environment, where supply-side pressures and monetary instability contributed to upward pressure on prices.

The inflation rate moderated in subsequent years, falling back to 6.6% in 2017 and remaining relatively stable at 7.5% in 2018 and 9.2% in 2019. The onset of the COVID-19 pandemic in 2020 resulted in another spike in inflation to 19.2%**,** driven by supply chain disruptions, reduced economic output, and increased fiscal spending. This was followed by a modest

reduction to 16.4% in 2021 and further declines to 11.1% in 2022 and 10.9% in 2023, suggesting a gradual post-pandemic recovery in price stability.

The NPL Ratio shows considerable variability across the years, with values ranging from a low of 4.2% in 2023 to a high of 14.8% in 2010. In the early 2000s, the NPL ratio was relatively low, starting at 5.3% in 2003, but began to rise as inflation remained elevated, reaching 7.6% in 2004 and further to 8.9% in 2005. This rise in the NPL ratio during a period of high inflation reflects the financial stress within the economy, where elevated inflation likely eroded the real incomes of borrowers, making it difficult for them to service their loans. The correlation between high inflation and rising NPLs is indicative of the strain placed on borrowers due to reduced purchasing power and higher cost of living.

By 2006, the NPL ratio climbed to 11.3%**,** a trend that continued until 2010, when the NPL ratio peaked at 14.8%**.** This period of rising NPLs aligns with both high inflation rates and periods of economic volatility, suggesting that borrowers faced significant financial challenges, leading to higher loan defaults. The peak in NPLs in 2010 despite moderate inflation (8.5%) could indicate structural weaknesses within the banking sector, such as poor credit risk management, increased lending to higher-risk borrowers, or external shocks impacting the broader economy.

Following this peak, the NPL ratio began to decline, falling to 10.4% in 2011, 8.1% in 2012, and 6.1% in 2014. This decline coincides with a period of relatively stable and lower inflation, suggesting that improved economic conditions and better financial sector management contributed to a reduction in the number of non-performing loans. The lower inflation during this period likely improved borrowers' ability to service their debts, leading to a healthier banking sector.

Nevertheless, from 2015 onwards, the NPL ratio once again began to rise, peaking at 11.6% in 2020. This increase is consistent with rising inflation during this period, particularly in 2016 (17.9%) and 2020 (19.2%), where inflationary pressures eroded borrowers' ability to service loans. The resurgence in NPLs during these years reflects renewed financial stress within the economy, exacerbated by external shocks, such as currency depreciation, rising commodity prices, and the global impact of the COVID-19 pandemic.

In the period, from 2021 to 2023, the NPL ratio experienced a sharp decline, falling to 5.8% in 2021, 5.0% in 2022, and 4.2% in 2023, the lowest level observed in the dataset. This decline coincides with moderate reductions in inflation, reflecting improved economic conditions,

better credit risk management by banks, and possibly government interventions aimed at stabilizing the financial sector during the post-pandemic recovery. The significant reduction in NPLs in this period years suggests a more resilient banking sector, where borrowers are better able to meet their loan obligations due to a more stable inflationary environment.

b. Regression Analysis

The regression analysis conducted on Annual inflation Vs. NPL Ratio is presented in Table 4 below.

Table 6: REGRESSION ANALYSIS ANNUAL INFLATION RATE VS. NPL RATIO

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.17548							
R Square	0.030793							
Adjusted R Square	-0.02022							
Standard Error	2.803092							
Observations	21							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	4.743163	4.743163	0.603661	**0.446751**			
Residual	19	149.2892	7.857327					
Total	20	154.0324						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*

Intercept	9.957679	1.707532	5.831623	1.29E-05	6.383775	13.53158	6.383775	13.53158
ANNUAL INFLATION RATE (%)	**-0.10375**	0.13354	**-0.77696**	**0.446751**	-0.38326	0.175747	-0.38326	0.175747

As indicated in Table 4, the Multiple R value is 0.1755, which indicates a very weak linear relationship between the predictor variable (Annual Inflation Rate) and the dependent variable. This low correlation suggests that changes in the inflation rate have little association with the NPL Ratio. The R-Square value of 0.0308 indicates that only 3.08% of the variance in the NPL Ratio is explained by the inflation rate. This is extremely low and demonstrates that the model does not effectively capture the factors driving changes in the dependent variable.

The Adjusted R-Square is even lower, at -0.0202. This negative adjusted R-Square suggests that the inclusion of the Annual Inflation Rate as a predictor has worsened the model's fit, implying that this variable adds no explanatory power and that a simpler model (that is; one without this predictor) would perform better. The Standard Error of 2.8031 suggests that the observed values deviate from the regression line by an average of about 2.8 units. This error is relatively large, especially in the context of the low R-Square value, indicating that the model provides poor predictions of the dependent variable.

The ANOVA table provides further insight into the model's significance. The F-statistic is 0.6037, and the corresponding Significance F value is 0.4468. This high p-value (well above 0.05) indicates that the overall model is not statistically significant. Essentially, the Annual Inflation Rate does not contribute meaningfully to explaining the variability in the dependent variable, and the model is not fit for predicting the outcome based on this variable. The coefficient for the Annual Inflation Rate is -0.1038, with a standard error of 0.1335. This negative coefficient suggests that for every one-unit increase in the Annual Inflation Rate, the dependent variable is expected to decrease by 0.1038 units. However, the t-statistic for this coefficient is -0.7770, and the corresponding p-value is 0.4468, which is well above any conventional significance threshold (that is; 0.05 or 0.10). This indicates that the Annual Inflation Rate is not statistically significant as a predictor in this model.

The 95% confidence interval for the Annual Inflation Rate coefficient ranges from -0.3833 to 0.1757. This means that the true effect of inflation on the dependent variable could be positive, negative, or zero, further confirming the lack of a meaningful relationship between these two variables.

4.2.3 The Average Lending Rates vs. the Non-Performing Loan (NPL) Ratio

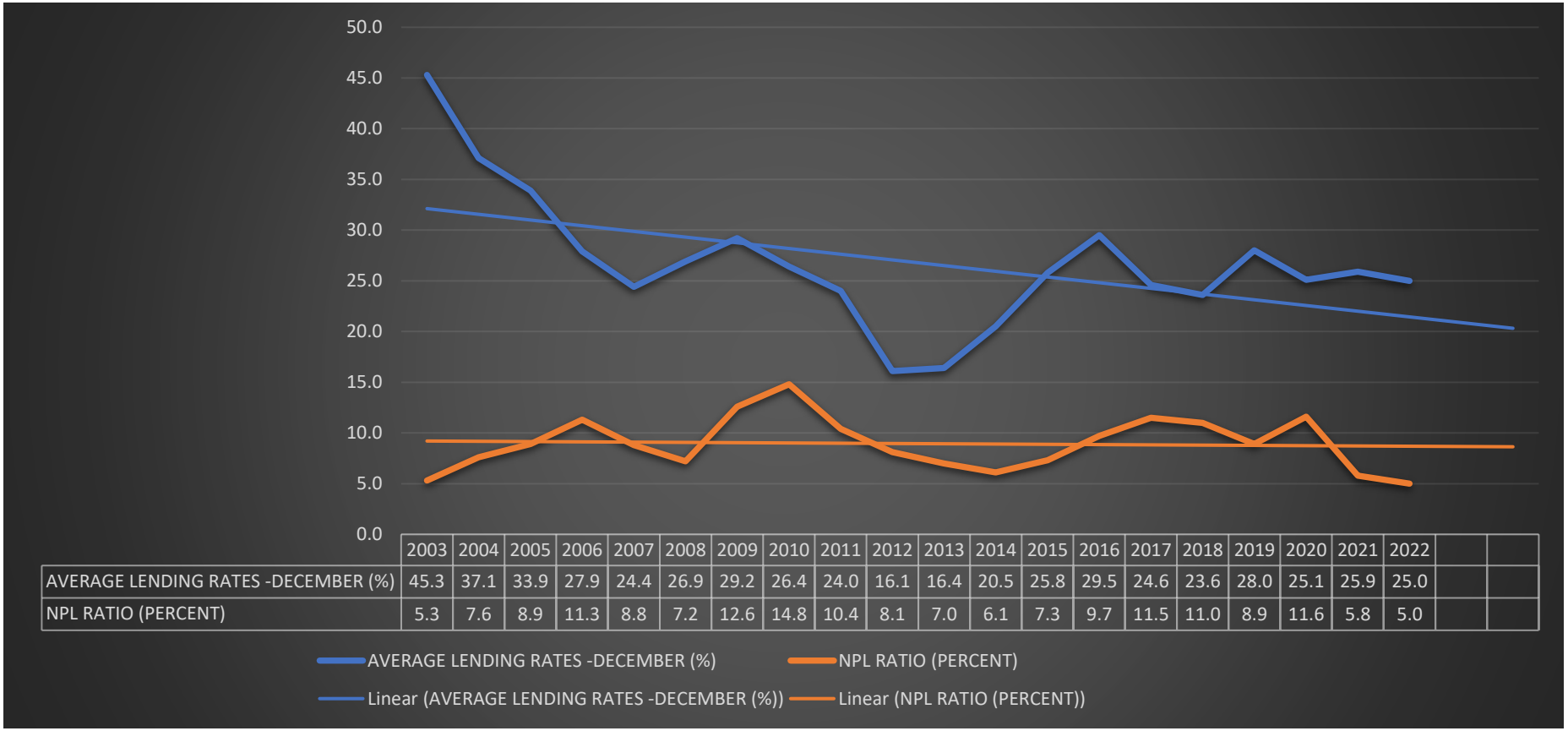
a. Descriptive Analysis

Figure 3 and Table 5 present data on the Average Lending Rates and the Non-Performing Loan (NPL) Ratio from 2003 to 2022. Lending rates, a key determinant of the cost of borrowing, often influence the ability of individuals and businesses to repay loans. The data allows for an evaluation of how fluctuations in lending rates affect financial distress as measured by non-performing loans.

