MODERATING EFFECT OF NON-PERFORMING LOANS ON BANK CAPITALISATION, LIQUIDITY RISK AND RISK GOVERNANCE TO BANK PERFORMANCE IN SUB-SAHARAN AFRICA

By

YAHAYA ADAMU

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirement for the Degree of Doctor of Philosophy

January 2022

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DEDICATION

With a high sense of appreciation, I dedicate this work to my parent, my late father, Alhaji Yahaya Danbaba and my mother, Amina Yahaya.

To my wife, Aisha Ibrahim, and my son, Yahaya (Aiman), for their support, patience and unending love exhibited throughout this journey.

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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By

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January 2022

Chairperson : Fauziah binti Mahat, PhD
School : Business and Economics

The rate of banking failure across Sub-Saharan Africa is a great source of concern to all stakeholders in the industry, given the important role that banks play in promoting economic growth and development in the region. This study is motivated by the increase rate of poor banking performance despite all efforts by the regulators and management of banks to address it. The study aims to examine the moderating effect of non-performing loans on the impact of bank capitalization, liquidity risk and risk governance on bank performance with evidence from sub-Saharan Africa (SSA). A sample of 78 listed commercial banks across ten sub-Saharan Africa countries was drawn. The countries include, Nigeria, Ghana, South Africa, Kenya, Zambia, Tanzania, Mauritius, Malawi, Rwanda and Botswana that constitute the top performing economies within the region. The study covers a period of 9 years, from 2012 to 2020. The study employed a two-step system generalized method of moment as the method of inference. Findings from the study revealed a significant and positive relationship between bank capital, risk governance and bank performance, and a significant and negative relationship between liquidity risk, non-performing loans and bank performance. The moderation relationship is only significant for return on asset. The study therefore, makes the following recommendations; 1) a regular upward review of bank capital base, to be in line with global standard, 2) controlling the rate of non-performing loans and 3) increasing the number of risk experience members within the corporate governance structure of the banks.

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

KESAN MODERASI PINJAMAN TIDAK BERBAYAR TERHADAP PERMODALAN BANK, RISIKO KECAIRAN DAN TADBIR URUS RISIKO TERHADAP PRESTASI BANK DI SUB-SAHARA AFRIKA

Oleh

YAHAYA ADAMU

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Pengerusi : Fauziah binti Mahat, PhD
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Melihat kepada peranan yang dimainkan oleh bank dalam menggalakkan pertumbuhan dan pembangunan ekonomi di rantau Afrika Sub-Sahara, tahap kegagalan perbankan di rantau ini menimbulkan keresahan kepada semua pemegang saham di dalam industri tersebut. Kajian ini didorong oleh peningkatan tahap kegagalan prestasi perbankan walaupun pelbagai usaha telah dilakukan oleh pengatur dan pengurusan bank. Kajian ini bertujuan untuk mengkaji kesan penyederhanaan pinjaman tidak berbayar terhadap impak kepada pemodalan bank, risiko kecairan, risiko tadbir urus terhadap prestasi bank melalui bukti kajian dari Afrika Sub-Sahara. Sebanyak 78 sampel bank komersial dari 10 negara sub-Saharan Afrika telah dipilih. Negara-negara yang terlibat adalah Nigeria, Ghana, Afrika Selatan, Kenya, Zambia, Tanzania, Mauritius, Malawi, Rwanda dan Botswana. Tempoh kajian ini merangkumi sebanyak 9 tahun, bermula dari 2012 hingga 2020. Untuk mendapatkan dapatan yang terperinci, kajian ini menggunakan sistem kaedah dinamik panel momen teritlak dua langkah sebagai kaedah inferens pilihan. Dapatan kajian menunjukkan hubungan positif dan signifikan antara modal bank, risiko urus tadbir dan prestasi bank. Manakala, hubungan antara risiko pencairan, pinjaman tidak berbayar dan prestasi bank didapati signifikan dan negatif. Hubungan penyederhanaan hanyalah signifikan terhadap pulangan aset. Oleh itu, kajian ini mencadangkan yang berikut; 1) semakan kenaikan asas modal bank secara berkala, sejajar dengan standard global, 2) mengawal kadar pinjaman tidak berbayar dan 3) menambah jumlah ahli yang berpengalaman mengurus risiko dalam struktur tadbir urus korporat bank.

