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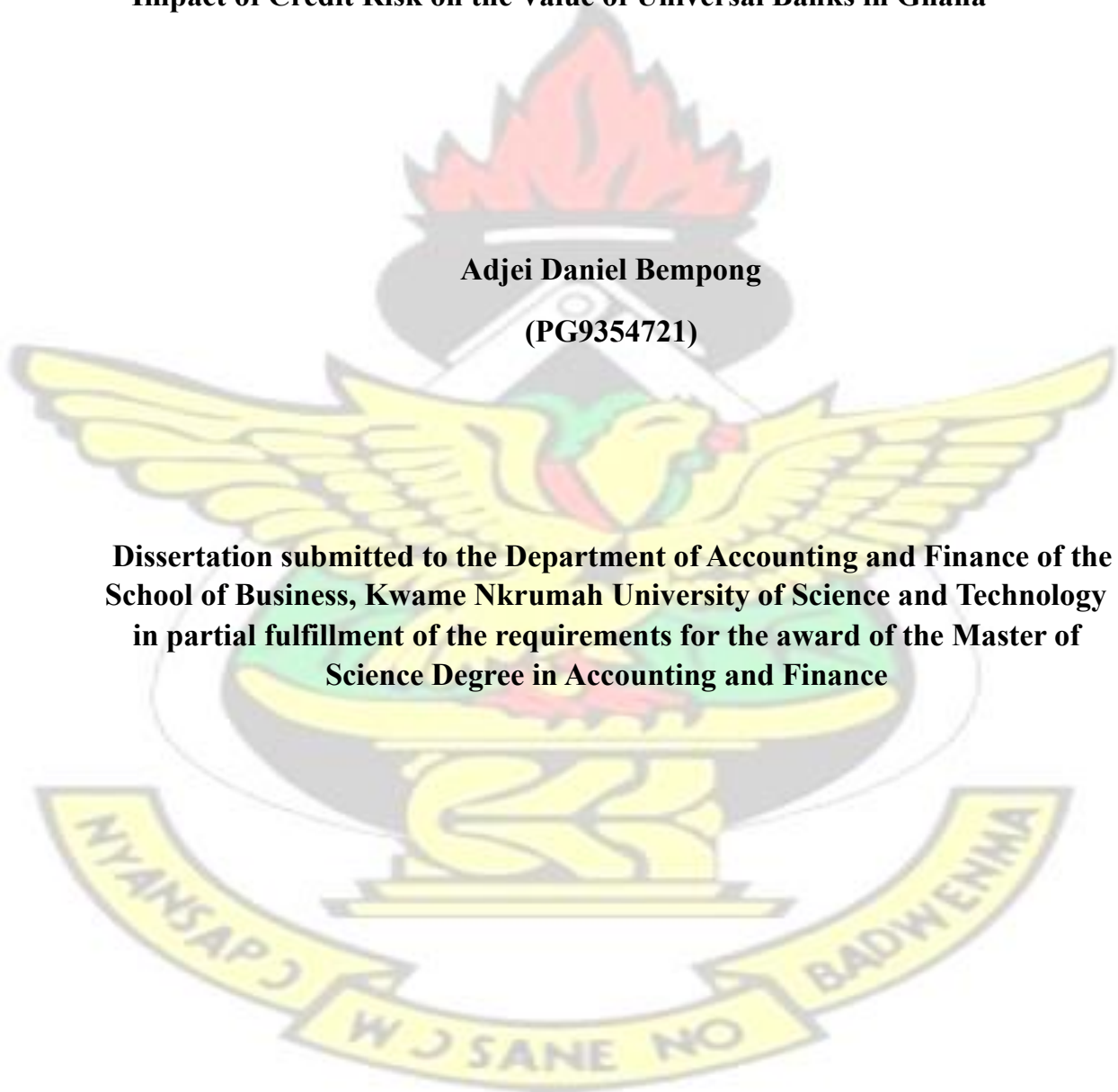
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Impact of Credit Risk on the Value of Universal Banks in Ghana

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School of Business, Kwame Nkrumah University of Science and Technology
in partial fulfillment of the requirements for the award of the Master of
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February, 2023

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature Date

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by Kwame Nkrumah University of Science and Technology.

Supervisor's Signature Date

(Dr. Ellis Akwaa-Sekyi)

Certified by:

Prof. K.O. Appiah

.....

.....

(Head of Department)

Date

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DEDICATION

I dedicate this work to my family, lovely wife and children.



ACKNOWLEDGEMENTS

My first thanks go to the Almighty God for being on my side throughout my study. My second thanks go to my supervisor, Dr. Ellis Akwaa-Sekyi, for his support, assistance and guidance to make this desertion a success. Finally, I acknowledge Teddy Agyei-Darko for his support and encouragement throughout my study.

God bless you all.



ABSTRACT

This paper investigates the impact of credit risk on the value of universal banks in Ghana. The general objectives of the study are to examine the trend of credit risk and also examine the relationship between credit risk, capital adequacy and the value of universal banks in Ghana. A quantitative survey is conducted with data obtained from the financial statement of 15 universal banks in Ghana from the period of 2007 to 2021. A total of 225 observations are analyzed in this study due to data availability and time constraint. Data collected are analyzed using multiple linear regression. The results of the study indicate that the trend of credit risk among universal banks in Ghana is a downwards one indicating an improvement in the management of credit risk among universal banks in Ghana. The study finds no evidence that universal banks in Ghana create value via Non-Performing Loans and capital adequacy. Hence, the study's findings shows that regardless of a huge amount of unpaid loans, NPLs have a positive and insignificant impact on bank value, whereas capital adequacy has a negative and insignificant impact on bank value due to strict capital requirement regulations in the financial sector. Furthermore, firm value of universal banks in Ghana has significant relationship with Bank Size, Bank Age, and GDP.

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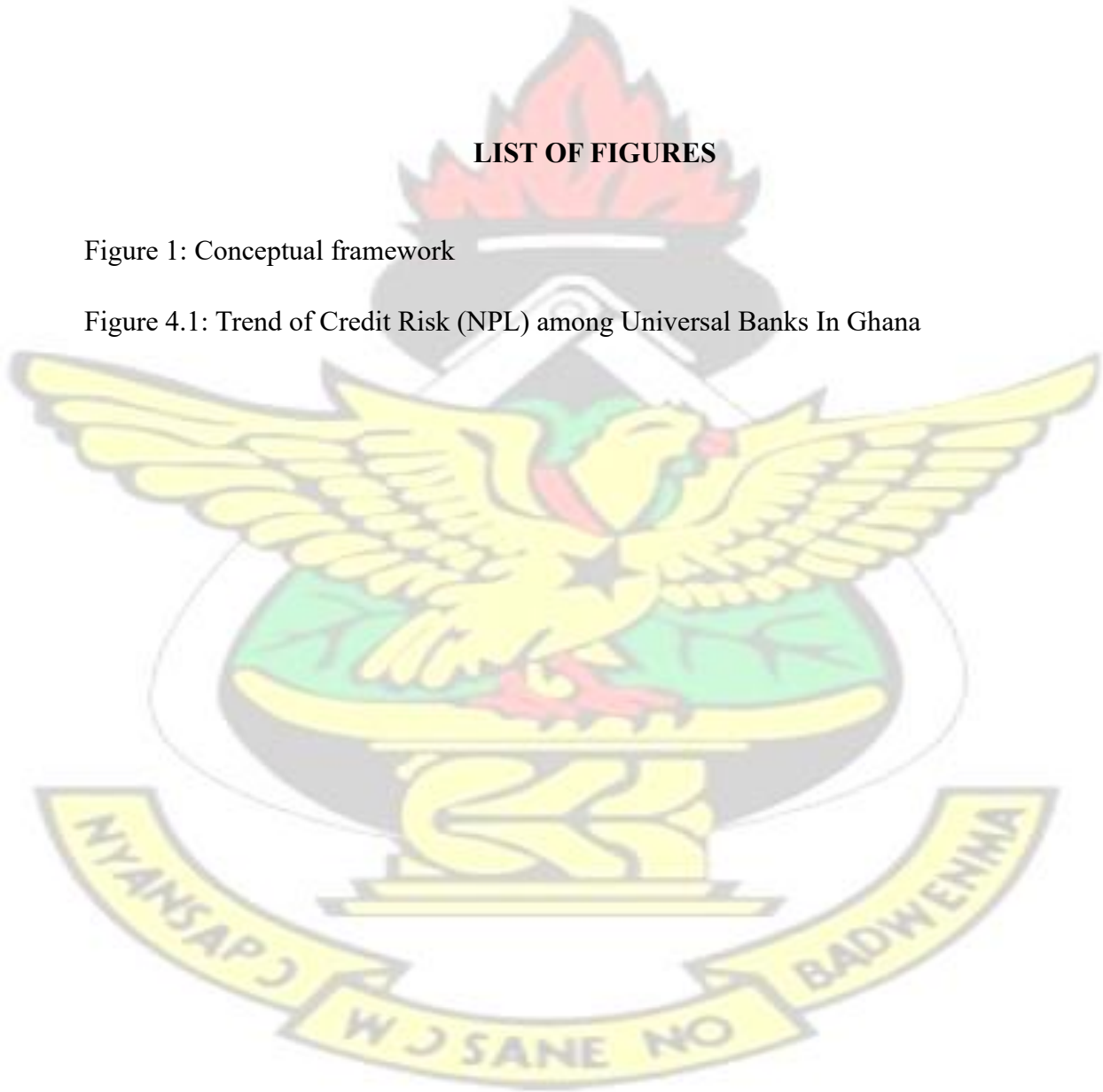
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LIST OF ABBREVIATIONS

The logo of Kwame Ninsin University of Science and Technology (KNUST) is centered in the background. It features a yellow eagle with its wings spread, perched on a green shield. Above the eagle is a red flame. Below the eagle is a yellow banner with the text 'WU SANE NO BADWENMA' in black. The entire logo is set against a light gray background.

GSE	-	Ghana Stock Exchange
NPL	-	Non-Performing Loans
CA	-	Capital Adequacy
BS	-	Bank Size
BA	-	Bank Age
GDP	-	Gross Domestic Product
INF	-	Inflation
CRM	-	Credit Risk Management
BoG	-	Bank of Ghana
CAR	-	Capital Adequacy Ratio
ROA	-	Return on Asset
ROE	-	Return on Equity
GSE	-	Ghana Stock Exchange

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Since they have a general responsibility for regulating the financial aspects of the economy, banks are crucial drivers of economic growth (Nyabaga & Matanda, 2020). With branches and subsidiaries located all over the world, banks are currently the largest financial entities. These banks offer a range of products and services to the general population, but because of their huge liquidity, these intermediate activities are highly dangerous. Banks are also crucial since they facilitate money and help the economy grow. Financial sectors worldwide typically face multiple crises because many nations come up with regulations with the aim of handling the ensuing issues satisfactorily in order to guarantee the security of economic stability (Muthee, 2020). It follows that the stability of a country's bank market has a significant impact on both its overall economic growth and the development of its countries. Bank financial services are crucial to the development of the economy and the monetary system. Their function as financial mediators promotes quick economic expansion.