Table 7: AVERAGE LENDING RATES VS. NPL RATIO 2003 TO 2022

YEAR	AVERAGE LENDING RATES -DECEMBER (%)	**NPL RATIO (PERCENT)**
2003	45.3	5.3
2004	37.1	7.6
2005	33.9	8.9
2006	27.9	11.3
2007	24.4	8.8
2008	26.9	7.2
2009	29.2	12.6
2010	26.4	14.8
2011	24.0	10.4
2012	16.1	8.1
2013	16.4	7.0
2014	20.5	6.1
2015	25.8	7.3
2016	29.5	9.7
2017	24.6	11.5
2018	23.6	11.0
2019	28.0	8.9
2020	25.1	11.6
2021	25.9	5.8
2022	25.0	5.0
MEAN	**26.8**	**8.9**
Std.Dev.	**6.544**	**2.642**

Figure 4: AVERAGE LENDING RATES VS. NPL RATIO 2003 TO 2022



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
AVERAGE LENDING RATES -DECEMBER (%)	45.3	37.1	33.9	27.9	24.4	26.9	29.2	26.4	24.0	16.1	16.4	20.5	25.8	29.5	24.6	23.6	28.0	25.1	25.9	25.0
NPL RATIO (PERCENT)	5.3	7.6	8.9	11.3	8.8	7.2	12.6	14.8	10.4	8.1	7.0	6.1	7.3	9.7	11.5	11.0	8.9	11.6	5.8	5.0

According to the data, the Average Lending Rates over the period show a downward trend, starting at a high of 45.3% in 2003 and decreasing to 25.0% by 2022. The mean lending rate over the period is 26.8%**,** with a standard deviation of 6.544, highlighting substantial volatility in the interest rates set by financial institutions during this time.

In 2003, the lending rate was at an elevated 45.3%**,** reflective of the macroeconomic challenges faced during this period. This high interest rate indicates that borrowing was extremely expensive, likely due to high inflation, a lack of liquidity in the banking system, or high default risk. The high lending rates at the start of the period may have been a result of efforts by financial institutions to compensate for elevated credit risks or to maintain profitability in an unstable macroeconomic environment.

By 2004, the lending rate dropped sharply to 37.1%**,** followed by further declines to 33.9% in 2005 and 27.9% in 2006. This significant reduction in lending rates could indicate an improving economic environment, characterized by lower inflation, stabilization of the currency, or increased liquidity in the banking system. The decline may also reflect a more favorable regulatory environment that encouraged lending through lower rates.

The downward trend in lending rates continued in subsequent years, with rates falling to 24.4% in 2007 and 26.9% in 2008. The slight uptick in 2008 could have been influenced by external shocks, such as the global financial crisis, which created uncertainty in global financial markets and may have increased risk premiums. However, this increase was short-lived, as rates fell back to 24.0% in 2011.

A sharp reduction occurred in 2012, when lending rates dropped to 16.1%**,** the lowest point in the dataset. This dramatic decrease could be attributed to significant improvements in macroeconomic stability, including lower inflation, reduced fiscal deficits, or favorable central bank policies aimed at stimulating economic growth. The period between 2012 and 2014 saw relatively low lending rates, with rates stabilizing at 16.4% in 2013 and increasing slightly to 20.5% in 2014. This indicates a period of relative stability in the cost of borrowing, which would have supported increased credit availability in the economy.

In 2015, lending rates rose again to 25.8%**,** likely driven by deteriorating macroeconomic conditions, such as rising inflation or currency depreciation, which increased the cost of credit. The upward trend continued into 2016, with rates reaching 29.5%**,** signaling significant tightening of credit conditions, possibly in response to rising default risks or efforts to curb inflationary pressures.

The lending rates moderated slightly from 2017 onwards, with a gradual decline to 23.6% in 2018 and 28.0% in 2019. However, the onset of the COVID-19 pandemic in 2020 led to renewed volatility, with lending rates stabilizing around 25.1% in 2020 and 25.9% in 2021,

before falling slightly to 25.0% in 2022. This reflects efforts by financial institutions to balance the need for credit availability with the elevated risks posed by the pandemic.

In 2003, the NPL ratio was relatively low at 5.3%**,** which coincided with a period of extremely high lending rates. Even though high borrowing costs would normally increase financial stress, the relatively low NPL ratio may indicate that only the most creditworthy borrowers accessed loans, reducing default risk. However, as lending rates fell, the NPL ratio began to rise, reaching 7.6% in 2004 and 8.9% in 2005. The increase in NPLs during this period likely reflects greater credit access as borrowing became cheaper, which may have resulted in higher risk lending.

By 2006, the NPL ratio increased further to 11.3%**,** coinciding with a continued reduction in lending rates. This inverse relationship suggests that as borrowing became more affordable, banks may have extended credit to less creditworthy borrowers, resulting in an increase in defaults. This trend continued, with the NPL ratio peaking at 14.8% in 2010, despite lending rates stabilizing around 26.4%**.** The sharp rise in NPLs during this period likely reflects broader macroeconomic challenges, such as weak economic growth, high inflation, or external shocks, which led to widespread financial distress among borrowers.

After 2010, the NPL ratio began to decline, falling to 10.4% in 2011 and further to 8.1% in 2012, as lending rates fell significantly. The reduction in NPLs during this period reflects improved economic conditions, where lower lending rates likely supported greater creditworthiness among borrowers, reducing the incidence of loan defaults. This trend continued into 2013 and 2014, with the NPL ratio falling to 7.0% and 6.1%**,** respectively. The combination of lower lending rates and reduced default rates suggests a healthier banking sector and improved financial stability.

However, from 2015 onwards, the NPL ratio began to rise again, reaching 9.7% in 2016 as lending rates spiked to 29.5%**.** This period of rising NPLs reflects the financial strain caused by higher borrowing costs, which likely eroded borrowers' ability to service their debts. The NPL ratio remained elevated in subsequent years, reaching 11.5% in 2017 and 11.0% in 2018, despite a reduction in lending rates to 24.6% and 23.6%**,** respectively. This suggests that while lending rates were lower, the financial strain from prior periods may have resulted in lingering defaults.

In the most recent period, from 2019 to 2022, the NPL ratio declined significantly, falling from 8.9% in 2019 to 5.0% in 2022. This reduction in NPLs coincided with relatively stable lending

rates around 25.0%**,** suggesting that the banking sector had become more resilient, with improved credit risk management and economic recovery contributing to fewer defaults. The sharp decline in NPLs in 2021 and 2022 also reflects post-pandemic recovery efforts, where government interventions and central bank policies likely stabilized the financial system, reducing financial stress on borrowers.

b. Regression Analysis

The regression analysis in Table 6 analyses the relationship between the predictor variable (Average Lending Rates - December) and the dependent variable, NPL Ratio.

Table 8: AVERAGE LENDING RATES VS. NPL RATIO

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.098777							
R Square	0.009757							
Adjusted R Square	-0.04526							
Standard Error	2.70078							
Observations	20							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	1.293657	1.293657	0.177354	**0.678643**			
Residual	18	131.2958	7.294213					
Total	19	132.5895						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*

Intercept	10.01288	2.606646	3.841289	0.001196	4.53652	15.48924	4.53652	15.48924
AVERAGE LENDING RATES -DECEMBER (%)	**-0.03988**	0.094687	**-0.42113**	**0.678643**	-0.23881	0.159054	-0.23881	0.159054

As depicted in Table 6, the Multiple R value is 0.0988, indicating a very weak linear relationship between Average Lending Rates and the dependent variable. This value suggests that lending rates have an almost negligible correlation with the outcome. The R-Square value is 0.0098, which means that only 0.98% of the variance in the dependent variable is explained by changes in Average Lending Rates. This extremely low R-Square value suggests that the model has almost no explanatory power. Furthermore, the Adjusted R-Square is -0.0453, which is negative, indicating that including the Average Lending Rates as a predictor worsens the model's fit. In fact, a simpler model without this predictor would perform better, as the adjusted R-Square penalizes the inclusion of non-contributory variables. The Standard Error of 2.7008 is relatively high, which indicates that the predicted values deviate from the observed values by an average of about 2.7 units. Given the low R-Square value, this error suggests that the model is poorly fitted to the data.

The ANOVA table provides further evidence of the model's insignificance. The F-statistic is 0.1774, and the Significance F-value is 0.6786, which is well above the 0.05 threshold typically used to assess statistical significance. This means that the model does not significantly explain the variance in the dependent variable, and any predictive power attributed to Average Lending Rates is likely due to random chance rather than any true effect.

The coefficient for the Average Lending Rates is -0.0399, with a standard error of 0.0947. This negative coefficient suggests that for every one-unit increase in the Average Lending Rates, the dependent variable is expected to decrease by 0.0399 units. However, the t-statistic for this coefficient is -0.4211, with a p-value of 0.6786, which is far above the conventional threshold for significance. This clearly shows that the effect of Average Lending Rates on the dependent variable is not statistically significant. The 95% confidence interval for the Average Lending Rates coefficient ranges from -0.2388 to 0.1591. This wide interval includes zero, further supporting the conclusion that there is no significant relationship between the Average Lending Rates and the dependent variable.