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ACKNOWLEDGEMENTS

All praise be to Allah (S.W.T), for He taught man by the pen. I thank Allah (S.W.T) for making it possible for me to see this great day, the completion of this thesis. This would not have been a possible task without His mercy and grace.

My supervisor, Associate Professor Dr. Fauziah Mahat, my source of inspiration and motivation in this journey, I am indebted for your support, patience, guidance, and critique, this journey would not have been possible or complete without you. Thank you for all that you have done.

To my co-supervisors, Dr. Matemilola Bolaji T. and Dr. Mohamed Hisham Dato' Haji Yahya, my sincere appreciation for your continued contributions and support. The advice, suggestions, constructive criticisms, recommendations, and commendations were pillars to the success of this work. Similarly, this thesis will not be complete without the valuable contribution of both the internal and external examiners. I appreciate and sincerely thank you all.

I am highly indebted to my family, particularly my late father, Alhaji Yahaya Danbaba, my mother, Aminatu Yahaya, and my step mum, Maryam, for all they have done for me, my prayers is for almighty Allah to grant you jannatul firdaus. My brothers that include Umar Yahaya, Sani Yahaya, Auwal Yahaya, Danladi Yahaya, Abubakar Yahaya and Abdullahi Yahaya, not forgetting my sisters Saadatu Yahaya, Rukayya Yahaya, Jimmai Yahaya, and Hauwa Yahaya, and a lot of other family and friends which space will not permit me to mention, I thank you all for your support, encouragement, prayers and advice, Jazakallahu bikhair.

Aisha and my lonely kid (Yahaya), this whole journey will not be successful if not for your patience, perseverance, love shown to me during my trying times. I cannot than you enough, may Allah bless you.

Many thanks to my mentors, research group mates and friends. I want to specially appreciate and thank late Dr. Ahmed Dahir, for his immense contribution to this work, may Allah (S.W.T) forgive his shortcomings and grant him Jannatul firdaus. To my course mate, Amina Sari, Khadijah C. Alih, Mohammed Bello Sabo, Tukur Mohammed Saidu, Bashir Danraka, Umar Babuga, Dr, Idris Bashir Bugaje, Dr. Ahmed Bashir Bugaje, Muhammad Buhari, and so many others too numerous to mention. My friends back home, Bashir Jumare, Nasturu Zubairu, Nasiru, Ibrahim Yusuf, Musa Isah and yakubu Musa. Thank you all for your advice, encouragement, and support.

My Special appreciation goes to the entire management of Federal University Dutsin-Ma, Katsina State Nigeria in general, and to the Department of Business Management and Faculty of Management Sciences for giving me the opportunity to benefit with the scholarship through their nomination and the entire authority of Tertiary Education Trust Fund for the final approval they granted, I appreciate your kind gesture.

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In the course of my data collection, I received a lot of assistance from people, on this note, will like to appreciate the staff of Abdulsamad Library data stream section for putting me through on how to get my data on the data stream, my appreciation goes to Dr. Thakur Oli for his assistance and guidance during the course. Thank you all for your kind gestures.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

ASF	Available Stable Funding
ACB	Audit Committee Board
ARDL	Auto Regressive Distributive Lag
AR[1]	First order Auto Correlation
AR[2]	Second order Auto Correlation
BCBS	Basel Committee for Banking Supervision
BOD	Board of Directors
BRMC	Board of Risk Management Committee
BRICS	Brazil Russia India China and South Africa
BHC	Bank Holding Company
BCP	Bank Capital
BSZ	Bank Size
CBN	Central Bank of Nigeria
CRO	Chief Risk Officer
CEO	Chief Executive Officer
CCB	Counter Cyclical Buffer
CAR	Capital Adequacy Ratio
CAS	Capital Asset Ratio
DEA	Data Envelopment Analysis
DIS	Deposit Insurance Scheme
DEP	Deposit Ratio
EPS	Earning Per Share
FSB	Financial Stability Board
FE	Fixed Effect