Universal banks have a significant role in the global monetary system in the majority of countries (Onyango & Olando, 2020). Commercial banks are a crucial element of the widespread banking and financial system and the banking sector (Mohamed et al., 2021). In this regard, universal banks' contributions to deposit mobilization, project financing, and the advancement of both domestic and international trade norms have a significant influence on the overall fiscal progress of the majority of nations (Gadzo et al., 2019; Udom & Eze, 2018).

The Bank of Ghana, which oversees monetary policy, has been working relentlessly and unreasonably hard to improve the country's financial system (Atiso et al., 2020; Award & Al karaka 2019). By reducing the number of procedures in place to supervise bank lending, the banking sector in Ghana has successfully secured a catalyst that has greatly accelerated economic development (Gadzo et al., 2019).

The existence of Ghanaian universal banks in the market is impacted by a long-term financial risk. Some of these risks include operational risk, credit risk, liquidity risk, leverage, portfolio risk, off-balance sheet risk, market risk, solvency risk, interest rate risk, and foreign exchange risk. Credit risk is viewed as the main issue that influences the value of universal banks internationally since it is the key source of income for banks. This loan generating mechanism exposes banks to a significant danger of default, which might result in bankruptcy and other kinds of financial problems. A credit agreement is a contract in which the borrower agrees to get something of value from the lender right away and to pay the lender back at a later time, usually with interest. Credit risk is the potential for financial loss in the event that a borrower defaults on any kind of loan. Because of the risk involved in its operation, the banking sector is without a doubt the most regulated in every economy.

Credit risks are unavoidable because credit generation is universal banks' primary business. Credit risk is therefore one of the principal hazards associated with the bank's primary source of income. If the trade partner doesn't carry out their contractual commitment by the deadline, the bank's ability to operate without interruption might be seriously compromised. A borrower's failure to make payments as agreed-upon exposes an investment to the danger of financial loss known as credit risk or default risk (Fuertes et al., 2021). Banks in Ghana experience losses due to unpaid loans and other types of credit, which has an impact on their

productivity and market value. Despite this, some banks develop strategies, industry specific regulations and procedures, along with risk acceptance limitations, under the guidance of risk management committees to assist alleviate the issues brought on by credit risk. Enhancing the case for how credit risk impacts bank value may reduce the likelihood of insolvency and increase the stability of global banks. A high number of certificates are required to start a banking business. Credit risk includes a variety of factors, including privileged advancement, improper credit standards, state surveillance, poor management, unfinished bylaws, interest rate fluctuations, insufficient levels of paid-up capital and cash reserves, insufficient fund levels by the financial institution, and insufficient standards of scrutiny for borrowers (Kharabsheh, 2019).

Loans are appropriate given the banks' exposure to credit risk. According to Aduda and Obondy (2021), the health of the monetary system is vital for the nation's economy because its collapse might impede its progress. The likelihood of a financial catastrophe for banks increases with their exposure to credit risk. The monetary value of all the resources a corporation has are reflected in its firm value. The firm value of a corporation is regarded as a workable economic notion, according to Gichobi (2019). The sum of all claims from secured and unsecured creditors, as well as preferred and preferred shareholders of corporations, is what is referred to as the business value. Stakeholders with more relevance to employees, consumers, the government, suppliers, and society at large are attracted by a company's value. Any corporate entity's primary objectives are to maximize company value and reduce costs (Mohamed, 2022). Mohamed et al. (2021) claim that a company utilizes a variety of metrics to assess its worth. The financial statements, such as the balance sheet, income statement, statement of changes in equity, and cash flow statement, are among the most frequent sources of data that are crucial

in determining the worth of a corporation. These metrics include the Tobin's Q, ratios like yield on equity, market capitalization, solvency, liquidity, profitability, and efficiency. This leads to the aim of this study to examine the trend of credit risk among universal banks and the impact credit risk has on the value of universal banks in Ghana. Globally, the trend of credit risk is an increasing one, indicating a raise in credit risk in most financial institution across various nations. So, the examination of the trend from 2017 to 2021 inclusive of banks under investigation is important since managing loans is necessary for a bank to be operational and profitable (Richard et al. 2019; Mei et al. 2019) and the research gap in the Ghanaian literature.

1.2 Statement of the Problem

Waitherero & Wangari (2022), an inefficient banking system impedes economic progress, aggravates poverty, and rises the likelihood that the entire economy may experience negative shocks, whereas well-performing ones outperform economic growth and ultimately erase the causes of poverty. As financial mediators, they play a similar role in the economy as human arteries do in the body. Due to their significant contribution to accelerating economic activity and growth in every nation, universal banks are of utmost significance. It is impossible to overstate how crucial credit risk is to banks and how much it affects the loan application process. Most financial businesses throughout the world have regularly seen an increase in credit risk, which considerably lowers their total productivity.

It is also evident that the credit risk has a part to play in the financial crisis that hit Ghana in 2017 leading to the recapitalization of banks. This recapitalization of banks in Ghana led to the collapses of some financial institutions and the acquisitions of others (Takyi & Naidoo,

2022). Credit risk maximizes bank risk. Non-performing loans have long been a problem for banks. In a weak economy, people become heavily indebted and default, which leads banks to fail since credit is crucial to a bank's capacity to manage its finances.

Existing literature noticeably lacks attempts by past study to assess the impact of credit risk on the value of the company. According to research by Waitherero & Wangari (2022) and Issackow (2022), credit risk has a little influence on a company's worthwhile adversely correlating with it. When credit default swaps (CDSs) are started, company value decreases, and the effect is bigger when CDS trading activity is higher, according to Narayanan & Uzmanoglu's (2018) research. Also, according to Mohamed et al. (2021) findings, asset quality had a negligible positive impact on company value among Kenyan commercial banks, whereas liquidity had a negligible positive correlation with firm value. However, most of these studies are not conducted in Ghana. In the Ghana context, most researchers focus on credit risk and profitability (Dunyoh et al., 2022; Garr & Awadzie, 2021; Boateng & Dean, 2020; Madugu et al., 2020; Gadzo et al., 2019; Richard et al., 2019; Mei et al., 2019; Poudel, 2018), while others focus on credit risk management and profitability (Aduda & Obondy, 2021; Berko et al., 2021; Atiso et al., 2020; Tawiah, 2018). Despite countless studies on the effectiveness of universal banks, little is known about credit risk evaluations and the importance of universal banks in Ghana especially when it comes to bank value. This study of the impact of credit risk on bank value is important because investors and potential inventors focus on the value of a firm when making investment decision. Credit risk affects firm value and hence affect the decisions of investors, which can affect As a result, there is a gap in this study field as it has been demonstrated that prior researchers have not sufficiently examined the role of credit risk as a

driver of business value. Therefore, it is necessary to conduct this research to determine how credit risk affects the value of universal banks in Ghana.

1.3 Objectives of the Study

The general objectives of the study are to establish the impact of credit risk on the value of universal banks in Ghana. The specific objectives of the study are:

1. To examine the trend of credit risk among universal banks in Ghana.
2. To examine the relationship between credit risk and the value of universal banks in Ghana.
3. To examine the relationship between capital adequacy and the value of universal banks in Ghana.

1.4 Research Questions

1. What is the trend of credit risk among universal banks in Ghana?
2. What is the relationship between credit risk and value of universal banks in Ghana?
3. What is the relationship between capital adequacy and value of universal banks in Ghana?

1.5 Summary of Methodology

To examine the impact of CRM on the value of Ghanaian universal banks, a population consisting of all universal banks in Ghana is drawn. Out of this population, a sample will be taken from all the universal banks in Ghana based on availability of data. Secondary data is calculated for the variables under study over a 10-year period from 2012 to 2021 inclusive.

The study adopts a quantitative descriptive research design. The financial statement of the sampled banks is utilized to produce the data, which is then analyzed using a multiple linear regression technique.

1.6 Significance of the Study

Ghana's financial sector significantly contributes to the global economy's competitiveness (Tawiah, 2018). By providing loans to people and businesses, the financial sector boosts economic growth in Ghana (Ayertey, 2018). These loans supplied by the banks are mostly generated from the deposits of other individuals and businesses. To reestablish public confidence in the financial sector after the 2017 recapitalization, it is paramount for this study to look into the next major risk associated to banking. It is critical to understand that this confidence is actually justified given the significance that credit risk influences the value of banks.

The study adds the sparse body of research on the connection between bank credit risk and financial success. The efficiency with which finite resources are used to generate and increase profits and firm value is measured by financial performance (Ally, 2013). The relevance of the study goes beyond its academic value in that it demonstrates the difficulties financial institutions confront in managing their credit risk as well as the main instruments or strategies they employ to do so. It will serve as a starting point for more research. After examining the number of non-performing loans (NPLs) in the banks, bank liquidity, total asset value, asset quality, Tobin's Q, and Stock Market Capitalization (SMC), the findings will allow investors and the broader banking public to assess the leadership capacity of the bank management.

1.7 Scope of the Study

This study seeks to examine the impact of credit risk (CR) on the value of universal banks in Ghana. The total population of this study is all universal banks in Ghana. The study covers a 10-year period from 2012 to 2021 inclusive. A quantitative descriptive research design is adopted in this study. PLS SEM approach is used to analyze data generated from the financial statement of the sampled banks. This study examines the meaning and definition of credit risk, banking sector of Ghana, factors affecting credit risk in banks, other forms of risk faced by the banking sector, among others. CR has a substantial influence on a company's value and profitability, and this study's objective is to look into the relationship between CR and value.