4.2.4 The Exchange Rate vs. Non-Performing Loan (NPL) Ratio

a. Descriptive Analysis

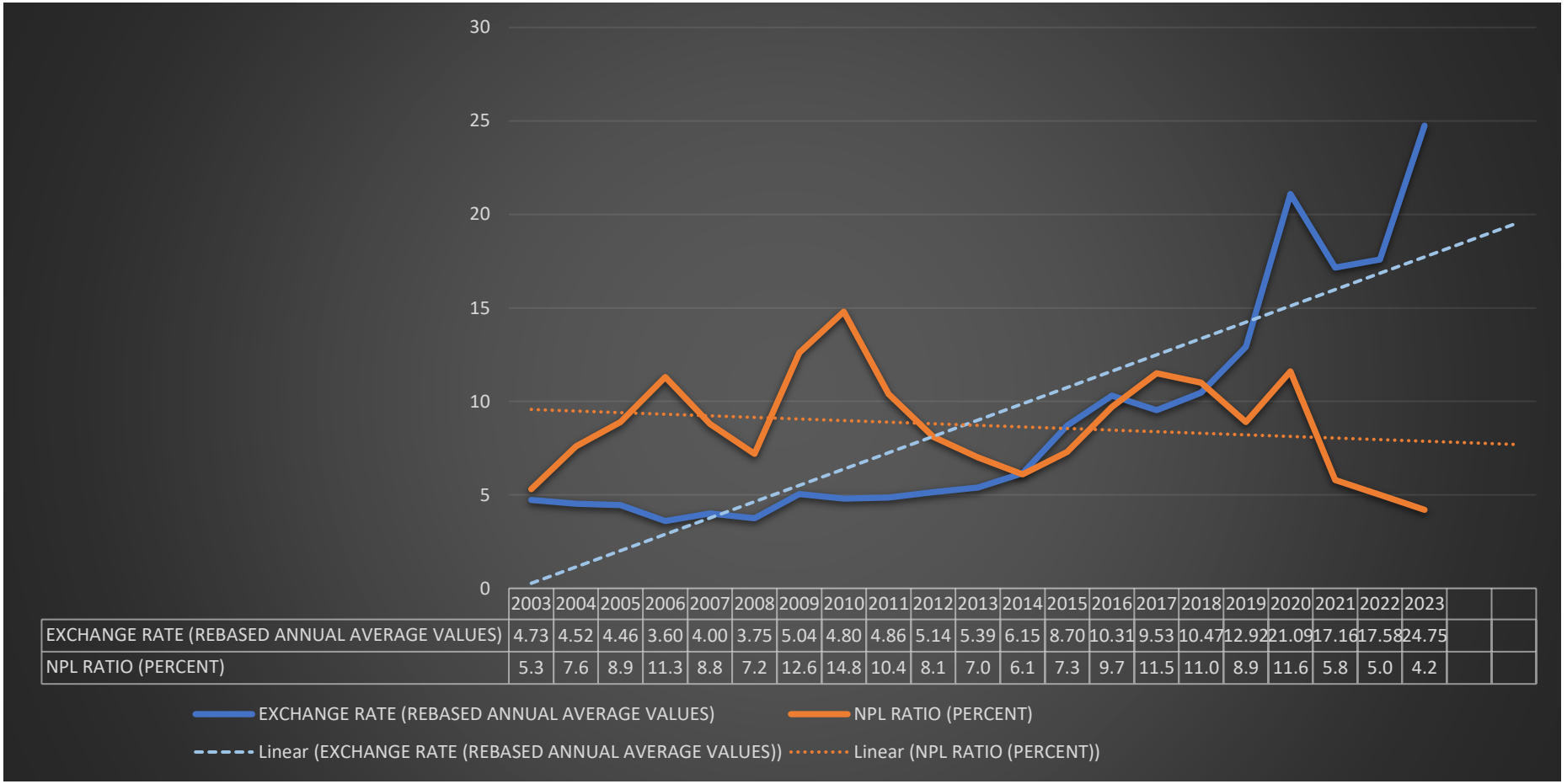
The analysis of the Exchange Rate (Rebased Annual Average Values) and the Non-Performing Loan (NPL) Ratio from 2003 to 2023 is presented in Figure 5 and Table 4. Exchange rate variations influence the cost of imports, exports, inflation, and overall economic stability, all of which can affect borrowers' ability to service loans.

Table 9: EXCHANGE RATE (Rebased Annual Average Values) VS. NPL RATIO FROM 2003 TO 2023

YEAR	EXCHANGE RATE (REBASED ANNUAL AVERAGE VALUES)	NPL RATIO (PERCENT)
2003	4.73	5.3
2004	4.52	7.6
2005	4.46	8.9
2006	3.60	11.3
2007	4.00	8.8
2008	3.75	7.2
2009	5.04	12.6
2010	4.80	14.8
2011	4.86	10.4
2012	5.14	8.1
2013	5.39	7.0
2014	6.15	6.1
2015	8.70	7.3
2016	10.31	9.7
2017	9.53	11.5
2018	10.47	11.0
2019	12.92	8.9
2020	21.09	11.6
2021	17.16	5.8
2022	17.58	5.0

2023	24.75	4.2
MEAN	**9.00**	**8.7**
Std.Dev	**6.250**	**2.775**

Figure 5: EXCHANGE RATE (Rebased Annual Average Values) VS. NPL RATIO FROM 2003 TO 2023



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
EXCHANGE RATE (REBASED ANNUAL AVERAGE VALUES)	4.73	4.52	4.46	3.60	4.00	3.75	5.04	4.80	4.86	5.14	5.39	6.15	8.70	10.31	9.53	10.47	12.92	21.09	17.16	17.58	24.75
NPL RATIO (PERCENT)	5.3	7.6	8.9	11.3	8.8	7.2	12.6	14.8	10.4	8.1	7.0	6.1	7.3	9.7	11.5	11.0	8.9	11.6	5.8	5.0	4.2

The data above portrays that the Exchange Rate over the period shows significant volatility, beginning at 4.73 in 2003 and rising sharply to 24.75 by 2023. The mean exchange rate over the period is 9.00, with a standard deviation of 6.250, indicating extensive fluctuations in the value of the local currency relative to other currencies, particularly the U.S. dollar. These fluctuations are reflective of macroeconomic factors such as inflationary pressures, currency depreciation, external shocks, and central bank interventions.

In 2003, the exchange rate was 4.73. The currency's relatively stable value at this time reflects a period of moderate inflation and manageable fiscal deficits, though there were likely challenges given the high interest rates seen in the same period. This slight depreciation continued into 2004, when the exchange rate fell to 4.52, and further into 2005 with 4.46. This period of marginal depreciation suggests relative stability in the foreign exchange market, possibly due to sound macroeconomic management or favourable trade balances.

By 2006, the exchange rate experienced a significant appreciation, strengthening to 3.60, likely reflecting improved economic fundamentals or favorable international conditions. However, this appreciation was short-lived as the exchange rate returned to 4.00 in 2007, and 3.75 in 2008, showing some level of stability, though depreciation pressures were starting to build up.

The year 2009 saw a sharp depreciation, with the exchange rate increasing to 5.04, driven by external shocks such as the global financial crisis, which led to reduced demand for exports, currency devaluations, and weaker investor confidence. This depreciation continued in 2010**,** when the exchange rate climbed to 4.80**,** before stabilizing around 4.86 in 2011.

Yet, from 2012 onwards, the currency experienced steady depreciation, with the exchange rate rising to 5.14 in 2012, 5.39 in 2013, and 6.15 in 2014. This period of depreciation reflects deteriorating macroeconomic conditions, possibly including rising inflation, lower export earnings, and increased foreign debt obligations, all of which put pressure on the exchange rate.

In 2015, the exchange rate rose sharply to 8.70, reflecting significant currency depreciation due to a combination of external and domestic factors. This period coincided with a global commodity price slump, particularly in copper prices, which likely hurt export earnings and led to reduced foreign currency inflows. The situation worsened in 2016, with the exchange rate climbing to 10.31, marking a period of heightened economic instability.

In subsequent years, the currency showed some signs of recovery, with the exchange rate stabilizing at 9.53 in 2017 and 10.47 in 2018, though depreciation pressures remained. In spite of this, from 2019 onwards, the currency experienced severe depreciation, rising to 12.92 in

2019 and spiking to 21.09 in 2020, largely driven by the economic fallout from the COVID-19 pandemic, which led to reduced exports, disruptions in global trade, and capital outflows. By 2021, the exchange rate improved slightly to 17.16, though it remained significantly depreciated, before stabilizing at 17.58 in 2022.

By 2023, the exchange rate had deteriorated further to 24.75, marking a substantial decline in the currency's value over the two-decade period. This sharp depreciation reflects broader structural weaknesses in the economy, such as reliance on imports, rising inflation, and high levels of foreign debt, all of which have contributed to continued downward pressure on the currency.

The NPL Ratio, reflecting the proportion of loans that have become non-performing, also demonstrates variability over the period, ranging from a low of 4.2% in 2023 to a peak of 14.8% in 2010. In 2003, the NPL ratio was relatively low at 5.3%**,** coinciding with a period of moderate exchange rate depreciation. Even though the exchange rate showed some weakness, the financial sector remained relatively stable, with manageable levels of non-performing loans. However, as the exchange rate depreciated further in 2004 to 4.52, the NPL ratio rose to 7.6%**,** suggesting that currency depreciation was beginning to put pressure on borrowers, particularly those with foreign currency-denominated loans or import-dependent businesses.

The NPL ratio continued to rise in 2005**,** reaching 8.9%**,** as the exchange rate remained stable at 4.46. This rise in loan defaults may have been driven by other factors such as high borrowing costs or economic contraction, as the currency itself was relatively stable. By 2006, the NPL ratio increased further to 11.3%**,** coinciding with an appreciation of the exchange rate to 3.60. This inverse relationship suggests that other macroeconomic factors, such as high interest rates or weak economic growth, were contributing to rising defaults, even as the currency strengthened.

In 2007 and 2008, the NPL ratio fell to 8.8% and 7.2%**,** respectively, as the exchange rate stabilized around 4.00 and 3.75. The reduction in NPLs during this period reflects improved economic conditions, where stable exchange rates likely supported borrowers' ability to service their loans. But this trend was reversed in 2009, when the NPL ratio rose sharply to 12.6% as the exchange rate depreciated sharply to 5.04. The global financial crisis likely exacerbated financial distress, leading to higher loan defaults as businesses and households struggled with weaker economic conditions and currency depreciation.

The peak in the NPL ratio occurred in 2010**,** when it reached 14.8%**,** despite a slight appreciation in the exchange rate to 4.80. This suggests that broader macroeconomic challenges, such as weak economic growth, high inflation, or external shocks, were driving loan defaults. In subsequent years, the NPL ratio began to decline, falling to 10.4% in 2011 and further to 8.1% in 2012, as the exchange rate depreciated gradually.