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GOK	Government of Kenya
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GLS	Generalized Least Square
HQLA	Higher Quality Liquid Asset
IFRS	International Financial Reporting Standard
IASB	International Accounting Standard Board
IFC	International Financial Corporation
IOSCO	International Organization for Security Commission
IAIS	International Association of Insurance Supervisors
IA	Independent Audit
INF	Inflation
LCR	Liquidty Coverage Ratio
LQR	Liquidity Risk
LON	Loan Ratio
LEV	Leverage ratio
LSDV	Least Square Dummy Variable
LSDVC	Least Square Dummy Variable Corrected
MENA	Middle East and North Africa
NPL	Non-Performing Loan
NIM	Net Interest Margin
NSFR	Net Stable Funding Ratio
NGO	Non-Governmental Organization
NDIC	Nigerian Deposit Insurance Corporation
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square

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QR	Quantile Regression
ROA	Return on Asset
ROE	Return on Equity
RGF	Risk Governance Framework
RC	Risk Committee
RCS	Risk Committee Size
RGV	Risk Governance
RE	Random Effect
REM	Risk Experience Members
SSA	sub-Saharan Africa
SEA	South East Asia
USD	United State Dollar
VIF	Variance Inflation Factor

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This study begins with a general background of the study, in which, a clear justification for the study is established. The statement of the problem is articulated around the three main issues in the study, as well as, the moderating variable that is being used in the study. Research questions and research objectives are stated in this chapter. The significance of the study, scope, and definition of terms are also discussed in this chapter.

1.2 Background of the Study

The financial sector performs crucial functions that ensure the efficient and effective allocation of scarce resources within its component units. It mobilises allocations made from excess units and reallocates them to deficit units in need. As such, the activities within the financial sector are enhanced, particularly, within the banking sector. It is the primary sub-sector having the capacity to connect with diverse populations, in turn, accelerating economic growth and development (Bosiu, 2018; Saif-alyousfi, 2020; Sarpong-Kumankoma, Abor, Aboagye, & Amidu, 2020). Strengthening the financial system and institutions is one of the key issues confronting developing economies and emerging markets nowadays. The financial integrity of countries is heavily dependent on their development and the liquidity positions of their banking system, coupled with strict regulations, supervision, and supplementary roles of other financial establishments (FSB, 2013).

The development of the banking sector of a nation and its economic growth is highly correlated in many instances (Mwengei, 2013). The banking industry is an important financial sector that facilitates development plans via channelling finances used for productive purposes, coordinating the flow of income from excess to deficit units, and aiding most economic and financial government policies (Sahyouni & Wang, 2019). Kwambai and Wandera (2013), assert that banks play a crucial function and role within the economy via the intermediation process of deposit mobilisation from surplus to deficit units through lending. This lending is one of the main activities of banks in most developing countries. Banks are seen to have the upper edge over other financial institutions due to their crucial role in making available different forms of liquidity commitment like corporate lines of credit and demandable deposit (Acharya & Mora, 2015).

The Sub-Saharan Africa (SSA) financial sector is predominantly underdeveloped, having more than 80% of adults excluded from the banking sector (Mlachila, Park, & Yabara, 2013). In a benchmarking study among various regions of the world, conducted by the World Bank, the study revealed that sub-Saharan Africa scored less than 30% on

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different aspects of financial development than other emerging regions globally, such as, the depth and efficiency of financial institutions in comparison to Asia and Latin America scoring 51% and 47% respectively (Cihak, Demirgüç-Kunt, Feyin, & Levine, 2012). Moreover, World Bank, (2015) indicates that financial services penetration in sub-Saharan Africa is still low compared to other regions of the world. sub-Saharan Africa has 24% level of penetration compared to Latin America and the Caribbean, North Africa, and OECD countries with 45.2%, 48.1% and 134.3%, respectively.

In their study, Mlachila et al. (2013), added that the financial intermediation level and commitments in sub-Saharan Africa remain significantly lower compared to other emerging regions globally. There are many constraints associated with banks in accessing credit in any form. The majority of banks within the banking system constitute relatively low loan-to-deposit ratios. Lending is largely in short-term form, with a less than one-year maturity period of about 60% of the loan. These characteristics or attributes also included other factors that include a lower level of income, a lower level of financial literacy, large informal sectors, political risk, fragile credit rights, feeble banking activities contractual framework, and judicial enforcement mechanism (Mlachila et al., 2013).