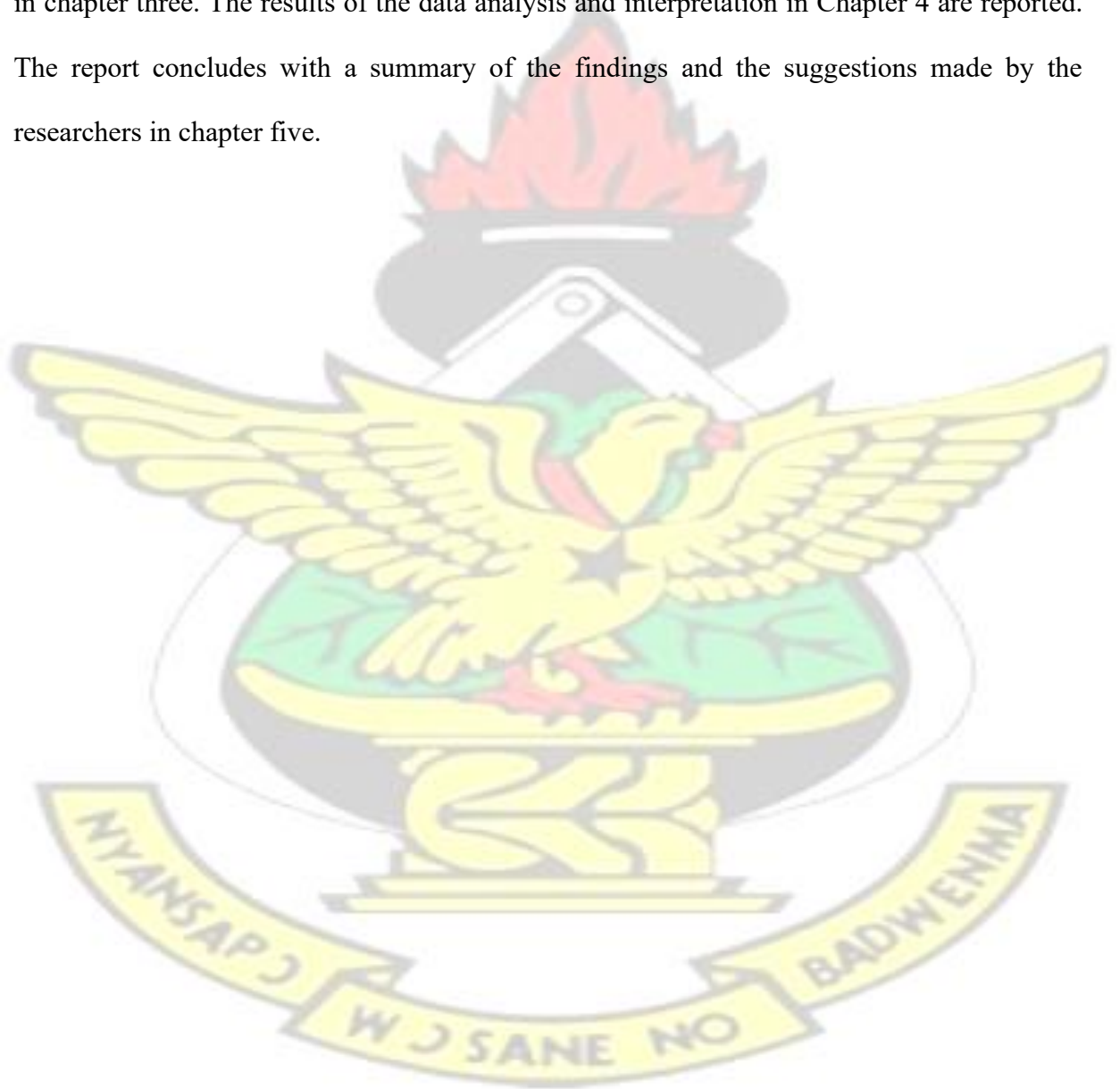
1.8 Limitations of the Study

Although the researchers make an effort to effectively complete the study's purpose, there are a few restrictions that might prevent the article from being properly completed. The limitation of the study is the availability of data for the study. Some listed banks on the Ghana Stock Exchange may not have up-to-date annual accounts published on their websites or that of the stock exchange. It is difficult to calculate the Stock Market Capitalization of banks which are not listed on the Ghana Stock Exchange. Another limitation is time and funds available to complete the study. Also, the other two sides of the study's restriction section are data limitation and sample limitation.

1.9 Organization of the Study

Every chapter of this subject is laid out in this section. The study is broken up into five chapters. Chapter one is the introduction and it presents the background of the study, statement of the

problem, objective of the study, significance, scope and limitation of the study. Chapter two presents literature review. It looks at the conceptual literature relating to the study topic, an empirical review of related studies, theoretical framework upon which the study is grounded and a pictorial view of the variables linking CR to value of universal banks in Ghana. The study technique, target population, sample, data used, and research hypothesis are all described in chapter three. The results of the data analysis and interpretation in Chapter 4 are reported. The report concludes with a summary of the findings and the suggestions made by the researchers in chapter five.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter contains five sections under which the various literatures are reviewed. An overview of the conceptual literature is presented in Section 2.1, and it includes concepts such as the definition of credit, overview of credit risk, banking in Ghana, firm value and others. The theoretical literature is covered in Section 2.2, along with theories like the credit risk theory and the portfolio theory. Section 2.3 reviews the empirical studies covering various research and findings of previous scholars on the topic. Section 2.4 describes the conceptual framework of the study in a diagram form. The final Section 2.5 concludes the literature review on the topic.

2.1 Conceptual Review

Conceptual review examines the various concepts about the topic *Impact of Credit Risk on the Value of Universal Banks in Ghana*. Some of these concepts include the definition of credit, overview of credit risk, credit risk management, banking in Ghana, firm value, among others

2.1.1 Concept of Credit

Banks exist to provide credit facilities in addition to accepting deposits. Credit is the confidence a lender has in a borrower to give money to them without anticipating a prompt repayment (Li et al., 2018). This means that when a lender gives a borrower a loan, they do so with the understanding that they would receive back an asset with equal value when the loan

is repaid. In financial language, credit also refers to the dispensing of loans and the formation of debt (Ekinici & Poyraz, 2019). According to Zamore et al., one of the most crucial ideas that enhances financial institutions' capacity to manage their finances is sound credit-giving (2018). A nation's economic growth and development depend heavily on credit. First, credit enables the flow of cash to regions where they will be most useful and economically. Second, credit decreases the quantity of money used by increasing the amount of money in circulation (Kalyanaraman, 2020).

2.1.2 Credit risk

Risk is the chance that the expected return on an investment may be lower or higher than expected. Risk may also be defined as the genuine chance of partially or entirely losing the investment principle and the income earned on it. Risk faced by financial institutions can be classified as secured (insured risk) or unsecured (uninsured) risk. Financial institutions have to deal with risks including operational risk, capital risk, liquidity risk, reputational risk, interest rate risk, and credit risk and others. The exact assessment and effective management of credit risk (the largest risk that banks confront), is what determines the profitability of their operations more than any other risks (Kalyanaraman, 2020).

Financial institutions help move money deposited by diverse surplus units to the deficit units by acting as a financial intermediary. As part of their duties, they deal with risk, which continues to be one of the hot-button topics in contemporary financial studies that has drawn special attention from academics and professionals. Sound credit management is a crucial component of every financial institution's success. As the future is unclear and future risks cannot be foreseen, granting credit includes risk (Li et al., 2018). Credit risk is the likelihood of default and the degree of change in the value of derivatives and debt instruments, which is

determined by the borrowers' creditworthiness (Ekinici and Poyraz, 2019). According to the Basel Committee on Banking Supervision, 1999, the most straightforward definition of credit risk is the chance that a bank borrower may fail to meet its commitments according to the terms that have been agreed upon. Umar et al. (2021) defines credit risk to include the likelihood that credit events may cause the outstanding loan to be lost whole or partially (default risk).

In the early stages of the Basel Accord, the Basel Committee identified credit risk as a major source of risk. Loaning entails a variety of hazards. Since loans are by far the largest asset for banks and often make up between 50 and 75 percent of the total value of all bank assets, credit risk has the most impact on these risks. Credit risk arises when there is uncertainty over a particular counterparty's capacity to respect the conditions of the loan agreement (Olson & Zoubi, 2017; Naresh & Rao, 2015; Fatemi & Foolad, 2006). Credit risk is mostly caused by a counterparty's reluctance or incapacity to keep his or her end of a deal. Credit events often involve things like bankruptcy, nonpayment of a debt that is past due, repudiation or moratorium, credit rating change, and reorganization.

For any bank in the globe, credit continues to be their major source of income. However, those banks have grown increasingly concerned about the likelihood that borrowers may not honor their loan commitments, especially in the case of unsecured bank loans. The amount of risk is represented by the unpaid loan amount as of the defaulting date. The quality of risk, on the other hand, refers to the severity of loss as determined by the likelihood of default as well as the probability of default as decreased by potential recoveries in the case of default. Thus, exposure risk and default risk combine to create credit risk (Naresh & Rao, 2015). Principal loss risk, interest rate loss risk, and benefit loss risk are the three primary categories of credit risk, according to Han (2015). According to the Basel Banking Supervision Committee, credit

risk is best understood as the possibility of a bank counterparty failing to fulfill their obligations under mutually agreed-upon terms (Ekinici and Poyraz, 2019).

2.1.3 Credit Management

Empirical findings indicate that an important indicator of a bank's financial performance is credit risk management (CRM), and hence, proper and effective risk managing is essential to the success of bank performance (Kiambati, 2020; Islam et al., 2019; Ahmadyan, 2018; Taiwo et al., 2017). Identification, assessment, matching mitigation, monitoring, evaluation and control of credit risk exposures are all included in CRM. Ineffective risk management practices increase profit volatility, which lowers the bank's profitability. Substantial earnings declines can have a number of negative effects on a bank, including a decrease in the amount of credit accessible to potential borrowers, risk to the bank's liquidity, inability to satisfy commitments, and eventually the loss of its competitive advantage. It is recommended that banks develop and implement measures that will increase their profitability while reducing their exposure to credit risk, put more emphasis on the requirement to spend more resources monitoring the default rate, and work to maintain the ideal level of capital adequacy (Li et al., 2018). According to study by Hallunovi & Berdo (2018), CRM has a major role in predicting a bank's financial success. They came to the conclusion that CRM is essential to a bank's success.

The bank's top management are task with the responsibility to develop the concepts and techniques for credit management, ignoring the credit division and assessing execution in relation to established procedures in order to maximize credit advantages (Umar et al., 2021). It is effective in putting into place a system of rules that will lower the costs of credit while enhancing its benefits (Saeed and Zahid, 2016). The policy serves as a reference for performance measures that are based on standards and functions as a guideline for all

employees who are in charge of granting credit awards. According to Afolabi et al. (2020), managing credit risk is crucial for banks since it's essential to the process of facilitating loans. The risk-adjusted rate of return for banks is increased via credit risk management by maintaining the exposure to credit risk. To reduce the default rate, credit risk, a sizable financial risk, must be carefully monitored and controlled (Olson & Zoubi, 2017). The amount of NPLs, problem loans, or loan loss provisions are some indications of the credit risk (Noomen & Abbes, 2018).

2.1.4 History and State of Banking in Ghana

The Bank of Ghana was founded by the Bank of England in 1953, marking the beginning of Ghanaian banking in the early 1950s. The bank was split into two: The Bank of Ghana (central bank) and the Ghana Commercial Bank (the largest commercial bank). The Gold Coast gained independence from the United Kingdom on March 6, 1957 and became known as Ghana. To replace the conventional West African currency notes, the Bank of Ghana (BoG) introduced the Cedi as the country's first official currency in July 1958. Assuming the position and duties of government bankers, the Ghana Commercial Bank started to take over the finances of the majority of government ministries and public businesses. The BoG became Ghana's central bank and supervises all operational banks.

More state-owned banks arose as a result of the new government's entrance – between 1957 and 1965, the Merchant Bank, the Agricultural Development Bank, the Social Security Bank and the National Investment Bank.

After 1983, comprehensive government policies had a significant role in the history of the financial sector's expansion. The government has to get involved in every aspect of the economy to hasten industrialisation. By the 1970s, priority industries defined by the

government were eligible for low-cost lending, including manufacturing, due to restrictions on interest rates and credit limits. The banking industry is heavily taxed by the government, which has made it a major source of income. Also, banks had to meet strict reserve requirements. The financial system was severely damaged by these and other restrictive measures.