From 2013 to 2015, the NPL ratio continued to fall, reaching 7.0% in 2013 and 6.1% in 2014, even as the exchange rate depreciated further to 6.15. This period of declining NPLs reflects improved financial stability, where borrowers were better able to manage their loans despite the currency's gradual depreciation. Conversely, in 2015, the NPL ratio began to rise again, reaching 7.3%**,** as the exchange rate spiked to 8.70. The significant currency depreciation during this period likely put pressure on borrowers, particularly those with foreign currency-denominated debts, leading to an increase in loan defaults.

The NPL ratio continued to rise in 2016, reaching 9.7%**,** as the exchange rate climbed to 10.31. This period of heightened economic instability likely contributed to rising defaults, as borrowers struggled with higher costs of servicing foreign currency-denominated loans. The NPL ratio remained elevated in 2017 and 2018, reaching 11.5% and 11.0%**,** respectively, despite a slight appreciation in the exchange rate to 9.53 and 10.47. This suggests that other factors, such as weak economic growth or high borrowing costs, were driving the increase in loan defaults.

In the most recent period, from 2019 to 2023, the NPL ratio declined significantly, falling from 8.9% in 2019 to 4.2% in 2023. This reduction in NPLs coincided with significant currency depreciation, as the exchange rate rose from 12.92 in 2019 to 24.75 in 2023. The sharp decline in NPLs during this period suggests that despite the currency's weakness, improved economic conditions, better credit risk management, or regulatory interventions helped to reduce the incidence of loan defaults.

b. Regression Analysis

The regression analysis in Table 8 below portrays the relationship between the predictor variable (Exchange Rate – Rebased Annual Average Values) and the NPL Ratio.

Table 10: REGRESSION ANALYSIS EXCHANGE RATE (Rebased Annual Average Values) VS. NPL RATIO

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.300439							
R Square	0.090264							
Adjusted R Square	0.042383							
Standard Error	2.715732							
Observations	21							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	13.90353	13.90353	1.885173	**0.185736**			
Residual	19	140.1289	7.375203					
Total	20	154.0324						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	9.919414	1.056183	9.391756	1.43E-08	7.708798	12.13003	7.708798	12.13003
EXCHANGE RATE (REBASED ANNUAL AVERAGE VALUES)	**-0.13341**	0.097166	**-1.37302**	**0.185736**	-0.33678	0.06996	-0.33678	0.06996

Table 8 indicates that the Multiple R value is 0.3004, which represents a weak positive correlation between the Exchange Rate and the NPL Ratio. The R-Square value of 0.0903 means that only 9.03% of the variation in the NPL Ratio can be explained by the Exchange Rate. This low R-Square value implies that the model does not capture much of the variance in the outcome variable, which means the exchange rate alone is not a good predictor of the dependent variable.

The Adjusted R-Square is 0.0424, indicating that after accounting for the number of predictors in the model, the exchange rate explains only around 4.24% of the variance. This adjusted value is considerably lower than the R-Square, further highlighting the model's weak explanatory power. The fact that the adjusted R-Square is close to zero suggests that the predictor might not meaningfully contribute to the model. The Standard Error is 2.7157, suggesting that the model's predictions on average deviate from the actual observations by approximately 2.72 units. Given the low R-Square, this high error reinforces the conclusion that the model does not fit the data well.

The ANOVA table helps determine whether the overall model is statistically significant. The F-statistic is 1.8852, and the Significance F is 0.1857, which is much higher than the typical threshold of 0.05 for statistical significance. This result indicates that the model as a whole is not statistically significant, meaning that the exchange rate does not explain a significant portion of the variance in the dependent variable.

The Beta coefficient for the Exchange Rate is -0.1334, with a standard error of 0.0972. This negative coefficient implies that for every one-unit increase in the exchange rate, the dependent variable is expected to decrease by approximately 0.1334 units. Nevertheless, the t-statistic for this coefficient is -1.3730, and the p-value is 0.1857, which is above the 0.05 threshold, indicating that the exchange rate is not a statistically significant predictor of the dependent variable. The 95% confidence interval for the Exchange Rate coefficient ranges from -0.3368 to 0.0700. This interval includes zero, which further indicates that there is no statistically significant relationship between the Exchange Rate and the dependent variable.

4.2.5 Hypotheses Validation

Hypothesis 1

Hypothesis 1 (H1) posits that higher GDP growth rates are negatively correlated with the Annual NPL rate, suggesting that improved economic conditions lead to better borrower performance and lower default rates. Based on the regression analysis, Hypothesis 1 is not validated; instead, the analysis indicates a need for further investigation into the factors influencing the relationship between economic growth and loan performance in the Zambian financial sector.

Hypothesis 2

Hypothesis 2 (H2), posits that higher Annual Inflation Rates are positively correlated with the Annual NPL rate. The rationale behind this hypothesis is that inflation erodes borrowers' purchasing power, potentially making it more challenging for them to repay loans. Based on the regression analysis, Hypothesis 2 is not validated. Rather, the analysis indicates a need for further investigation into the dynamics influencing loan performance in the context of inflation within the Zambian financial sector.

Hypothesis 3

Hypothesis 3 (H3), posits that higher Annual Real Interest Rates are positively correlated with the Annual NPL rate. The rationale behind this hypothesis is that increased interest rates can result in higher repayment amounts for borrowers, making defaults more likely if their income does not increase proportionally. Based on the regression analysis, Hypothesis 3 is not validated. The findings indicate a need for further investigation into other potential factors influencing loan performance in the Zambian financial sector, as the expected correlation between interest rates and NPL rates does not hold true in this context.

Hypothesis 4

Hypothesis 4 (H4), posits that higher exchange rate fluctuations are positively correlated with the Annual NPL rate. The underlying rationale for this hypothesis is that fluctuations in the exchange rate can increase the cost of servicing foreign-denominated loans and reduce borrowers' income if their earnings are in local currency, potentially leading to a higher likelihood of loan defaults. On the basis of the regression analysis, Hypothesis 4 is not validated. The findings suggest a need for further exploration of other macroeconomic factors that may influence loan performance in the Zambian financial sector, as the anticipated positive correlation between exchange rate fluctuations and NPL rates does not hold true in this context.

4.3 Strategies for Resolving Poor Loan Performance in Zambian Banks

The research also interviewed experts on the strategies that banks should use to manage and mitigate poor loan performance. This section presents the thematic analysis and verbatim accounts of their answers.

Table 11: THEMATIC ANALYSIS OF THE STRATEGIES FOR MANAGING AND MITIGATING POOR LOAN PERFORMANCE IN THE ZAMBIAN COMMERCIAL BANKING SUBSECTOR

THEME	SUBTHEME	KEY INFORMATION FOR SUBTHEME
STRATEGIES TO RESOLVE NPLs	**Proactive Engagement and Debt Restructuring**	- Restructuring debts through negotiations with defaulters (e.g., extended tenures, reduced interest rates). - Offering tailored solutions like payment holidays or temporary relief.
	Institutional Reforms	- Formation of dedicated loan recovery units. - Establishment of an asset management corporation (e.g., ZAMCO in Zimbabwe) to take over NPLs. - Leveraging legal frameworks like the AFC Act to expedite asset disposal.
	Regulatory and Systemic Enhancements	- Creation of a credit reference bureau to improve credit vetting. - Strengthening regulatory frameworks for transparency and accountability. - Educating borrowers on financial responsibility and credit history.
	Legal Measures	- Handing over defaulters to lawyers for litigation in cases of wilful default. - Using legal tools to attach assets or garnish wages of uncooperative defaulters.

The themes outlined in Table 3 are elaborated in the following expert opinions:

Expert 1: Financial Analyst and Risk Management Specialist

> *.... banks can resolve high non-performing loans (NPLs) by engaging defaulters to restructuring debts. This approach involves working closely with borrowers to reassess their financial situations and renegotiate loan terms to make repayment more manageable.... banks can extend loan tenures, reduce interest*

rates, or offer temporary payment holidays to borrowers facing temporary financial distress. This helps borrowers to regain financial stability so that it eventually increases the likelihood of loan recovery for banks....

.... proactive engagement with defaulters can help identify underlying issues, such as cash flow challenges or operational inefficiencies, and provide tailored solutions. This collaborative rather than confrontational approach, can build trust with borrowers and reduce the risk of defaults escalating into full-blown NPLs.

Expert 2: Credit Risk Consultant

Zambian banks should consider the formation of dedicated loan recovery units. These units would focus exclusively on managing and recovering non-performing loans.... this should be done to ensure that adequate resources and expertise are allocated to this critical function. A dedicated recovery team can streamline the process of identifying, monitoring, and resolving NPLs by employing specialized techniques such as asset tracing, legal enforcement, and negotiation with defaulters. For example, the team can prioritize high-value NPLs and develop customized recovery strategies for each case, ranging from restructuring to asset liquidation. Furthermore, these units can leverage data analytics to identify early warning signs of potential defaults and take pre-emptive action. If they centralize recovery efforts in this way, banks can improve efficiency, reduce costs, and enhance their overall NPL resolution rates.

.... A proven strategy for resolving high NPLs, which Zambia can adopt, is the formation of a specialized asset management corporation, this is similar to what has been set up in Zimbabwe where they have the Zimbabwe Asset Management Corporation (ZAMCO). This entity would be tasked with acquiring and managing NPLs from banks, particularly those from distressed but strategically important sectors such as agriculture and manufacturing. In taking over NPLs, the asset management corporation can relieve banks of the burden of non-performing assets, allowing them to focus on their core lending activities. For instance, ZAMCO in Zimbabwe has successfully taken over $188

million worth of NPLs, which has radically reduced the NPL ratio in the banking sector. The corporation can then work on restructuring these loans, rehabilitating distressed companies, or disposing of assets to recover value. This approach stabilizes the banking sector even as it supports economic recovery by preserving jobs and productive capacity in key industries.