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Therefore, given these features and challenges, it is undeniable that the sub-Saharan Africa countries should consider taking appropriate actions and steps towards strengthening its banking sector if it aims to achieve maximum economic growth. From the view of scholars, deregulation of the banking sector is imperative to enhance the level of competition and hasten the distribution of modern technologies in addition to raising the proportion of the population to use banks with links to banking facilities. The fact that the three largest banks in sub-Saharan Africa possess a high percentage of total assets, indicate that market structures are mainly oligopolistic, with higher operational costs, interest rates and service fees (Bosiu, 2018). Furthermore, some banking sectors in sub-Saharan Africa constitute an important restriction to new market entrants due to prevailing competition (Makhaya & Nhundu, 2016).

The global financial crisis (GFC) (2007-2009) resulted in extreme chaos within the financial system, in which, a vast number of banks were severely impacted. Although the banks within the sub-Saharan Africa were partly affected by the GFC, the experience of banks which were confronted with liquidity problems, as experienced in Nigeria, Kenya etc, as a result, underscores the relevance of liquidity risk management (Abdul-

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Rahman, Sulaiman, & Mohd Said, 2018). The GFC provided convincing evidence on just how quickly liquidity could evaporate, and its outcome could last for a relatively long period. During the initial stage of the GFC, liquidity management crises became extremely obvious, including those financial establishments with sufficient capitalisation (Díaz & Huang, 2017). Profit maximisation balances risk management and firm performance in getting revenues while maintaining the least acceptable level of risk. As such, risk management and performance are perceived as major areas in banking. The Basel Committee on Banking Supervision has the view that the failure behind most commercial banks is due to the non-adherence with basic liquidity risk management principles at the time of abundant liquidity at the bank's disposal (Prefontaine, Desrochers, & Godbout, 2010).

This is one of the many reasons why banks within sub-Saharan Africa are still attempting to address liquidity challenges. Many scholars have justified the reasons why banks need to hold a large amount of capital (Berlin, 2011). Allen, Carletti, & Marquez (2011) and Adeabah and Andoh, (2020); Githaiga, (2021) and Mehran and Thakor, (2011) contend that a higher level of capital encourages the proper handling of loans, which, in return results in higher profits and market valuation. Contrastingly, other scholars believe that holding larger capital could result in excessive risk-taking (Acosta-smith, Grill, & Hannes, 2020; Oduor, Ngoka, & Odongo, 2017; Proença, Augusto, & Murteira, 2020). The recapitalisation policy in Nigeria from 2billion naira to 25 billion naira set precedence for many sub-Saharan Africa countries' banks reforms. For example, the Bank of Africa, (2017) reported a new minimum capital requirement, giving directives to all universal banks to recapitalise to Ghana Cedis (GHC) 400 million, the latest by 31st December 2018. Similarly, the Bank of Ghana finally revoked the licence of seven (7) banks that could not comply with the new capital regulations. Bank of Ghana (BOG), (2020) reports that banks in Ghana are making effort to keep a minimum capital requirement of 10% of the banks' total assets in compliance with Basel III.

Oduor et al., (2017) revealed that many sub-Saharan African countries have strengthened their capital base. In Kenya, the capital base for the commercial banks was increased from USD3.3 million in 2008 to USD12.5 million by 2012. Kenya had undergone different recapitalisation policy reforms, from USD2.50 to USD10.1 million in 2012, USD20.21 million in 2016, USD35.38 in 2017 and the latest of USD50.54 by December 2018 (Central Bank of Kenya, 2019). The South African banks, despite the level of development of their banking industry, continue to have problems attributed to lower banks' capital base, as their bank minimum capital base stood at around USD50 million. Moreover, South African banks raise their capital requirement to 250 rand (South African Reserved Bank, 2015). Zambia, which reviewed its banks' capital base requirement from USD3,240 to USD2.2 million in 2007, also went through the same experience Bank of Zambia, (2013).