In order to modernize the banking and financial system, the Ghanaian government initiated the Financial Sector Adjustment Program in conjunction with the World Bank in 1987. To streamline the economy and reverse negative economic trends, the government launched an economic recovery program in 1983. This made it clear to the administration that if economic reforms were to lead to a long-term resurgence of the economy, a restructuring of the faltering banking sector was necessary. In order to stabilize the economy and consequently foster development, the Economic Recovery Program (ERP) was created in 1983. Among the economic reforms were steps to strengthen budgetary restraint, changes to the trade and exchange systems, and other wide-ranging changes to start liberalizing prices and deregulating many economic activities.

In the wake of the financial crisis, the Banking Law was passed in 1989, enabling qualified local groups to apply for licenses to function as banking institutions. After that, a number of commercial entities received banking licenses, including ECOBANK, Allied and Metropolitan, Meridien (BIAO) Trust Bank, and CAL Merchant Bank. In spite of this, the government began privatizing certain state-owned banks in 1992, and the financial sector's deregulatory efforts led to the entrance of a number of international and domestic institutions. Financial sector liberalization brought about by the Financial Sector Adjustment Programme

(FINSAP) and Financial Sector Strategic Plan (FINSSIP) led to financial deepening, deposit mobilization, greater savings, and competition in the banking industry. On the other hand, lending rates were high, with a significant difference between them and deposit rates.

As of December 31, 2018, the deadline for banks, 23 universal banks had all met the new minimum paid-up capital requirement of GHC400 million. 16 of the 23 banks met the new minimum paid-up capital requirement, according to the Bank of Ghana, mostly through injecting additional capital, capitalizing income excess and a mix of new capital infusion and income excess capitalization. GCB Bank, Stanbic Bank, Standard Chartered Bank, Barclays Bank, Ecobank and Zenith Bank are among the 16 banks. As of December 31, 2020, there still remained 23 universal banks in Ghana.

Table 2.1: List of Banks as of December 31, 2020

Banks	Previous Names	Major Ownership
1	Barclays Bank of Ghana Limited	Absa Bank Ghana Limited Foreign
2		Access Bank (Ghana) Plc Foreign
3		Agricultural Development Bank Limited Local

4	Bank of Africa Ghana Limited
5	Foreign CAL Bank Limited Foreign
6	UniBank, Construction Bank, Sovereign Bank, Consolidated Bank Ghana Limited Local
7	Royal Bank and Beige Bank Ecobank Ghana Limited Foreign
8	FBNBank (Ghana) Limited Foreign
9	Fidelity Bank Ghana Limited Local
10	First Atlantic Bank Limited Foreign
11	First National Bank (Ghana) Limited Foreign
12	GCB Bank Limited Local

13	Guaranty Trust Bank Ghana Limited	First National Bank and GHL Bank	Foreign
14	National Investment Bank Limited		Local
15		Omni Bank Ghana Limited and Sahel	Omni BSIC Bank Ghana Limited Local
16		Sahara Bank Local Ghana Limited (BSIC)	Prudential Bank Limited Local
17			Republic Bank (Ghana) Limited Foreign
18			Societe General (Ghana) Limited
19			Foreign Stanbic Bank Ghana Limited Foreign
20	Standard Chartered Bank (Ghana) Limited		Foreign
21			United Bank for Africa (Ghana)

	Limited Foreign
22	Universal Merchant Bank Limited Local
23	Zenith Bank (Ghana) Limited Foreign

Source: Bank of Ghana

The recapitalization affected the economy by affecting the value of the financial institutions due to capital injections, merger and acquisition. More is expected to be added to values of banks, and this includes the effect of credit and capital on the value of banks.

2.1.5 Non-Performing Loan (NPL)

In deposit money institutions, the primary driver of credit risk is NPLs. It ought to be emphasized that it is a well-known notion in several banking literatures that the NPLs are the cause of many banks' losses (Nwude & Okeke, 2018; Soyemi et al., 2014). A bank's loan portfolio's quality is indicated by the ratio of nonperforming loans to total loans.

This is the proportion of all loans and advances that are about to default. Increases in the NPL rate are frequently linked to the bank's credit policy failing. A greater ratio indicates inefficient administration when assessing loan applications. Once more, it demonstrates that there is a greater likelihood that most of the loans will not be repaid. The primary cause of bad debts is default by borrowers, however this is typically a result of uneconomic loan utilization, excessive interest rates, and low per capita income. High NPL rates can also result from a strategy of extra-flexible loan rationing in the setting of today's world's

fiercely competitive banking environment. Soyemi et al. (2014) assert that excessive and poorly managed risk can unquestionably lead to losses and hence jeopardize the security of a bank's depositors. Therefore, it is evident why banks must manage credit risk, which mostly comes from NPLs, as it is essential to the survival and performance of banks.

2.1.6 Loan Loss Provision

In order to appropriately portray their true financial status, regulated institutions are expected to make suitable provisions for anticipated losses based on the above-described credit portfolio classification technique. To achieve this, it is thought that adopting both specialized and general laws will be sufficient. In recognition of the fact that even performing credit facilities have some risk of loss, general provisions are developed no matter how minor the risk, while specialized provisions are developed depending on the expected risk of default on particular credit facilities. As a result, all licensed banks must follow the regulatory authorities' instructions and make specified preparations for nonperforming credits.

2.1.7 Capital adequacy (CA)

One of the most heavily regulated areas of the global banking sector is capital adequacy. Capital adequacy is the cornerstone of each of the three sets of Basel agreements. Making sure banks have enough capital to cover the dangers they are exposed to is the main concern. There are two types of capital that can be counted toward meeting the Basel 2 standards' capital adequacy rules. These comprise core capital and auxiliary capital. Financial capital adequacy is comparable to the statutory core capital reserves that all retail banks and other financial institutions are obligatory to maintain (Nyabaga & Matanda,

2020). The maximum quantity of capital a bank is required to have been known as capital adequacy. This number is determined by the company value, which has a significant impact on the size of operations and ultimately, the revenue generated from sales. Thus, the ultimate indicator of stability and financial performance in financial institutions is capital sufficiency. The majority of studies concur that capital sufficiency and asset returns have a beneficial impact on business performance and financial institution value.

According to conventional banking methods, adequate capital is required since it serves as a safeguard against poor financial performance and losses. Furthermore, because of their restricted liability status, commercial banks have less of an inclination to engage in high-risk operations as assets are compared to capital at risk. Most significantly, it is crucial to remember that the decreased huge taking of risks has a significant impact on how well banks perform (Kaol, 2017). The capital adequacy ratio (CAR) and financial performance are closely related, as recognized by Bhattaraai (2019). According to Kaol's (2017) research, the lower an entity's capital adequacy levels are, the less money it generates. The results also showed that some banks' capital adequacy ratios improved while others—those affected by merger events—reported declines. The banks should enhance their asset yields, ROE, and CAR, according to Kaol's (2017) suggestion (capital adequacy ratios). While Bhattarai (2019) finds that CA is a major factor in the credit risk rating that has a significant influence on firm value in the banking industry and that there is a need for the banks to have adequate and relevant capital in order for them to benefit from the economies of scale operation, Boateng (2019) uses the entirety of the CAMELS model to find that capital adequacy does, in fact, have a significant impact on the output of Ghanaian banks.

2.1.8 Bank Value

In essence, the entire monetary worth of all a company's assets determines its firm value. The word "firm value" is considered as the worth a corporation is valued at, making it a workable economic concept, according to Sudiyatno et al. (2020). The value of any company draws the interest of numerous people who are the company's stakeholders. is of considerable interest to many parties, including the employees, suppliers, consumers, government, society, and the larger stakeholder group of such enterprises, in addition to the shareholders alone. The overall value of the company's assets, obtained via operations, are considered to be its "firm value" at a given time. In the current business climate, organizations are taking a variety of steps aimed at maximizing value through the diversification of their product and market portfolios in order to keep their market value expanding and sustainable even into the near future. For the purposes of this analysis, the company value is estimated using the Tobin Q ratio.

2.2 Theoretical Review

A theory is typically described as an analytical generalization that links one feature to another. Therefore, for the purposes of this review, the theories addressed in this study offer a comprehensive perspective on explanations of research aims. Theories like the *Pecking Order Theory*, *Credit Risk Theory*, *Liquidity Preference Theory* which asserts that most individuals tend to maintain cash and other liquid assets rather than other nonliquid assets, and *Modiglian and Miller Capital Structure Relevance Theory* which argued that a company's value is independent of its capital structure, are among the numerous theories that relate to this study. For the purpose of this study, Pecking Order Theory and Credit Risk Theory is the main focus.

2.2.1 Pecking Order Theory

Donaldson introduced the Pecking Order Theory for the first time in 1961, focusing on the asymmetry of the data in his argument. This aspect of information asymmetry was further highlighted by Myers and Maloof in 1984 when they examined the pecking order hypothesis. According to the idea, the availability of asymmetric data causes the funding's overall cost to increase. Due to this, firms seek to obtain funding through the three main channels of equity investment, loan financing, and internal funding. This supports the premise that those who provide financial support to the company have access to more information than most onlookers do. For this reason, an organization sets priorities before deciding on the most practical methods which are the most desired internal sources of finance, followed by debt and then equity (Serrasquiro & Caetano, 2017). Because internal money is unregulated compared to debt and equity, it is the reason that it is noticed first because businesses conserve it before it runs out before deciding on their investment ideas (Gichobi, 2019). Due to the high cost of overseas capital, the majority of businesses opt to use domestic financing (Myers & Majluf, 2019). Thus, the theory contends that whereas organizations with lower profits often choose internal financing choices, those with greater profits typically favor external financing, which might result in better profitability as a result.

Debt financing must be explored as a means of protecting existing owners and reducing the dilution of company shares if a firm's management determines that the present capital available is insufficient. This approach is relevant to this study because it enables businesses to assess their funding options by utilising all internal resources first before switching to alternative external finance tactics. This helps businesses generate sustained

profits and avoid outcomes that are diluted. Pecking Order Theory provides information on the capital adequacy study variable in this regard. This notion forces a firm to choose internal financing, which is then followed by debt financing and, ultimately, equity financing. In practice, using internal finance allows a company to keep greater value and flexibility.

2.2.2 The Credit Risk Theory

In 1974, Robert Merton introduced the core credit risk theory in his work on the default theory. Credit risk is the chance that money may be lost in a transaction because the other party's creditworthiness has declined (Liu, Mirzaei & Vndoros, 2014). The core of the credit risk equation is default risks. A party runs the danger of defaulting if they don't uphold their end of the bargain. The majority of the risk, which includes capital and interest loss, is borne by the lender. Default risk can be total or partial, and it can happen in unique circumstances, such as when a bank experiences financial difficulties and is unable to reimburse a depositor for their money (as a result of poor financial performance). Robert (1974) suggests using this technique to estimate the company's credit risk when its shares are seen as an asset call option. The systemic approach and the intensity approach, the two basic credit risk methodologies, were developed in large part by him (also known as reduced form approach). The creditor may investigate the prospective borrower, demand that the borrower get the appropriate insurance, such as mortgage insurance, or seek protection or a third-party guarantee to lower the credit rates and lower the lender's risk. The interest rate that borrowers must pay increases in direct proportion to the credit risk. The idea of credit risk predicts a conflict between credit risk and bank value. This proposes

an inversion of credit risk and financial efficiency, with increased credit risk lowering bank profitability, which in turn impacts bank value, and vice versa (Zamore et al., 2018).