Expert 4: Financial Strategist

Zambia needs a credit reference bureau to provide a centralized database that tracks borrowers' credit histories...this will enable lenders to make informed decisions before extending credit.... if a borrower has a history of defaulting with multiple banks, this information will be readily available, preventing further lending to high-risk individuals. This move is particularly potent is resolving the issue of multi-banking, where borrowers obtain loans from multiple institutions without disclosing their existing liabilities, leading to over-indebtedness and higher NPLs....a robust credit reference system, may help banks to improve their risk assessment processes, reduce exposure to bad loans, and promote responsible borrowing behaviour.

***....** To complement the establishment of a credit reference bureau, it is essential to strengthen the regulatory framework governing credit information sharing.... we may need a dedicated **[Act of Parliament]** that can empower financial institutions to dispose of defaulters' pledged assets without court intervention. This may speed up the recovery process but also reduces the costs associated with lengthy legal proceedings.*

.... the creation of a credit reference bureau will enhance transparency and accountability in the lending process. By vetting borrowers before approving loans, banks can avoid extending credit to individuals with a history of defaults or over-indebtedness.

.... the bureau can be the right platform for educating borrowers on the importance of maintaining a good credit history, thereby promoting a culture of financial responsibility.

Expert 5: Forensic Accountant

Even as litigation is not always the preferred method due to its lengthy and costly nature, handing over defaulters to lawyers for litigation purposes is a necessary strategy for dealing with recalcitrant borrowers who have the capacity to repay but lack the willingness to do so. In such cases, legal action is a strong a deterrent and reinforces the seriousness of contractual obligations. For example, banks can initiate court proceedings to attach assets or garnish wages of defaulters who refuse to cooperate. This allows banks to auction defaulters' assets after following due process, thereby recovering funds more efficiently. Although litigation should be a last resort, it remains a strong tool for enforcing accountability and guaranteeing that errant defaulters do not undermine the stability of the banking sector.

4.4 Chapter Summary

Non-performing loans (NPLs) are a significant challenge for the Zambian banking sector, stemming from a mix of internal factors (related to borrowers and banks) and external factors (linked to economic, regulatory, and environmental conditions). On the borrower side, poor financial management, such as diverting funds to non-productive ventures or lacking entrepreneurial knowledge, often leads to business failure. Borrowers may also lack transparency, providing falsified financial statements or misrepresenting their operations, which increases credit risk. The death of a key person in family-owned or single-owner businesses can disrupt operations, leading to defaults. Additionally, some borrowers have the capacity to repay but lack the willingness, resulting in wilful default. On the bank side, weak loan portfolio management, including inadequate credit analysis and monitoring, contributes to NPLs. Corruption or unfaithfulness among bank staff, such as colluding with borrowers to approve high-risk loans, further exacerbates the problem.

External factors also play a critical role. Natural calamities like droughts or floods, and adverse economic conditions such as inflation or recession, disrupt business operations and reduce repayment capacity. Changes in country policies or laws that are unfavorable to lending, such as stringent regulations or high taxes, create additional challenges. Court injunctions that delay

the disposal of mortgaged assets or the low prices fetched during liquidation hinder recovery efforts. Moreover, the lack of reliable market information leads to poor decision-making by both borrowers and lenders, increasing the risk of defaults.

This study examined the relationship between various macroeconomic indicators - specifically, the Real GDP Growth Rate, Annual Inflation Rate, Average Lending Rates, and Exchange Rate - and the Non-Performing Loan (NPL) Ratio in Zambia over a two-decade period (2003-2022/23). The study's findings accentuate the convoluted relationship between macroeconomic variables and the NPL ratio in Zambia. High inflation and exchange rate volatility were key contributors to increased loan defaults, while lower lending rates positively influenced borrowers' repayment capacities.

The analysis revealed an average Real GDP growth rate of 2.6% with a standard deviation of 4.551, indicating a high level of variations in economic performance. The NPL ratio averaged 8.7% with a standard deviation of 2.775%. Periods of negative GDP growth, such as 2003 (-10.3%), 2004 (-3.0%), and 2005 (-2.8%), corresponded with elevated NPL ratios, peaking at 12.6% in 2009. Conversely, a significant GDP growth of 10.3% in 2010 was associated with an increase in NPLs to 14.8%**,** indicating that rapid growth may have strained borrowers' capacities. The study suggests a varied relationship where both economic contraction and rapid growth periods can lead to increased loan defaults. The regression statistics indicate that while the Real GDP Growth Rate has a moderate and potentially positive influence on the dependent variable, the model as a whole does not explain much of the variance and is not statistically significant at the 5% level.

The average Annual Inflation Rate was 11.9% (standard deviation of 4.694%**),** demonstrating high volatility. The data indicates that spikes in inflation, particularly in 2003 (21.4%) and 2004 (18.0%), coincided with rising NPL ratios of 5.3% and 7.6%**,** respectively. This correlation reinforces the possibility that high inflation erodes borrower purchasing power, subsequently impacting their ability to service loans. The lowest NPL ratio of 4.2% in 2023, amidst a relatively lower inflation rate of 10.9%**,** supports the notion that stabilizing inflation contributes positively to loan performance. The poor fit of the regression model, lack of statistical significance, and large residuals indicate that the regression equation is not an effective representation of the relationship between the Annual Inflation Rate and the dependent variable.

The Average Lending Rates exhibited a mean of 26.8% with a standard deviation of 6.544%**,** which was indicative of high variability in lending rates. Lending rates decreased significantly from 45.3% in 2003 to 25.0% in 2022, coinciding with a declining NPL ratio from 5.3% to 4.2%**.** This trend suggests that reduced lending rates facilitate better repayment capabilities among borrowers, thereby improving loan performance. Yet, higher lending rates in earlier years aligned with elevated NPL ratios, indicating that costlier loans adversely affected borrower solvency. The regression analysis demonstrates that Average Lending Rates have an insignificant and weak relationship with the dependent variable.

The Exchange Rate, with an average of 9.0 and a standard deviation of 6.250, demonstrated substantial volatility, particularly with the steep depreciation from 4.73 in 2003 to 24.75 in 2023. This depreciation correlated with increases in the NPL ratio, peaking at 14.8% in 2010. The reduction of NPLs to 4.2% in 2023 amidst continued exchange rate depreciation suggests improved borrower resilience or adjustments in the financial sector's risk assessment practices. The regression analysis indicates that the exchange rate is not a significant predictor of the dependent variable, as evidenced by the low R-Square, insignificant p-values, and wide confidence intervals.

Experts recommend multi-faceted approach to manage and mitigate the prevalence of nonperforming loans. This approach was found to include the proactive engagement of defaulters**,** institutional reforms**,** regulatory enhancements**,** and legal measures. Proactive engagement involves restructuring debts through negotiations with defaulters to make repayment terms more manageable, such as extending tenures, reducing interest rates, or offering payment holidays. Tailored solutions can address underlying issues like cash flow challenges or operational inefficiencies. Institutional reforms include forming dedicated loan recovery units to focus exclusively on resolving NPLs, employing specialized techniques like asset tracking and negotiation. Establishing a specialized asset management corporation, can take over and manage NPLs from distressed but strategic sectors like agriculture and manufacturing. A specific Act can expedite the disposal of pledged assets without court intervention.

Experts also argued that creating a credit reference bureau would improve credit vetting, prevent multi-banking practices, and promote responsible borrowing behavior. It was opined that strengthening regulatory frameworks enhances transparency and accountability in the lending process, while educating borrowers on financial responsibility and the importance of maintaining a good credit history fosters a culture of accountability. Legal measures, such as

handing over defaulters to lawyers for litigation in cases of wilful default, can enforce repayment through asset attachment or wage garnishment. However, legal enforcement should be balanced with collaborative approaches to ensure fairness and efficiency in the recovery process.

CHAPTER 5 – DISCUSSION OF THE FINDINGS

5.0 Introduction

This chapter discusses the implications of the findings reported in Chapter 5. The discussion will involve an analysis of how and potentially, why the reported findings confirm or contradict those from the literature review. The policy implications of each observation will also be given.

5.1 Expert Opinion on Factors that Cause High NPL in Zambian Commercial Banks

The expert opinions on the causes of poor loan performance in Zambian commercial banks largely align with the broader literature on non-performing loans (NPLs), while also providing nuanced, context-specific insights that enrich the understanding of this complex issue. These findings corroborate many of the themes identified in the literature, such as the role of macroeconomic factors, borrower-related challenges, and institutional inefficiencies. However, they also deviate in certain areas by offering more granular and localized perspectives that are particularly relevant to the Zambian context. This discussion will explore how the expert opinions both reinforce and expand upon the existing literature, highlighting the interplay between internal practices, external economic conditions, and borrower-specific vulnerabilities.

Beginning with borrower-related issues, the experts' observations corroborate the literature, particularly in identifying poor financial management, lack of entrepreneurial knowledge, and fraudulent practices as key contributors to NPLs. For instance, the diversion of loan funds to non-productive ventures or personal use, as highlighted by Expert 1 and Expert 4, are consistent with findings from Bwalya (2019), who reported that the mismanagement of credit and has a negative impact on repayment capacity.

Similarly, the lack of transparency and integrity, such as the submission of falsified financial statements, supports Chikweti's (2020) focus on information asymmetry and the need for greater transparency in borrower-lender relationships. Nevertheless, the experts go further by providing specific examples of how these issues manifest in practice, such as borrowers inflating asset values or concealing liabilities to secure loans. This granularity adds depth to the literature, which often discusses borrower-related challenges in more general terms. In addition, the experts highlight the death of a key person in family-owned businesses as a

significant factor, a point that is not noted in the reviewed literature but still highlights the vulnerability of businesses that rely heavily on individual leadership.

With regard to bank-related issues, the experts' insights reinforce the literature's emphasis on institutional inefficiencies as a major driver of NPLs. Weak loan portfolio management, including inadequate credit analysis and poor monitoring, is a recurring theme in both the expert opinions and studies like Rachman et al. (2018) and Nyong'o (2014). Expert 4, for example, provides a detailed explanation of how lapses in the loan origination process, such as insufficient due diligence and over-reliance on historical performance, can lead to the approval of high-risk loans. Similarly, the experts' focus on unfaithfulness or corruption among bank staff is in agreement with Dixon, Ritchie, and Siwale's (2006) findings on internal shortcomings and hierarchical pressures within banks. However, the experts offer more specific examples of unethical behavior, such as collusion between staff and borrowers, which are not extensively discussed in the broader literature. These insights highlight the need for stronger governance and ethical standards within financial institutions.