Bank of Tanzania, (2019) mandated all commercial banks to raise their minimum capital requirements to Tsh 15 billion (USD 9.24 million) from Tsh 5 billion (USD154, 036) in their effort to strengthen the capital base and resilience of the banks. Commercial banks in Rwanda were directed by the Central Bank of Rwanda (CBR), (2017) to review their capital base to Rwf 20 billion (USD21 million). Bank of Malawi (BOM), (2020) designated 18.4% as the regulatory Tier 1 capital weighted asset ratio. This exhibits a

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decrease from the previous 19.1%. This complies with the Basel III regulations. In Botswana, the minimum regulatory capital stands at P 5 million. While the regulatory capital ratio stands at 15% of the risk-weighted risk asset (Central Bank of Botswana, 2019). Moreover, the Reserve Bank of Malawi (2018) directed all commercial banks in Malawi to maintain a minimum regulatory capital of Malawi Kwacha equivalent of USD 5 million.

Nevertheless, as seen in the figure 1.1 below, the trend of capital among selected sub-Saharan countries remains relatively unstable towards 2020. Given this likelihood, debtors would require a higher premium to finance banks. The expectation of international reform towards the increase in capital requirements to safeguard banking performance is highly pertinent in sub-Saharan Africa (IBRD, 2013) as sub-Saharan Africa banks are faced with volatile capital levels.

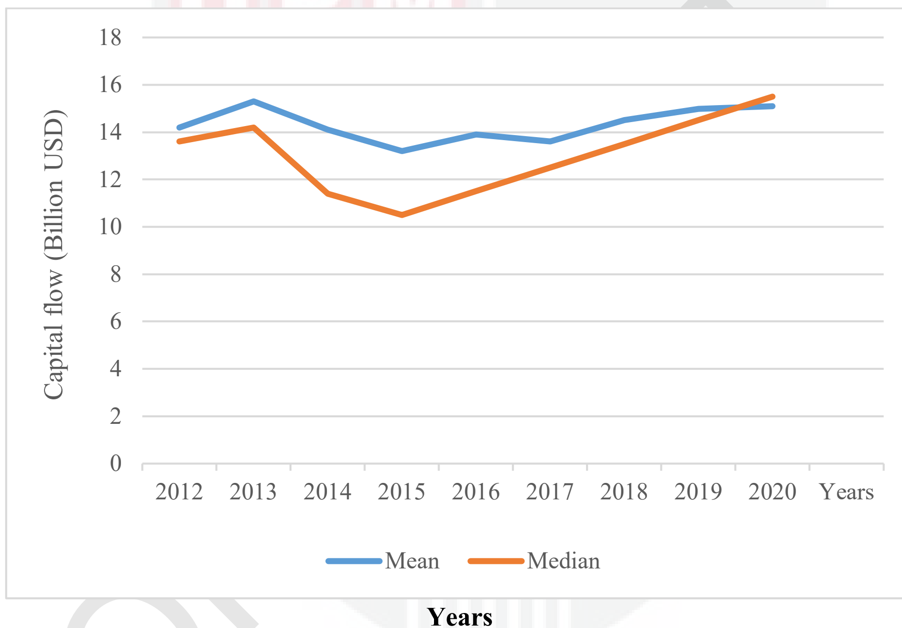

Figure 1.1: Capital Evolution of selected SSA Countries (Billion USD)
[Source: Author's construction based on available data, 2021]

Figure 1.1 depicts the trend in the movement of capital among the sub-Saharan Africa banks, beginning from 2010, during which, some of the banks' capital began recovering from GFC to reach its peak in 2013. This movement was due to several regulations, such as, the recapitalisation of banks across a number of countries. However, since then, the inflow of capital, has been unstable, affecting the performance of many banks within the region.

Furthermore, sub-Saharan Africa's financial stability have become more threatened by liquidity risks within the financial system in sub-Saharan Africa. As such, sustaining a well-balanced liquidity buffer is seen as a reliable option for handling liquidity risk and providing proactive measures towards anticipated liquidity shocks (Saifuddin, Scheule, & Wu, 2017). Banks are commonly exposed to numerous risks through the process of liquidity creation through the transformation of illiquid assets into liquid assets. However, despite the crucial role of banks, this service offers the economy, banks remain exposed to risk (Diamond, & Rajan, 2009). Though, the vulnerability within banks has not prevented them from carrying out their role of liquidity creation during economic downturns, hence discharging an important function in the financial system (Mehrotra & Schanz, 2020).