2.3 Empirical Review

Issackow (2022) aimed to look into how credit risk ratings affected the firm value of Kenya's listed commercial banks. In a sample of eleven listed banks, a descriptive study design is used. Throughout a 12-year period, from 2009 to 2020, secondary data are collected on a target of 11 retail banks via CBK and other public financial reports. While SPSS is utilized to produce the pertinent regression tests, the gathered data were analyzed using a multivariate panel regression model. Charts and frequency tables are used to present data results in order to make them easier to understand. The study finds that earning ability has a statically negligible positive influence on firm value among Kenyan commercial banks, with capital sufficiency having a somewhat stronger positive impact. The results of the study show a weak and negative correlation between liquidity and the firm value of Kenyan commercial banks. Moreover, among Kenyan commercial banks, the influence of asset quality on bank value is negligible.

Savings and credit cooperatives (SACCOs) in Kenya are the focus of a study by Waithero & Wangari (2022) that looks at the effect of credit risk on the firm's value. In this work, a positivistic epistemological viewpoint is taken. Descriptive and causal research designs are used in the study. The 164 SACCOs with Sacco Societies Regulatory Authority licenses are the demographic that is being targeted. Using stratified random sampling, 115 respondents make up the sample size. The analysis makes use of secondary data derived from publicly available financial accounts of the organization. Descriptive statistics are

used to assess the data, while Pearson correlation coefficient and panel data regression models are employed for inferential analysis. The findings of the study demonstrate a negative correlation between business valuation and credit risk. The further findings suggest that credit risk had a little impact on the firm's value.

Issackow et al. (2021) intend to determine how liquidity, asset quality, CA, and profitability affected the firm value of Kenya's listed universal banks. Eleven publicly listed retail banks make up the population sample for the descriptive study approach. Over the course of a 12-year period, from 2009 to 2020, secondary data are gathered from CBK and other public financial reports. To provide the pertinent regression tests, the gathered data are examined using a multivariate panel regression model. The study finds that among Kenyan commercial banks, earning ability has a statistically insignificant positive influence on firm value while capital sufficiency has a negligible positive impact. The study's findings suggest that asset quality among Kenyan commercial banks have a minor beneficial influence on company value and liquidity are not significantly and adversely connected with each other.

The impact of credit risk on the market value of shareholders of commercial banks listed on the Nairobi Securities Exchange (NSE) is examined by Kiambati (2020). This study employs a concurrent design and a mixed-method methodology. Logistic regression is a mathematical technique used to ascertain how credit risk affects the shareholder value of commercial banks that are listed on the NSE. Process tracing is employed as a qualitative way to ascertain how credit risk affects shareholder value. Credit risk and bank value among commercial banks listed on the NSE are related, claims this report. According to

the study's findings, shareholders market value and credit risks are related with commercial banks that are listed on the NSE.

Using the structural equation model (SEM), Samuel et al. (2019) investigates the impact of operational and credit risk on the financial performance of commercial banks. Without any missing variables, the 24 universal banks in Ghana were all used to collect the study's data, which was then analyzed using the PLS-SEM. The results support the information asymmetry claim of the lemon theory that credit risk has a detrimental impact on financial performance, contrary to the empirical study. Additionally, it was shown that operational risk has a detrimental effect on the financial performance of Ghana's universal banks.

A research is conducted by Munangi & Sibindi (2020) to look at how credit risk affected the financial performance of 18 South African banks from 2008 to 2018. Panel data approaches, notably the pooled OLS, fixed and random effect estimation techniques, are used to examine the link between credit risk and financial performance (which are used as proxies for NPLs, ROA and ROE, respectively). According to the study's conclusions, credit risk and financial success are mutually incompatible. Thus, bank profitability declines as the proportion of non-performing loans increases. Second, the study provides evidence that expansion enhances financial success. This shows that improving productive capability through bank development. Thirdly, it finds a link between capital sufficiency and performance. A bank may become more competitive if it has a higher capital adequacy ratio, but on the other hand, a large capital base might be seen as lacking initiative and tying up resources that can produce better profits in other ventures. Also, there was no clear correlation between size and performance in the research. Finally, the analysis finds a bad relationship between leverage and performance.

The quantitative effects of credit risk management on the performance of Nigeria's Deposit Money Banks (DMBs) and bank loan growth (1998–2014) are examined in a 17-year empirical research by Taiwo et al. (2015). The World Bank's 2015 World Development Indicators (WDI) and the CBN Statistical Bulletin 2014 both offer secondary data for empirical study. The study used a multivariate linear regression model to analyze the time series data. The outcome demonstrates that good credit management practices may raise savers' and investors' trust in banks, increase the amount of money available for loans and advances, and increase bank profitability. Results of the study reveal that the increase in total advances and loans by Nigerian Deposit money banks is not significantly impacted by credit risk management.

To empirically investigate the effect of credit risk on the financial performance of Chinese banks, Isanzu, J. S. (2017) conducted a study. Secondary data is taken from the nation's five major commercial banks during a seven-year period, from 2008 to 2014. The study uses NPL, CAR, loan impairment costs, and impaired loan reserve as credit risk indicators. ROA is used to assess financial performance. A balanced panel data regression model is used to analyze the data. According to the study's results, capital sufficiency and nonperforming loans have a substantial influence on the financial performance of commercial banks in China, as a consequence, CRM is critical for banks' financial health.

Musyoka (2017) conducted research to determine how capital sufficiency affected Kenyan commercial banks' financial performance. Since 42 commercial banks made up the study's population and it used a descriptive research approach, a census survey was conducted. For this study, secondary data are gathered in excel sheets from the financial reports of the selected banks. Data analysis and the identification of relationships between variables are done using

descriptive statistics. The linear regression equation is used to determine whether there is any causal relationship between the variables. The findings show a strong and negative link between commercial banks' CA and ROA. The results also demonstrate a negative and substantial correlation between bank size and return on assets for commercial banks in Kenya. The findings show that, in contrast to the positive and negligible connection between ROA and liquidity, there is a negative and insignificant correlation between commercial banks' ROA and asset quality.

Kaol (2017) investigates the impact of mergers and acquisitions on the Kenyan commercial banks' financial performance. The study's primary focus is on Kenyan commercial banks that have undergone mergers or acquisitions between 2008 and 2016. In order to ascertain the link between the variables within a population, the study uses a descriptive research approach. The Central Bank of Kenya's annual reports on bank supervision, the audited financial reports of the banks, and the websites of the individual banks are used to compile secondary data three years before and three years after the event. Descriptive statistics, correlations, and regression analysis are all types of data analysis techniques. The data analysis program of choice is SPSS version 21. The results of the investigation of the correlation between performance and ROA showed a strong positive link ($r = 0.007$, $p = 0.05$). The findings regarding financial stability demonstrate a blatantly unfavorable correlation between the two. This means that an institution's financial output will be lower the greater its capital adequacy level. The findings also showed that certain banks' capital adequacy ratios improved while others experienced declines as a result of merger events. According to the regression analysis results, only 3.2% of the production variation was explained by capital adequacy ratio following the merger or acquisition. An increase in the

CAR merely shows that a company can pay her obligations as and when they become due, reducing the risk of default on loans.

Based on the above discussions, the following hypothesis have been developed to help the research achieve the research objective:

H₁: There is a negative significant relationship between NPLs and bank value.

H₂: There is a positive significant relationship between Capital Adequacy and bank value.

2.4 Conceptual Framework

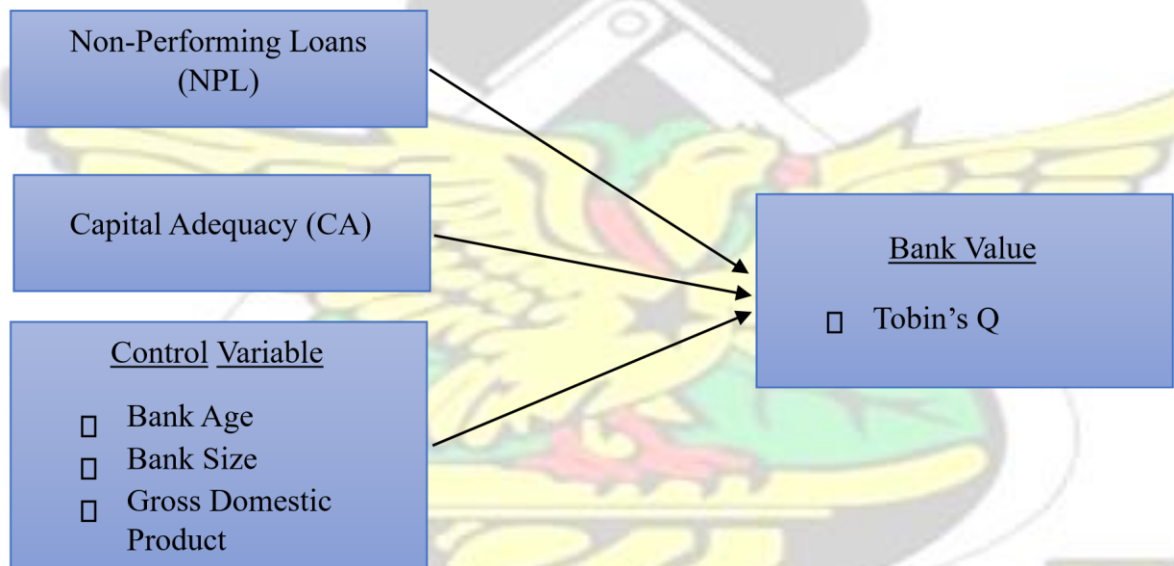


Figure 1: Conceptual framework

The study examines the impact of credit risk (non-performing loans) and capital adequacy alongside some control variables such as bank age, bank size on the value of banks, proxied by Tobin's Q, in Ghana.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the research approaches used to conduct the survey to answer the study aim stated in chapter one. The study approach employed throughout the execution of this research is severely examined. The research methodology outlines the data collection, analysis, and evaluation procedures employed in this study. The study design, population, sample design, data collecting techniques, research process, data analysis methods, and chapter summary are all covered in this section.

3.1 Research Design

The techniques used to acquire the data and the methodology used to conduct the analysis are covered in this section. The purpose of this stage is to choose a research design that will motivate and enable the researcher to respond to the study questions. This study adopts quantitative research approach. This is influenced by the aims of the study. They necessitate the utilization of numerical data. Quantitative data is gathered from secondary sources, such as the annual reports of the chosen banks for a certain time period and the Bank of Ghana's yearly reports on bank supervision. Additionally, this thesis is based on panel data

using data from 2012 to 2021 inclusive and uses the correlational study design idea. A cause-and-effect link amongst the independent and dependent variables is assumed in a correlational study design.