The experts also emphasize the role of economic and environmental conditions, which is consistent with the literature's recognition of macroeconomic instability and external shocks as significant contributors to NPLs. For instance, the adverse impact of inflation, currency devaluation, and natural calamities like droughts and floods aligns with findings from Messai and Jouini (2013) and studies on Sub-Saharan Africa. Expert 2 and Expert 3 provide vivid examples of how climate-related disruptions, such as crop failure and infrastructure damage, have exacerbated repayment challenges for borrowers in Zambia. These insights add a localized dimension to the literature, which often generalizes the impact of macroeconomic factors. Furthermore, the experts highlight the compounding effects of multiple crises, such as the COVID-19 pandemic and prolonged load shedding, which have created a particularly challenging environment for borrowers. This contextual detail enriches the understanding of how external shocks interact with economic conditions to drive NPLs.

In terms of regulatory and legal challenges, the experts' observations corroborate the literature's focus on the impact of policy changes and legal inefficiencies on loan performance. For example, Expert 1 and Expert 3 discuss how excessive regulatory requirements and court injunctions delaying asset disposal can hinder recovery efforts, which is in line with findings from Beck et al. (2013) and Karadima and Louri (2021). Yet, the experts provide more specific examples of these challenges, such as borrowers obtaining injunctions to delay the sale of mortgaged properties or assets fetching low prices during liquidation. These practical insights

highlight the need for legal and regulatory reforms to address inefficiencies in the recovery process.

Furthermore, the experts' focus on market information gaps reinforces the literature's emphasis on the importance of accurate and timely data for effective credit risk management. Expert 2 and Expert 6, for instance, discuss how the lack of reliable market information can lead to poor decision-making by both borrowers and lenders, which reiterates findings by Chikweti (2020) on the negative effect of information asymmetry on credit appraisal and credit risk management. The experts however go further by providing specific examples of how outdated market research or incomplete data can result in high-risk loans, adding a practical dimension to the literature's more theoretical discussions.

5.2 Relationship between Macroeconomic Factors and NPLs

5.2.1 Real GDP Growth Rate and NPL Ratio

The findings on the relationship between the Real GDP growth rate and the Non-Performing Loan (NPL) ratio showed an inverse relationship between periods of negative GDP growth and elevated NPL ratios. This was consistent with Messai and Jouini (2013) who observed a negative association between GDP growth and NPLs. This suggests that economic contraction erodes borrowers' repayment capacity, leading to higher loan defaults. Similarly, Beck, Jakubik, and Piloiu (2013) established that economic downturns are key contributors to worsening asset quality, particularly in systems with high credit exposure. Other studies such as those by Mustafa and Ali (2019), Mazreku et al. (2018), and Anita et al. (2022), similarly report that robust economic performance typically improves borrowers' financial stability, thereby reducing NPL levels. Mazreku et al. (2018) and Smith (2024) also emphasized that GDP growth inversely correlates with NPLs, corroborating the finding that negative growth periods, such as those in 2003 to 2005, coincide with higher NPL levels.

However, the observation that rapid GDP growth in 2010 corresponded with a further increase in the NPL ratio to 14.8% contradicts the predominant narrative in the literature. This divergence may reflect a country- or context-specific anomaly where rapid growth may have overstimulated lending activities, leading to over-leveraged borrowers or systemic inefficiencies, as suggested by Koju et al. (2018) in Nepalese banks. This contradictory evidence invites deeper reflection on how rapid economic growth could lead to market

distortions, such as a surge in high-risk lending and speculative borrowing, contributing to rising NPLs even in periods of apparent economic strength.

The results point to the possibility of a non-linear relationship between GDP growth and NPLs, which is consistent with findings by Quang and Nhi (2017), who noted that though GDP growth often reduces NPLs, irregularities in economic expansion can introduce vulnerabilities. Similarly, Beck et al. (2013) found that the effect of GDP on NPLs is sometimes mediated by structural factors like credit market behavior and lending practices. The varied results may also resonate with regional insights from studies like Funyina and Muhanga (2021) in Zambia, where the influence of macroeconomic variables like GDP growth varied across different bank categories and lending structures.

While GDP growth is generally believed to reduce NPLs, the lack of statistical significance at the 5% level for GDP growth's influence on NPLs in this study suggests that the relationship is more nuanced. This complexity, also noted in other studies such as Kamun and Olweny (2023) and Gezu (2014), highlights the potential role of other intervening variables like inflation, exchange rates, or sector-specific lending practices, which were significant in previous studies by Kepli et al. (2021) and Wahome (2021). These findings may suggest the need for a more contextualized approach in examining GDP growth’s effects on NPLs, where further research could explore the moderating influence of factors like the banking sector's risk management practices or borrower demographics.

5.2.2 Annual Inflation Rate and NPL Ratio

The findings regarding the Annual Inflation Rate and the NPL ratio support certain aspects of the consensus on the impact of inflation on non-performing loans, even as it also highlights inconsistencies in the strength and statistical validity of the observed relationships.

The literature review identifies inflation as a key macroeconomic factor influencing NPLs, though its direction and significance vary across contexts. For instance, Mazreku et al. (2018) observed a negative correlation between inflation and NPLs in transition economies, suggesting that moderate inflation could stabilize the economy and enhance loan repayment capacity. Conversely, Quang and Nhi (2017) noted fluctuating effects of inflation on NPLs in Vietnam, emphasizing the role of economic irregularities. The findings from the present analysis partially confirm these studies by showing that high inflation spikes, such as those in

2003 and 2004, coincided with elevated NPL ratios, consistent with the argument that inflation erodes borrowers' purchasing power and loan repayment ability.

Nevertheless, the data also highlights periods where relatively lower inflation rates corresponded with better loan performance, as evidenced by the 4.2% NPL ratio in 2023 when inflation stabilized at 10.9%. This finding corroborates the argument by Mustafa and Maimunah Ali (2019) that stable inflation conditions can mitigate credit risks by preserving borrowers' real incomes. Similarly, Funyina and Muhanga (2021) emphasized that the effects of inflation could vary based on bank size and structure, with larger institutions often less affected.

Nonetheless, the findings challenge the conclusions of studies like Kamun and Olweny (2023), which suggested that inflation significantly exacerbates NPL levels in East Africa. In this analysis, the relationship between inflation and NPLs demonstrated volatility and lacked statistical significance, as reflected in the regression model's poor fit and high residuals. This suggests that although inflation has a theoretical impact on NPL ratios, its practical influence in this context is less robust and may be mediated by other factors, such as interest rates, exchange rates, or institutional characteristics.

This observed volatility in the relationship also mirrors findings from Wahome (2021) in Kenya, who reported an insignificant effect of inflation on NPLs under specific conditions. This suggests that inflation’s impact may not be uniform but rather context-dependent, influenced by factors such as monetary policy effectiveness, economic structure, and borrower behaviour. In light of these conflicting results, future research could further explore the interaction between inflation and other economic factors to more accurately model its effect on loan performance.

5.2.3 Average Lending Rate and NPL Ratio

The results on the Average Lending Rates and NPL Ratio partially confirm and partially contradict the trends established in the literature review regarding the relationship between lending rates and NPLs. The literature consistently identifies lending interest rates as a significant factor influencing NPL ratios. Even so, the magnitude and direction of their effects vary across studies.

The observed trend in this study, where declining lending rates from 45.3% in 2003 to 25.0% in 2022 coincided with a reduction in the NPL ratio from 5.3% to 4.2%, is in line with the literature that reiterated the negative relationship between lending rates and NPLs. For

example, studies such as those by Beck, Jakubik, and Piloiu (2013) and Baş and Kara (2021) draw attention to how lower lending interest rates reduce the cost of borrowing, improving borrowers' repayment capacity and lowering NPL ratios. Similarly, findings from Anzagi (2016) and Wahome (2021) in the Kenyan context confirm that higher lending interest rates elevate loan default risks, thereby supporting the proposition that costlier loans strain borrowers' ability to meet their financial obligations.

On the other hand, the weak and insignificant relationship identified in this study's regression analysis contradicts the findings from studies like Sheefeni (2015) and Kamun and Olweny (2023), which emphasize a strong and significant correlation between lending rates and NPLs in Namibia and East Africa, respectively. These studies attribute the impact of lending rates on NPLs to the affordability of loans and borrowers' exposure to financial shocks. The absence of statistical significance in this analysis could be attributed to country-specific dynamics or the influence of other unaccounted variables, such as borrower characteristics or the structure of the banking sector.

Furthermore, the high variability in lending rates, reflected by a standard deviation of 6.544%, introduces complexity into the analysis. Variability in rates may obscure the relationship, as borrowers and financial institutions could adapt to changing interest rates over time. For instance, borrowers might anticipate higher lending costs during certain periods and adjust their borrowing behavior accordingly. This may potentially mitigate the anticipated rise in NPL ratios.

It can also be observed that although some studies in the literature, such as those by Funyina and Muhanga (2021) in Zambia and Aliyu (2023) in Nigeria, stress the interaction between lending rates and other macroeconomic factors like exchange rates or tax revenue, the findings of this study indicate that lending rates alone do not serve as a robust predictor of NPL trends. This suggests that broader systemic and bank-specific factors, as emphasized by Gezu (2014) and Koju, Koju, and Wang (2018), may play a more critical role in shaping loan performance.