The researcher decides to employ the positivist research paradigm, which calls for the deployment of a testable hypothesis and the application of theory prior to doing real research (Park et al., 2020). According to this research paradigm, social science is treated as a natural science, and the hypothesis in this instance is put to the test empirically to ascertain its veracity. Testing already established hypotheses and learnings from past research naturally leads to a logical approach. Deductive theory is concerned with testing, bolstering, or altering preexisting hypotheses in light of new data. The hypothesis or assumptions are used to analyze the theory, which either supports or contradicts the body of current literature.

3.2 Population of the Study

In this study, the target group are all universal banks in Ghana. This brings us to a total of 23 banks as the population size (Table 2.1), which includes both local banks, privately owned banks, state-owned banks and foreign banks operating in Ghana.

3.3 Sample and Sampling Techniques

A convenience sampling technique is employed to sample 12 banks out of the population. The researcher sampled the total population due to availability of financial statements. Available data is used to sample the total population in the study. Only firms with data accessible during the sample period are included to reduce the likelihood of biased outcomes. The universal banks with available financial statements from 2012 to

2021 inclusive are selected to constitute the sample. Also, the researcher gives priority to banks listed on the GSE. Due to the regulations of listed companies globally, the financial statements published by Stock Exchanges are seen as highly informative and represents the true and fair view of the financial position and performance of the firm.

3.4 Data and Data Collection

The main data used is collected from the secondary source. Hence, only quantitative data was used in this study. Utilizing this expertise is crucial since it made the study simpler to carry out and reduced research costs by making use of already-available data to achieve the current goal. For this study, data is obtained from the financial reports (mainly, income statements and balance sheets) of sampled universal banks in Ghana within a 10year period from 2012 and 2021 inclusive. The financial statements will be obtained from Ghana Stock Exchange website, as well as the bank's website. The variables for the study are calculated using mathematical formulas which resulted in numeric or quantitative data. Also, data form the internet and Ghana Statistical Service on the level or rate of unemployment and poverty were collected. The internet was the best tool to collect the data needed for this study. A secondary data collection template created with Microsoft Excel is used to collect data on Tobin's Q, Non-Performing Loans (NPL), Capital Adequacy (CA), Bank Age (BA), Bank Size (BS), Gross Domestic Product (GDP) and Inflation (INF) from sampled universal banks for the period under study.

3.5. Data Analysis

For this study, the data is analyzed using a quantitative strategy that includes descriptive and inferential statistical analysis as well as multivariate regression analysis. To achieve

the study's goal of understanding the impact of credit risk on the value of universal banks in Ghana, multivariable regression is used. To analyze the data obtained, the study used both descriptive statistics and inferential analysis in data analysis. The descriptive statistics such as mean, standard deviations, skewness, and kurtosis of regression variables, as well as the correlation and normality tests, are analyzed to help characterize the results in terms of central tendency and dispersion. Pearson correlation coefficient and panel regression model are used for inferential data analysis. Panel data regression is a statistical analysis technique that allows researchers to gain a deeper comprehension of the connection between several independent and dependent variables. The primary purpose of regression analysis is to synthesize survey findings so that the relationship between the variables under consideration may be immediately discovered. The data is examined using the Statistical Program for Social Science (SPSS) and Excel.

3.6 Model Specification

The study utilizes the multiple linear regression model. The model uses Tobins' Q as the dependent variable and two independent variables, Non-Performing Loans (NPL) and Capital Adequacy (CA) with three control variables, which are Bank Age (BA), Bank Size (BS), Gross Domestic Product (GDP) and Inflation (INF). The model is expressed as follow:

$$\text{Tobins' } Q_{it} = \alpha + \beta_1 \text{NPL}_{it} + \beta_2 \text{CA}_{it} + \beta_3 \text{BA}_{it} + \beta_4 \text{BS}_{it} + \beta_5 \text{GDP}_{it} + \beta_6 \text{INF}_{it} + e_{it}$$

Where, α = constant; β_1 to β_2 = Coefficient of independent variables; β_3 to β_6 = Coefficient of control variables; e_{it} = the error term

Tobins' Q_{it} = Tobins' Q of bank i in year t.

NPL_{it} = Non-Performing Loans of bank i in year t.

CA_{it} = Capital Adequacy of bank i in year t.

BS_{it} = Bank Size of bank i in year t.

BA_{it} = Bank Age of bank i in year t.

GDP_{it} = Gross Domestic Product of Ghana in year t.

INF_{it} = Inflation (INF) of Ghana in year t.

3.7 Variables Description and Measurement

To achieve the objectives of this research, Tobins' Q is used as dependent variables to measure bank value. Non-Performing Loans (NPL) and Capital Adequacy (CA) are used as independent variables measuring Credit Risk. While Bank Age (BA), Bank Size (BS), Inflation (INF) and Gross Domestic Product (GDP) are used as control variables in this study.

Table 3.1: Variable Description and Measurement

Dependent Variable		
Variable	Description	Measurement
Tobin's Q	Basically, the Tobin's Q reflects the relationship between the intrinsic value of a firm and its market value. It helps to determine whether a firm is over or under valued.	$TOBIN's\ Q = \frac{Total\ market\ value}{Total\ asset\ value}$
Independent Variables		

Non-Performing Loans (NPL)	The percentage of non-performing loans to total loans is utilized as an indication of credit risk in this study. This is one of the most important indicators used in the literature to indicate a bank's credit risk and loan quality. A lower ratio denotes better asset quality, fewer problematic loans, and hence lower credit risk.	$\frac{NPL}{Total\ Loans}$
Capital Adequacy (CA)	CA is measured by the ratio of net income after taxes to total equity.	$\frac{Net\ Income}{Total\ Equity}$
Controlled Variable		
Bank Size (BS)	It is a measure of the natural logarithm of total assets of the bank. When the bank size is huge, it is expected that its financial performance will be huge and hence will have more agency issues and will require a strong corporate governance. Large bank size mostly results in large board of directors.	$FS = \text{Log}(\text{Total Assets})$
Bank Age (BA)	Measures the number of years since the bank was incorporated or established. A bank is considered better in doing business if it has been operating in a long time due to the learning effect	$\text{Log}(\text{Year of study} - \text{Year of Incorporation})$

	which actually is expected to affect young banks.	
Gross Domestic Product (GDP)	It is used to represent economic growth. Positive effect on profitability and firm value is expected.	Gross Domestic Product
Inflation (INF)	Inflation is a significant factor influencing bank value. There is no prior anticipation of how inflation will affect bank value.	Annual Inflation Rate

Source: Author

3.8 Validity and Reliability of Constructs

Validity suggests to the extent to which the test items are chosen accurately to reflect the information being assessed. Validity checks are performed to assess the significance and specificity of the research instrument as well as the degree to which the findings from the analysis will accurately depict the phenomenon under investigation. The content validity of research is a measure of how effectively data collected using a certain instrument represents a specific area or substance of a specific notion. To assess the validity of the study's instrument, comments from the supervisor and other lecturers were sought in order to allow for the necessary revision and modification of the research instrument, hence increasing validity.

The dependability of research is defined by Williamson (2002) as the extent to which it can be repeated with the same results. Because secondary data will be gathered from targeted

firms' financial statements (income statements and balance sheets), it is assumed that this data will be reliable for the study's purposes.

3.9 Ethical Consideration

With secondary data, it is important to consider the original purpose for which the data was collected. The financial statements are a summary of the day-to-day financial activities of the companies. The financial statements contain information concerning the actuality and not data collected for research purposes. This research looks at annual financial statements of listed banks that are published for legal and regulatory reasons. Taking into consideration the fact that the data is made public, it is assumed that the participants have already approved and given permission to use it for research and other purposes. Therefore, the risk of harming (ethical concept of *informed consent*, *invasion of privacy* and *deception*) our participants in this research is avoided, because of the public nature of the information available (Graue, 2015).

3.10 Chapter Summary

The research methodology employed in the study is presented in this chapter. It provides information about the study's population, sampling strategy, and data gathering techniques. The audited financial statements from the organizations that were sampled served as the study's primary research tools. The Statistical Package for Social Sciences (SPSS) version 23 program was used to examine the data once it had been obtained. Following the study of the data, descriptive, correlational, and regression analyses were performed to determine the impact of credit risk on the value of Ghana's universal banks. The results and findings are reported in the next chapter.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

The general objective of this study is to examine the impact of credit risk on the value of universal banks in Ghana. The conclusions of the data acquired from the individual universal banks sampled under study in chapter three are discussed in this chapter. Also results of each specific objectives, as stated in chapter one, are discussed. The chapter analyses data collected from 15 universal banks from the period of 2007 to 2021 leading us to 225 observations. This chapter begins with descriptive analysis, correlation analysis and the followed by discussions on the specific objectives.

4.1. Descriptive Statistics

The table below shows the results of the descriptive analysis of the dependent, independent and control variables. The mean, which reflects the average of the variables; standard deviation, which measures how the values are scattered around the mean; and minimum and maximum values, which indicate the range of variables, are all included in the descriptive analysis. Also, skewness and kurtosis, used to test for the normality of the data collected, is presented. The total number of observations is 225.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Tobin's Q	225	.01	3.90	.2179	.41292	6.956	56.560
NPL	225	.98	45.00	12.2318	8.57050	1.693	3.437
CA	225	-4.52	6.37	.3223	.78975	3.186	30.079
BS	225	7.08	10.55	9.2488	.58422	-.655	.827
BA	225	0.01	2.10	1.3510	.42469	-.278	-.117
GDP	225	24830	77590	50546	16888.41	-.153	-1.322
INF	225	7.14	19.25	12.4347	3.74849	.441	-1.132

Source: survey data, 2023

From Table 4.1, the Tobin's Q reveals a mean of 0.2179 and a standard deviation of 0.41292 indicating that there is less variability around the mean. Basically, the Tobin's Q exemplifies the relationship between the intrinsic value of a firm and its market value. The average of 21.79% indicates that the value of selected banks is rated lower than the actual assets they possess. It can be said that universal banks in Ghana are undervalued. For NonPerforming Loans held by universal banks in Ghana, the mean recorded is 12.23% with a standard deviation of 8.5705. This specifies that, on the average, universal banks in Ghana record about 12% of their loan issued as non-performing every year. Although this is on a bad side, it is somehow acceptable, but more efforts and measures should be put in place to ensure that this rate is reduced to the minimum possible. From the results, the minimum NPLs rate recoded over the period under investigation is 0.98% and a maximum of 45%. Still on the independent variables, Capital Adequacy has a mean of 0.3223 and a standard deviation of 0.78975. CA measures the ratio of net income after tax to total equity. Based on the mean, it can be said that universal banks in Ghana, all other things being equal, are able to generate about 32% of their total equity annually.

This is a sign of growth and stability in the banking sector of Ghana. Under the control variables, Bank Size has a mean of 9.2488 and a standard deviation of 0.58422. This implies that total assets held by universal banks in Ghana are quite on the high. Universal banks in Ghana have assets that can help them main their business operations and also stay in competition. Bank Age has a mean of 1.3510 and a standard deviation of 0.42469 indicating that universal banks in Ghana have experiences when it comes to operating in the Ghanaian environment. Age goes with experience and knowing the fact that a bank has been operating in the country for some time which gives depositors and the general public some sort of confidence and trust in the financial sector.