5.2.4 Exchange Rate and NPL Ratio

The findings on the relationship between the exchange rate and non-performing loans (NPLs) exhibit both alignments and contradictions with the literature reviewed. The findings from the current data indicate that exchange rate depreciation correlates with higher NPL ratios, particularly peaking at 14.8% in 2010. This agrees with the findings of Beck, Jakubik, and

Piloiu (2013), who emphasized the role of exchange rates in shaping NPL levels, especially in economies with substantial foreign currency lending. The study by Funyina and Muhanga (2021) also noted that the depreciation of the Kwacha significantly impacted NPLs in Zambia, particularly affecting foreign banks. In this case, the trends observed in the results of the present study as well as in the cited literature are consistent with the proposition that depreciation has a potent impact on NPLs. The studies from the reviewed literature have shown that exchange rate volatility can exacerbate credit risk, which is in agreement with the observed trends in the current data.

On the other hand, the findings also show a divergence from the broader literature when considering the long-term impact of exchange rate depreciation on NPLs. Despite the continuous depreciation of the exchange rate from 2003 to 2023, the NPL ratio actually decreased from 14.8% in 2010 to 4.2% in 2023, suggesting improved borrower resilience or adjustments within the financial sector's risk assessment practices. This contradicts the general expectation, highlighted in studies such as Kamun and Olweny (2023), which argue that continued exchange rate depreciation exacerbates NPLs. The improvement in NPL ratios amid further depreciation challenges the notion that a weakening currency necessarily leads to increased loan defaults, as seen in the current findings. This may suggest that financial sector adjustments may mitigate the impact of exchange rate volatility.

The regression analysis indicating that the exchange rate is not a significant predictor of NPLs, with low R-Square values, insignificant p-values, and wide confidence intervals, is another point of divergence. This result contrasts with the literature's consensus on the importance of exchange rates in determining loan performance. Whereas the literature consistently reports a significant relationship between exchange rate volatility and NPLs, the current analysis finds no such predictive strength. This may suggest that factors other than the exchange rate may be playing a more dominant role in determining NPL ratios in the later years of the study period. This agrees with the findings of Mustafa and Maimunah Ali (2019), where the relationship between macroeconomic factors like exchange rates and NPLs was less pronounced in certain contexts, especially when financial sectors adjusted their risk models to buffer against such external shocks.

5.3 Strategies for Managing and Mitigating Poor Loan Performance in Zambia

The strategies proposed for resolving poor loan performance in Zambian banks underscores the importance of proactive engagement, institutional reforms, regulatory enhancements, and legal frameworks in mitigating credit risk and improving loan performance.

5.3.1 Proactive Engagement and Debt Restructuring

The emphasis on proactive engagement and debt restructuring aligns with the literature on relationship banking and credit risk management. Berger and Udell (1995) highlight that strong bank-borrower relationships improve repayment behaviour by fostering trust and reducing information asymmetry. By restructuring debts through extended tenures, reduced interest rates, or temporary relief measures, banks can support distressed borrowers and increase loan recovery prospects. This is consistent with the findings of Rajan and Dhal (2003), who emphasize that restructuring mechanisms reduce the likelihood of loan defaults and stabilize the financial sector. Further, Arora and Agarwal (2020) note that offering tailored solutions to borrowers - such as payment deferrals and flexible repayment structures - has proven effective in India and other emerging economies. These strategies, therefore, align with global best practices in managing distressed credit portfolios.

5.3.2 Institutional Reforms

The formation of dedicated loan recovery units and the establishment of an asset management corporation (AMC) align with international experiences. Beck, Jakubik, and Piloiu (2015) highlight that AMCs help relieve banks of toxic assets and allow them to refocus on core lending activities. The case of Zimbabwe's Asset Management Corporation (ZAMCO) further illustrates the effectiveness of this strategy, with empirical evidence showing that it has significantly reduced the NPL ratio in Zimbabwean banks (Reserve Bank of Zimbabwe, 2019). Similarly, Klingebiel (2000) found that countries such as Malaysia, South Korea, and Sweden successfully used centralized AMCs to resolve banking crises. Nonetheless, while AMCs can improve credit market efficiency, their success depends on robust governance and clear asset disposal mechanisms to prevent moral hazard and political interference.

5.3.3 Regulatory and Systemic Enhancements

The proposal to establish a credit reference bureau is supported by previous studies emphasizing the role of credit information sharing in reducing default risks. Djankov, McLiesh, and Shleifer (2007) argue that stronger credit reporting systems enable banks to assess borrower creditworthiness more accurately, reducing adverse selection and moral hazard. Studies in Kenya and Nigeria have shown that the introduction of credit reference bureaus significantly improved lending discipline and reduced multi-banking-related defaults (Kusi et al., 2017). Additionally, Klein (2013) emphasizes that improved credit information infrastructure strengthens financial intermediation by encouraging responsible lending and borrowing behaviours. Therefore, implementing a robust credit reference bureau in Zambia is a necessary step toward enhancing transparency, reducing over-indebtedness, and mitigating systemic risk in the banking sector.

5.3.4 Legal Measures

The use of legal instruments, such as litigation against wilful defaulters and wage garnishment, is consistent with global practices for enforcing loan repayment. Laeven and Valencia (2013) found that strict legal enforcement mechanisms are crucial in ensuring creditor rights and minimizing financial instability. In China, legal actions against strategic defaulters significantly reduced NPLs in the banking sector (Gong, 2018). Similarly, Kalberg and Pennacchi (2016) highlight that legal enforcement enhances creditor confidence and supports a stable financial system. However, litigation should be a last resort, as excessive reliance on legal measures can lead to high legal costs, prolonged asset recovery timelines, and potential reputational risks for banks (Basel Committee on Banking Supervision, 2017).

5.4 Interpretation of Findings through the Lens of the Credit Risk Theory

The findings support the Credit Risk Theory by confirming that non-performing loans (NPLs) arise due to a combination of borrower-specific, bank-specific, and macroeconomic factors (Bank for International Settlements, 2000). Nonetheless, the results also introduce details that extend beyond traditional credit risk models, particularly in terms of institutional weaknesses and legal inefficiencies affecting loan recovery.

The Credit Risk Theory asserts that borrower-specific factors, such as financial stability and creditworthiness, are central to predicting loan performance (CFA Institute, 2025). The findings support this by identifying poor financial management, lack of entrepreneurial knowledge, and wilful default as major contributors to NPLs. These are consistent with the theory's emphasis on the role of borrower risk in determining credit outcomes. The theory also stresses the importance of accurate financial disclosure in risk assessment, a principle reaffirmed by the finding that borrowers often misrepresent financial statements, leading to poor credit decisions and increased default rates.

Bank-specific factors, another key component of Credit Risk Theory, are also reflected in the findings. Weak loan portfolio management, inadequate credit analysis, and poor monitoring increase exposure to credit risk, which aligns with the theoretical assertion that rigorous credit assessment and oversight are crucial for mitigating loan defaults (Basel Committee on Banking Supervision, 2017; Funyina & Muhanga, 2021). Furthermore, collusion between bank staff and borrowers to approve high-risk loans represents a breakdown in internal risk controls, reinforcing the theory's argument that effective credit risk management is necessary to maintain a stable loan portfolio.

Moreover, Credit Risk Theory highlights the impact of macroeconomic conditions on loan performance (CFA Institute, 2025). The findings support this by demonstrating how inflation, recession, and natural disasters disrupt businesses and reduce repayment capacity. Regulatory changes and unfavourable policies, such as high taxation and stringent lending rules, also align with the theory's view that external economic and policy factors influence credit risk exposure.

However, the findings from chapter 5 presented other insights that were not covered by the theory. While Credit Risk Theory primarily focuses on identifying and managing risks at the borrower and lender levels, the findings introduce broader institutional and structural challenges that are not fully accounted for within traditional credit risk models. One notable deviation is the role of weak legal frameworks and procedural inefficiencies in exacerbating NPL issues. The theory generally assumes that financial institutions operate within effective regulatory and legal environments that facilitate loan recovery. Yet, the findings suggest that court injunctions delaying the disposal of pledged assets and the undervaluation of liquidated properties hinder banks' ability to recover defaulted loans, demonstrating a systemic weakness not explicitly addressed in the theoretical framework.

Another key deviation is the emphasis on corruption and unethical practices within banks. While Credit Risk Theory recognizes institutional risk, it does not extensively account for internal fraud and collusion as major contributors to NPLs. The findings indicate that corruption among bank staff plays a crucial role in loan defaults by facilitating the approval of high-risk borrowers. This suggests that credit risk models need to incorporate governance and ethical considerations to more accurately assess loan performance.

The proposed strategies for mitigating NPLs also introduce elements not explicitly covered by Credit Risk Theory. The establishment of an asset management corporation to handle distressed loans and the introduction of legal frameworks for expedited asset disposal represent institutional reforms aimed at systemic risk reduction (Basel Committee on Banking Supervision, 2017). Credit Risk Theory does not typically address these macro-level interventions, as it focuses more on borrower- and lender-specific risk factors. Similarly, the recommendation to enhance borrower education on financial responsibility and creditworthiness suggests a behavioural approach to credit risk mitigation, which goes beyond traditional financial risk models (CFA Institute, 2025).

5.5 Chapter Summary

Even though the findings partially confirm that economic contractions elevate NPL levels, the positive association between rapid GDP growth and higher NPLs introduces a contrasting perspective. This could reflect structural inefficiencies or speculative lending during high-growth periods. The mixed and context-specific nature of these findings reinforces the need for deeper investigation into mediating factors, as suggested in several studies emphasizing the interaction of macroeconomic and bank-specific conditions.

Similarly, the findings partially confirm the adverse effects of inflation on NPLs during periods of high volatility. However, the lack of statistical significance in the regression results and the presence of counterexamples, such as improved loan performance under moderate inflation, challenge the universal applicability of these relationships. This underscores the need for further investigation into the mediating factors shaping this dynamic.

It was also evident that the results confirm the general premise that high lending rates correlate with elevated NPL ratios, while lower rates support improved loan performance. Yet, the regression model's inability to establish a significant relationship challenges the emphasis on

lending rates as a primary driver of NPLs in certain contexts, pointing to the need for further investigation into other factors influencing loan performance.

Moreover, though the literature strongly supports the conception that exchange rate depreciation contributes to rising NPLs, the current findings challenge this view in the long term, suggesting that other factors, such as improved borrower resilience or internal financial sector adjustments, may have lessened the impact of currency volatility on loan performance in more recent years.