Moreover, GDP has a mean of 50,546 million dollars and a standard deviation of 16,888.41 indicating that for the period understudy, the economy has been performing well. GDP has a minimum of 24,830 million dollars and a maximum of 77,590 million dollars indicating a steady growth in the economy of Ghana over the period under investigation. Finally, Inflation records a mean of 12.43% and a standard deviation of 3.74849. here, the average rate of inflation in Ghana from 2017 to 2021 is seen to be 12%. The minimum of 7.14% and maximum of 19.25% indicates steady increase in prices of goods and services of the years. Normality test usually in the form of skewness and kurtosis is used to test for the normality of the data collected. The calculated values for skewness and kurtosis indicate that the data are normally distributed with no issues of skewness and kurtosis.

4.2. Correlation Analysis

Before the use of the multiple regression model, the correlation between the various variables is tested and the results are shown in Table 4.2 below. Correlation assists us in determining whether multicollinearity is an issue in the empirical study. It is observed that the correlation between each of the variables is not extremely high. From the table below, it is seen that the highest correlation coefficient is 0.701 significant at the 0.01 level and the lowest correlation coefficient is -0.401 also significant at the 0.01 level. The pairwise correlation between all of the explanatory factors is less than 0.80 (Hair et al., 1998). As a result, multicollinearity is not a concern. The outcome of the correlation between variables is shown in a matrix below.

Table 4.2: Correlations

	Tobin's Q	NPL	CA	BS	BA	GDP	INF
Tobin's Q	1						
Non-Performing Loans	.064	1					
Capital Adequacy	-.012	.128	1				
Bank Size	-.355**	.141*	.057	1			
Bank Age	.040	.338**	.172**	.428**	1		
GDP	-.071	.224**	.017	.701**	.279**	1	
Inflation	.141*	-.041	.143*	-.312**	-.095	-.401**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

4.3 Trend of credit risk among universal banks in Ghana

The trend of credit risk among universal banks in Ghana is measured using the mean and standard deviations of non-performing loans of the various banks over the years under study. Table 4.3 shows the trend over the period from 2007 to 2021.

Table 4.3: Trend of Credit Risk (NPL) in Ghana

Year	Mean	Standard Deviation
2007	8.12	4.992499803
2008	6.81	4.281067624
2009	8.70	4.234733364
2010	11.35	7.486481022
2011	11.19	6.817876572
2012	10.99	6.135443478
2013	10.70	4.519082503
2014	10.14	6.348637649
2015	16.05	10.70839955
2016	18.47	11.53601305
2017	18.00	9.390825969
2018	14.85	9.106495693
2019	12.17	9.637002695
2020	13.44	11.87792542
2021	12.49	9.200013095

Source: survey data, 2023

From the results above, over the 15-year period, the lowest NPL rate recorded is 6.81% in the year 2008 and the highest recorded is 18.47 in 2016. Looking at the result, it can be said that credit risk among universal banks in Ghana is increasing steadily over the period. A further analysis is looked at using charts. Figure 4.1 presents a clearer trend of credit risk among universal banks in Ghana. From the figure below, it is clearly seen that credit risk among universal banks in Ghana was in an uptrend from 2007 to 2016 where it reached its peak. From 2017 to date, the trend is moving downwards indicating an improvement in the management of credit risk among universal banks in Ghana. From the figure, it can be seen that over the past 5 years universal banks in Ghana, credit risk has become an issue that has taken the attention of management in the banking industry. The downtrend in credit risk indicating a reduction in the ratio of NPLs over the last 5 years might be explained by the presence of favorable management policies and implementation, adequate credit rating, proper management of debt portfolio, among others.

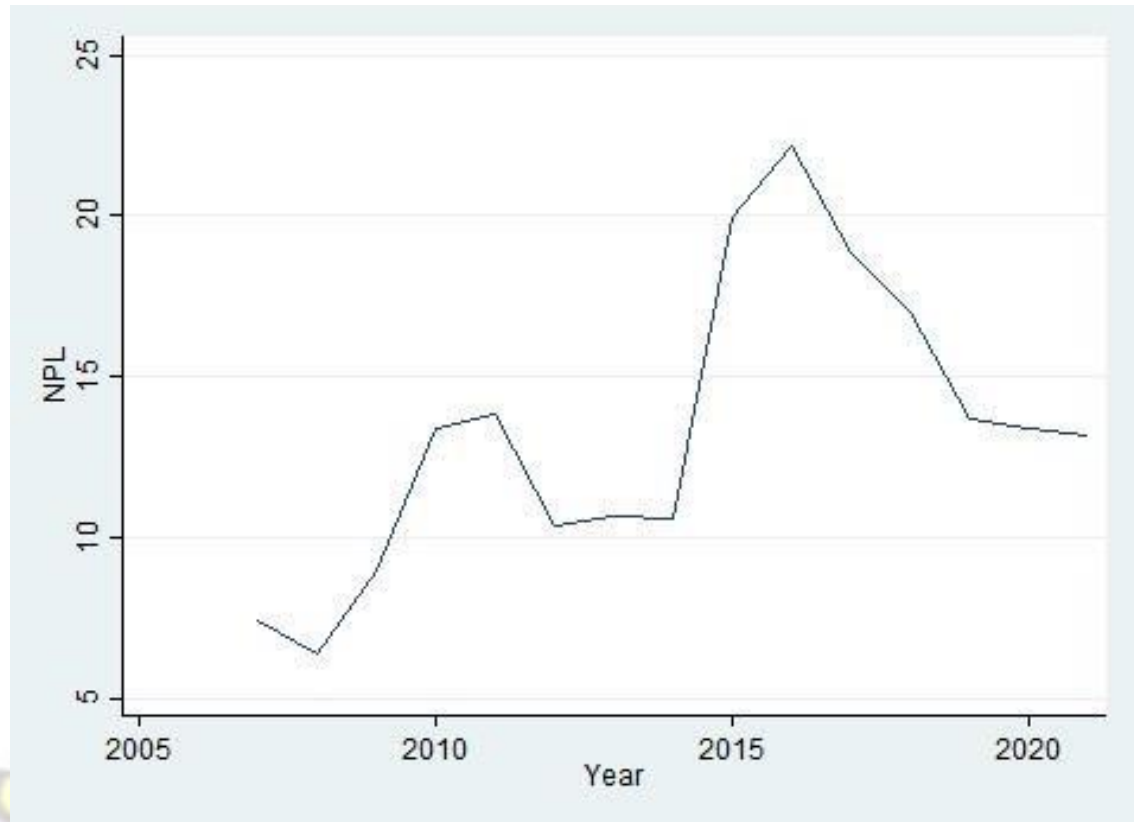


Figure 4.1: Trend of Credit Risk (NPL) among Universal Banks In Ghana

4.4. Regression Analysis

The regression model analyzes the relationship between variables of the study. The R Square of 0.248 demonstrates a strong correlation between independent variables and the dependent variable because it is positive value. The R squared value shows that 24.8% variations in firm value is affected by NPL, CA and the control variables. The Adjusted R squared value of 0.227 shows that the model is a good predictor of firm value of universal banks in Ghana.

Table 4.4: Model Summary

			Adjusted R	Std. Error of
Model	R	R Square	Square	the Estimate
1	.498 ^a	.248	.227	.36293

Predictors: (Constant), Inflation, Non-Performing Loans, Capital Adequacy, Bank Size, Bank Age, Gross Domestic Product

Table 4.5 shows that since the model is statistically significant ($p < 0.01$) at a 05 significant level, it is feasible to infer that extracted components have an impact on firm value. According to the F-value of 11.994 and p-value of 0.000, the independent factors significantly account for the variance in the dependent variable. This indicates that the regression model explains a firm value variance of Ghana's universal banks by a factor of more than 12 times. The study comes to the conclusion that the model utilized could account for firm value using both the F-statistic and P-value.

Table 4.5: ANOVA^a

	Sum of Squares	df	Mean Square	F	Sig.
Model					
Regression	9.479	6	1.580	11.994	.000 ^b
Residual	28.714	218	.132		

Total 38.193 224

a. Dependent Variable: Tobin's Q

b. Predictors: (Constant), Inflation, Non-Performing Loans, Capital Adequacy, Bank Size, Bank Age, Gross Domestic Product

From Table 4.6, the estimates of the regression model are revealed. The regression slope coefficient (Beta) is the average change in the dependent variable caused by a unit increase in the independent variable.

Table 4.6: Coefficients^a

Model	Unstandardized	Standardized	Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.861	.511		7.555	.000
Non-Performing Loans	-1.288E-05	.003	.001	-.004	.997
Capital Adequacy	-.019	.032	-.037	-.609	.543
Bank Size	-.498	.063	-.705	-7.959	.000
Bank Age	.241	.067	.248	3.583	.000
GDP	9.762E-12	.000	.399	4.572	.000
Inflation	.012	.007	.110	1.692	.092

a. Dependent Variable: Tobin's Q

From the results above, none of the independent variables have a significant relationship with Tobin's Q, hence there is no statistically significant relationship between NPL, CA

and firm value. This is proved by Non-Performing Loans having a Beta of 0.001 and a p-value of 0.997. Similarly, Capital Adequacy also has a Beta of -0.037 and a p-value of 0.543. The most significant predictor of firm value in this model is seen to be Bank Size (Beta = -0.705, $p = .000$), Bank Age (Beta = 0.248, $p = .000$) and GDP (Beta = 0.399, $p = .000$) at a 1 percent significant level. Bank Age and GDP have a positive significant relationship with firm value while Bank Size has a considerable negative association with firm value.

4.5 The relationship between credit risk and the value of universal banks in Ghana

From the regression analysis above, credit risk has no significant relationship with the value of universal banks in Ghana. This illustrates that a rise in the amount of loan supplied by banks, along with inadequate monitoring and screening of borrowers, have no effect on the bank's worth. In this case, universal banks in Ghana's competent and cautious CRM, in the form of utilizing and controlling money in the appropriate direction to decrease NPLs, has no impact on the firm value of banks in Ghana. Due to the strict rules and regulation regarding the business activities of the banking sector or industry in Ghana, the confidence of investors and customers have been increased. Even with the recent financial sector clean up, financial institutions which are not up to the task have either been merged, sold out to other banks or liquidated to boost the public interest of investors and customers. Due to this and other factors, investors do not place too much emphasis on NPLs when evaluating a financial organization.

The result of the study is supported by the findings of Issackow (2022), whose finding indicates that liquidity or NPL are insignificantly and negatively correlated with firm value of Kenyan commercial banks. Similarly, Rahadian & Handono (2022) finds out NPLs have no major influence on firm value since investors and customers do not see the NPL proxy as an issue in the company. This is in accordance with research Waitherero & Wangari (2022), Maryadi, et.al (2020), Anwar (2018), Irianti & Saifi (2017) and Duaka (2015). However, the result is in contrast with the finding of Sugianto et al. (2020), who finds out that NPLs has a negative effect on the firm value of the banking sector. The results are also at odds with those of Magnifique (2013), who came to the conclusion that while credit risk identification explained bank productivity in Rwanda, credit risk scoring, analysis, and evaluation explained financial performance and their worth.

4.6 The relationship between capital adequacy and the value of universal banks in Ghana

From the regression analysis above, it can also be seen that there is no significant relationship between capital adequacy and the value of universal banks in Ghana. However, the Beta value of -0.037 shows a negative relationship indicating that an increase in capital adequacy might lead to a 4% decrease in the firm value of universal banks in Ghana. For banks to grow and advance while keeping the public's trust, capital is a crucial component. In addition to having the potential to provide income, every asset creation also has the danger of failure. As a result, capital must also be utilized to mitigate the risk of losing investments in and ownership of assets, particularly those that come from public or thirdparty sources. To safeguard the interests of fund owners, the growing profit-generating function of assets must be supported with evaluation of potential dangers. Capital is one of the most crucial aspects for creating and accommodating the risk of loss if the bank is

operational. The goal of capital valuation is to determine if a bank has enough capital to cover current risk exposures and foresee future ones. A favorable credit situation will allow the bank to fulfill its capital requirements (Sari & Endri, 2019). According to the findings of the descriptive analysis in Section 4.1, Ghana's universal banks have a capital adequacy ratio that is likewise relatively high, allowing them to expand loans. The result of the study indicates that investors in the financial sector of Ghana do not focus on the capital adequacy indicators of universal banks they invest in. This result indicates that banks are still focused on the minimum requirements imposed by the Bank of Ghana, and investors are satisfied with the imposition of these minimum requirements, hence having confidence in the financial system of the nation. Since it gives financial institutions in developing nations greater sturdiness and raises depositor protection under challenging macroeconomic conditions, capital sufficiency is crucial, however, the minimum capital requirement has lifted the burden of focusing on capital adequacy since the law regulates that.

The result of the study is supported by the findings of Issackow (2022), whose finding indicates that capital adequacy has insignificant positive effect on firm value among Kenya commercial bank. Similarly, Sugianto et al. (2020), using t-test, also concludes that CAR does not affect the value of the firm (FV) of the banking sector. The result also concurs with the findings of Alta'ani & Dali (2020), who finds a positive and nonsignificant relationship between capital adequacy and Tobins Q. However, the result is inconsistent with the finding of Rahadian & Handono (2022) and Kiambati (2020) who discovers that commercial banks will have a greater market value as shareholders when they have enough capital to perform everyday operations and make investments. As opposed to when there

is an insufficient capital ratio, this indicates that firm shares can be sold at a greater price on the stock exchange.

4.7. Further Discussions

In addition to acting as a middleman, commercial banks make sure that corporations maximize their shareholders' wealth. The majority of a commercial bank's income comes from credit loans to consumers (Canh & Dinh, 2016). In the banking business, loans are extremely hazardous even though credit facilities are commercial banks' primary sources of income (Gabriel et al., 2019). The issue of credit risk, according to Kiambati (2020), is even more of a concern due to the great perceived risks brought on by some of the client characteristics and their business environments, which calls for in-depth empirical investigations. Banks generate income from a variety of borrowing and depositing activities, but advances and non-performing loans (NPLs) are viewed as losses for the institution. Greater NPLs imply bigger losses, which negatively affects the bank's capital availability for additional borrowing. As a result, the effectiveness of the bank's investment is impacted, which further reduces profitability. In terms of capital adequacy, the assessment provides banks with critical information they need to evaluate, assess, screen, and regulate credit risk, as well as assess whether they have enough capital to cover these risks and are fairly rewarded for the risks they take on, which either increases risk or lowers operating costs. The findings of the study show that there is no significant relationship NPLs, CA and bank value. According to the research of Awiagah & Choi (2018), the Ghana Stock Exchange has a weak-form efficient market hypothesis indicating that news and information around entities do not immediately affect the firm values of listed entities on the GSE. The findings also contradict Kisala's (2014) observation that nonperforming loans and

capital adequacy ratio have a negative and comparably substantial influence on company performance.

For the control variables, all predictors show significant relationship with firm value at a 1% significant level, except for inflation ($\text{Beta} = 0.248$, $p = .092$) which has a significant relationship with firm value at a 10% significant level. This is evidence by Bank Size ($\text{Beta} = -0.705$, $p = .000$), Bank Age ($\text{Beta} = 0.248$, $p = .000$) and GDP ($\text{Beta} = 0.399$, $p = .000$) at a 1 percent significant level. Bank Age and GDP have a positive significant relationship with firm value, indicating that as universal banks in Ghana increase in age, they gain more experience, popularity and market share which cause their firm value to increase. For GDP, as the GDP of the economy increase, indicating growth, prosperity, stability and progress, firm value of banks in the economy also increases as investment in the economy becomes more lucrative and attractive. The study also identifies a negative significant relationship between Bank Size and firm value indicating that the value of a universal bank in Ghana decreases as the total asset of the bank increases. When more funds are invested into assets without corresponding increase in market share, banks turn to generate less income and hence paying less dividend which in turn affects their value.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study, discussion of the results and makes conclusions based on the findings. Recommendations for improvement and further studies have also been discussed.

5.1 Summary of Findings

The main aim of this study is to examine the impact of credit risk on the value of universal banks in Ghana. The specific objectives of the study are to examine the trend of credit risk among universal banks in Ghana, examine the relationship between credit risk, capital adequacy and the value of universal banks in Ghana. The following findings, crucial for academics in the field of credit risk and financial institutions in Ghana, are made by the study. First and foremost, the results of the study indicate that over the 15year period, the lowest NPL rate recorded is 6.81% in the year 2008 and the highest recorded is 18.47 in 2016. The results show that credit risk among universal banks in Ghana was in an uptrend from 2007 to 2016 where it reached its peak. From 2017 to date, the trend is moving downwards indicating an improvement in the management of credit risk among universal banks in Ghana.

Secondly, the results of the study show no significant relationship between credit risk and the value of universal banks in Ghana, indicative by Non-Performing Loans having a Beta of 0.001 and a p-value of 0.997. This shows that increases in the quantity of credit provided by banks, as well as inadequate management of monitoring and screening of borrowers, have no effect on the value of universal banks in Ghana. Due to the strict rules and

regulation regarding the business activities of the banking sector in Ghana, the confidence of investors and customers have been increased. Investors not to consider NPL too much in assessing a banking institution in Ghana.

Finally, the results of the study show no significant relationship between capital adequacy and the value of universal banks in Ghana, in indicative by Capital Adequacy also has a Beta of -0.037 and a p-value of 0.543. This result indicates that banks are still focused on the minimum requirements imposed by the Bank of Ghana, and investors are satisfied with the imposition of these minimum requirements, hence having confidence in the financial system of the nation. Since it gives financial institutions in developing nations greater sturdiness and raises depositor protection under challenging macroeconomic conditions, capital sufficiency is crucial, however, the minimum capital requirement has lifted the burden of focusing on capital adequacy since the law regulates that.

For the control variables, all predictors show significant relationship with firm value at a 1% significant level, except for inflation (Beta = 0.248, $p = .092$) which has a significant relationship with firm value at a 10% significant level. This is evidence by Bank Size (Beta = -0.705, $p = .000$), Bank Age (Beta = 0.248, $p = .000$) and GDP (Beta = 0.399, $p = .000$) at a 1 percent significant level.

5.2 Conclusion

This paper investigates the impact of credit risk on the value of universal banks in Ghana. The general objectives of the study are to examine the trend of credit risk and also examine the relationship between credit risk, capital adequacy and the value of universal banks in Ghana.

A quantitative survey is conducted with data obtained from the financial statement of 15

universal banks in Ghana from the period of 2007 to 2021. A total of 225 observations are analyzed in this study due to data availability and time constraint. Data collected are analyzed using multiple linear regression. The results of the study indicate that the trend of credit risk among universal banks in Ghana is a downwards one indicating an improvement in the management of credit risk among universal banks in Ghana. The study finds no evidence that universal banks in Ghana create value via Non-Performing Loans and capital adequacy. Hence, the study's findings shows that regardless of a huge amount of unpaid loans, NPLs have a positive and insignificant impact on bank value, whereas capital adequacy has a negative and insignificant impact in bank value due to strict capital requirement regulations in the financial sector. Furthermore, firm value of universal banks in Ghana has significant relationship with Bank Size, Bank Age, and GDP.

5.3. Recommendations

The study offers these suggestions to improve the effectiveness of credit risk and capital adequacy on value of universal banks in Ghana based on the findings from the empirical investigation. The study makes the following recommendations:

Trend of credit risk among universal banks in Ghana.

From the results of the study, for some time now, the trend of credit risk is moving downwards indicating an improvement in the management of credit risk among universal banks in Ghana. The study therefore recommends that management of banks should put measures in place to improve their loan collection rates, thereby reducing NPLs and keeping the NPL ratio at its low. Management should also keep up the good work in ensuring that the trend continues to go lower and lower by developing and implementing

polices that will assist in closely examining credit applicants, evaluate credit applicants effectively by utilizing credit manuals as a foundation for separating poor customers from excellent clients, and implement all credit regulations to ensure that human involvement in the criteria for credit applicants is prohibited.

The relationship between credit risk and the value of universal banks in Ghana.

The results of the study show no significant relationship between credit risk and the value of universal banks in Ghana. Even if they have little to no influence on a bank's value, universal banks in Ghana should evaluate the indicators of credit risk, NPLs and CAR. They may have an impact on other aspects of a bank's operations, including profitability, performance, liquidity, and efficiency. Management should thus economically justify its efforts in credit management to prevent risk management from being more expensive than it is beneficial. Implementing and carefully enforcing the credit management procedure would help the bank reduce the risk of acquiring bad debts and quickly address errors and deficiencies in credit activities. The study further recommends that managements of banks create a credit risk management plan that is appropriate for the current stage of the economy. We suggest encouraging banks to lower their lending rates in order to lower credit risk and therefore increase profitability. To ensure that its human resources are competent and ethical enough to carry out professional tasks, banks must prioritize their training, development, and improvement. It also needs to have a system in place for designating officers in charge and establish rules and regulations for their conduct.

The relationship between capital adequacy and the value of universal banks in Ghana

The results of the study show no significant relationship between capital adequacy and the value of universal banks in Ghana. However, the study notes that there is a negative relationship between capital adequacy and value of the banks. As a result, management should work to enhance profits rather than relying too heavily on debt because doing so would raise interest costs that must be paid.

5.4 Recommendation for Further Studies

The researcher only focused on two independent variables, which is a limitation of the study. Future researchers should broaden their studies by including additional variables that may influence the value of universal banks in Ghana despite NPL and capital adequacy, which have a negligible relationship to bank value. To establish patterns for longer time periods and to seize new possibilities that have recently developed in Ghana's financial industry, more research on the impact of credit risk and capital sufficiency on bank value should be conducted from time to time. As Tobins Q is the sole method the study may use to determine bank value, both quantitative and qualitative variables should be considered in the study in order to get more thorough results. Moreover, because this study was done among universal banks in Ghana, it makes the case for doing an additional study among rural banks, microfinance organizations, and other financial institutions to determine whether the study's conclusions would be consistent.

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