CHAPTER 6-CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

Chapter 7 presents a summary of the study followed by the conclusions thereof. Based on these conclusions, the chapter will present policy recommendations for the Zambian Ministry of Finance and National Planning, the Bank of Zambia and commercial lenders in Zambia.

6.1 Research Summary

The objective of this study was to examine the relationship between macroeconomic indicators-namely, Real GDP Growth Rate, Annual Inflation Rate, Average Lending Rates, and Exchange Rate- and the Non-Performing Loan (NPL) Ratio in Zambia from 2003 to 2022/23.

A review of the literature revealed key findings from global, African, and Zambian perspectives. Mustafa and Maimunah Ali (2019) found that GDP growth negatively impacts NPLs, while unemployment positively affects them in Malaysia. In Bosnia and Herzegovina, Živko and Čolak (2022) identified that GDP growth reduces NPLs, while rising unemployment and consumer prices increase NPLs. Similarly, Anita et al. (2022) noted that GDP, sovereign debt, inflation, and money supply are negatively associated with NPLs across SAARC countries. From an African perspective, Anzagi (2016) and Wahome (2021) found that inflation and interest rates significantly influence NPLs in Kenyan commercial banks, while Mumba (2019) and Funyina and Muhanga (2021) observed that high interest rates, exchange rates, and unemployment are key contributors to loan defaults in Zambia. Despite these findings, the research gap lies in the insufficient understanding of the complex interactions between macroeconomic factors and their collective effect on loan performance.

The study employed a positivist philosophy and a descriptive research design. Data was sourced from the Bank of Zambia's Financial and Other Statistics Booklet and Annual Reports, spanning the years 2003–2023, with descriptive statistics and regression analysis used to uncover relationships and trends. The results revealed that the Real GDP growth rate averaged 2.6%, with periods of negative GDP growth corresponding to elevated NPL ratios. While rapid GDP growth in 2010 correlated with a peak in NPL ratios, the regression analysis showed no statistically significant influence. The Annual Inflation Rate averaged 11.9%, with inflation spikes corresponding to higher NPL ratios, but regression analysis found no significant relationship. Average Lending Rates averaged 26.8%, with a decline over the years coinciding with an improvement in NPL performance, although no significant relationship was found

through regression analysis. The Exchange Rate, averaging 9.0, showed a correlation between depreciation and higher NPL ratios, but the regression analysis deemed it an insignificant predictor of NPLs. Overall, the regression models across all variables failed to explain significant variance in the NPL ratio, suggesting that further exploration is required into other macroeconomic and sector-specific factors influencing loan performance.

6.2 Conclusion

In conclusion, the study reveals a multidimensional relationship between macroeconomic factors and loan performance, with high inflation and exchange rate volatility driving loan defaults, while lower lending rates improve repayment capacity. However, macroeconomic factors alone do not fully explain NPL variations, highlighting the significance of systemic challenges such as poor financial management, weak credit monitoring, and regulatory inefficiencies. To address these issues, a multi-faceted approach is essential, combining macroeconomic stability, strengthened regulatory oversight, institutional reforms, and proactive borrower engagement to mitigate NPL risks and ensure the long-term resilience of Zambia's banking sector.

6.3 Recommendations for the Ministry of Finance and the Bank of Zambia

1. **Macroeconomic Stability and GDP Growth Support:**

   Recommendation 1: The Ministry of Finance and the Bank of Zambia should implement targeted fiscal and monetary policies to stimulate sustained GDP growth, particularly during economic downturns. Specific actions could include:

   - **Subsidized lending programs** to support key sectors during periods of contraction, particularly for SMEs.
   - **Incentives for export-oriented businesses** to enhance foreign exchange inflows and promote employment.
   - **Counter-cyclical fiscal policies**, such as tax cuts or government spending on infrastructure projects, that help buffer against recessions and smoothen GDP fluctuations.

   Recommendation 2: Promote **financial literacy programs** aimed at improving the ability of SMEs and borrowers to withstand economic shocks. Specifically:

- Implement **training on financial planning** and the impact of macroeconomic changes on loan repayment.
- Encourage **government-backed resilience programs** where businesses can access advisory services on managing through periods of high inflation or economic contraction.

2. **Inflation Control and Credit Risk Mitigation:**

   Recommendation 1: The Bank of Zambia should target inflation control policies, with specific attention to the most volatile sectors, like food and energy. Actions might include:

   - **Targeting inflation through interest rate adjustments** and tightening monetary policy only when inflation is deemed persistent rather than transient.
   - Strengthening **commodity price regulation mechanisms** to prevent price volatility from disproportionately affecting low-income borrowers.

   Recommendation 2: Develop **inflation-resistant credit products** such as inflation-indexed loans or repayment deferrals during periods of high inflation. A clear example could be:

   - Introducing **flexible repayment options** for borrowers in sectors most affected by inflation (e.g., agriculture, manufacturing) so that loan payments are linked to inflation-adjusted income.

3. **Interest Rate Management to Safeguard Loan Performance:**

   Recommendation 1: The Bank of Zambia should adopt more **gradual and transparent interest rate adjustments**, particularly when combatting inflation, ensuring that changes are predictable. For example:

   - Provide **clear guidelines on interest rate adjustments** to banks so that borrowers can prepare for rate changes in advance, with a specific focus on long-term loans and SMEs.

4. **Managing Exchange Rate Volatility in Credit Markets:**

   Recommendation 1: Develop financial instruments to hedge against exchange rate fluctuations, particularly for businesses with foreign currency-denominated loans. Examples include:

   - Introducing **foreign currency loan options** that are indexed to the local currency to reduce borrower exposure.
   - Encourage **banks to offer currency-hedging services** that help businesses manage risks from exchange rate volatility.

   Recommendation 2: Implement **macro prudential policies** to reduce institutional exposure to foreign exchange risk. Specifically:

   - Require **banks to maintain minimum foreign exchange reserves** to shield against exchange rate shocks.
   - Develop **regulatory frameworks** that limit foreign currency lending exposure for non-exporting businesses.

6.4 Recommendations for Commercial Banks in Zambia

1. **Develop Flexible Loan Products:** Commercial banks should innovate **adjustable-rate loans** with pre-set maximum caps, ensuring that borrowers can manage their repayments even when rates increase. Banks could introduce **variable-rate loans with an upper limit**, allowing for increased flexibility when monetary policy changes.

2. **Enhance Credit Risk Assessment:** Commercial banks should integrate **advanced analytics tools** (such as machine learning and artificial intelligence) for improved creditworthiness assessments. Specifically:

   - Use **data-driven models** to assess borrower credit risk more accurately by incorporating economic variables, borrower behaviour, and sector-specific risks.
   - **Example:** Employ predictive analytics to identify borrowers who may be at higher risk of default due to macroeconomic changes.

3. **Establish Financial Literacy Programs:** Commercial banks should initiate **tailored financial literacy programs** for different borrower segments. For example:
    - **Targeted seminars or workshops** for SMEs on managing loans and financial obligations, with practical examples of managing loan repayment during inflationary periods.

4. **Collaborate with Credit Reference Bureaus:** Strengthen partnerships with **credit bureaus** to ensure that banks have access to comprehensive, real-time borrower data for better lending decisions. For instance:
    - Implement **continuous data-sharing protocols** between banks and credit bureaus to ensure up-to-date information on borrower creditworthiness.

6.5 Research Gaps and Recommendations for Further Research

1. **Real GDP Growth Rate and NPL Ratio:** Given that periods of rapid GDP growth might strain borrower capacities, future research should:
    - Investigate the **causal mechanisms** behind how rapid growth leads to loan defaults. Focus on whether **excessive borrowing** or **over-optimistic credit assessments** during periods of growth are factors.
    - Future studies could incorporate **sector-specific analyses**, exploring how rapid growth in certain sectors (e.g., mining, agriculture) might contribute to NPLs more than others.

2. **Annual Inflation Rate and NPL Ratio:** Further research could explore:
    - **Sectoral impacts** of inflation, particularly how **small businesses** and **low-income households** experience inflation differently. Studies could segment inflation effects across **urban vs. rural borrowers**, as these segments may have varying exposure to inflationary pressures.
    - Future studies should focus on **inflation's compounded effects** alongside other factors like wage stagnation, income distribution, and external shocks.

3. **Average Lending Rates and NPL Ratio:** Research should investigate:
    - How **interest rates interact with other factors** like borrower characteristics and loan terms. For instance, does the duration of a loan (short vs. long term) have a more significant effect on repayment during interest rate changes?
    - Future studies could also examine the **optimal interest rate threshold** beyond which loan performance deteriorates, and whether lower rates correlate with over-borrowing and defaults.

4. **Exchange Rate and NPL Ratio:** Further exploration into how **currency fluctuations** interact with other variables such as commodity prices and external debt would be beneficial. Additionally:
    - Future research could explore how **financial institutions adjust** lending policies in response to exchange rate volatility, and whether **adjusted lending criteria** reduce the impact of depreciation on loan performance.

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APPENDICES

Appendix 1: Interview guide for Experts in the Zambian Commercial Banking sector

Section A: Respondent Background Information

1. Position in the Bank: .....
2. Years of Experience in Banking and Finance: .....
3. Specific Role in Loan Management and Recovery: .....

Section B: Causes of Non-Performing Loans (NPLs)

4. In your opinion, what are the most significant factors influencing NPLs in your bank?
5. How do borrower behavior, bank practices, and external factors contribute to NPL accumulation?

Section C: Strategies t Manage and Mitigate NPLs in Zambian Commercial Banks

6. What are the most effective collaborative approaches for managing and reducing NPLs?
7. Do you believe debt restructuring and proactive engagement yield better results compared to legal enforcement?
8. How can regulatory reforms improve loan performance across the banking sector?
9. What institutional changes would you recommend for strengthening NPL management?
10. Under what circumstances does your bank resort to litigation for loan recovery?
11. What improvements can be made to legal processes to enhance the efficiency of loan recovery without harming bank-client relationships?

Appendix 2: Ethical Approval