Moreover, liquidity problems typically surface in the event where liquid assets are converted into loans and immediacy is requested on deposits. While the banks facilitate the payments and settlements system, multiple functions are performed by the banks in the support given to transferring goods and services. They also initiate economic growth and prosperity through profitable investment commitments of capital and further aid in developing new industries that consequently enhance employment opportunities and hasten growth (Arif & Anees, 2012).

There is an interesting relationship between deposit holding and cash lending by banks. These two activities exhibit liquidity intermediation role in banks and contribute towards a common overhead (Musa et al., 2015). Therefore, it is important to evaluate the loan and deposit relationship, which is an important measure of liquidity mismatch. The coverage of loans with stable funding is normally estimated using the loan-to-deposit ratio, particularly, from deposits received from households and other non-financial institutions. Though, excess loans over the base of deposits may lead banks to be confronted with funding problem which is associated with the financial markets that they have accessed. Funding gap variability is usually a problem to banks particularly if the gap is significantly high. This may be due to placing too much dependence on the market that is highly volatile and relatively expensive compared to retail funding, especially, if it concerns unsecured market funding (Willem, 2013).

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According to Gross and Siebenbrunner, (2019), on the interrelationship between loans and deposits in the light of the financial flow model, a loan could be created through deposit because a banks' liquidity position rises with an increase in deposit funding which enables loan extensions. Contrastingly, deposits are also created from bank loans since loans obtained by clients end up as deposits, either in the borrower's account or in the counterparty's account who receives the payment. This relationship does not connote or imply a closed system where deposit growth equals loan growth by definition, as banks could employ optional (wholesale) sources to finance their lending, while households and firms can invest in other alternatives.

The study employs non-performing loans as the moderator of other determinants of bank performance used in the study. The rationale behind the use of NPLs as the moderator is its contribution towards bank failure vis-a-vis other factors that affect bank performance. Therefore, in essence, this research tries to ascertain whether NPLs strengthens or weakens the relationship between bank capital, liquidity risk and risk governance with bank performance. The increasing rate of non-performing loans among the sub-Saharan banks has posed a significant challenge to the performance of the banks in the region.

Based on the country analysis, the sampled countries have the following rates of NPL; the Nigerian banking sector experienced a 14% rise in NPLs in the first half of 2020 and the total NPLs increased to USD4.424 billion at the end of 2020 from USD2.118 billion (Nigeria Bureau of Statistics, 2020). Central Bank of Nigeria, (2021) declare an NPLs of over 150 billion nairas (USD600 million) belonging to First Bank Nigerian Limited, one of the leading banks within the region. This necessitates the intervention of the Central Bank of Nigeria to save the bank by changing the entire management of the bank. NPLs among Ghanaian banks stood at 15.3% in 2021 with a value of around USD1.270 billion (IMF, 2021).

Moreover, South Africa NPLs ratio stood at 5.2% with USD15.982 billion in 2021. Kenya has NPLs ratio stood at 10.2% with USD2.674 billion in 2019. Zambia reported NPLs of USD266.625 million in 2020. Recording an all-time high in 2018 with USD329.878. Bank of Mauritius (2020) reported NPLs ratio of 6.2% in 2020. The NPLs ratio reached an all-time high in 2016 with 8.0%. In Malawi, the Reserve Bank indicates 6.2% as NPLs rate in 2020. They reported an all-time high rate of 18.8% in 2017. Malawi NPLs reported USD57.860 in 2020. Rwanda maintains an average of 6.58% NPL rate between 2008 to 2019 with a minimum of 4.38% and a maximum of 10.27% (Central Bank of Rwanda, 2020). The NPLs in Botswana indicate an average rate of 5.5% in 2019 (Central Bank of Botswana, 2019). The increasing rate of NPLs among the Sub-Sahara African banks could be largely attributed to the limited capacity of banks in the region to monitor and efficiently assess the risk of their loan clients (Amidu, 2014). NPLs and the fragile approach employed by banks in handling issues related to NPL appear to be the reasons for the failures in most banks.

In the figure below, a comparison is made across selected countries using two different periods. In 2010, Gabon, Ghana, Kenya, Nigeria, Rwanda and Sierra Leone recorded the highest cases of non-performing loans while effort was made to reduce it. On average,

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there has been an increase in non-performing loans over the years, which has contributed to poor banking performance in the sub-Saharan Africa region in recent years.

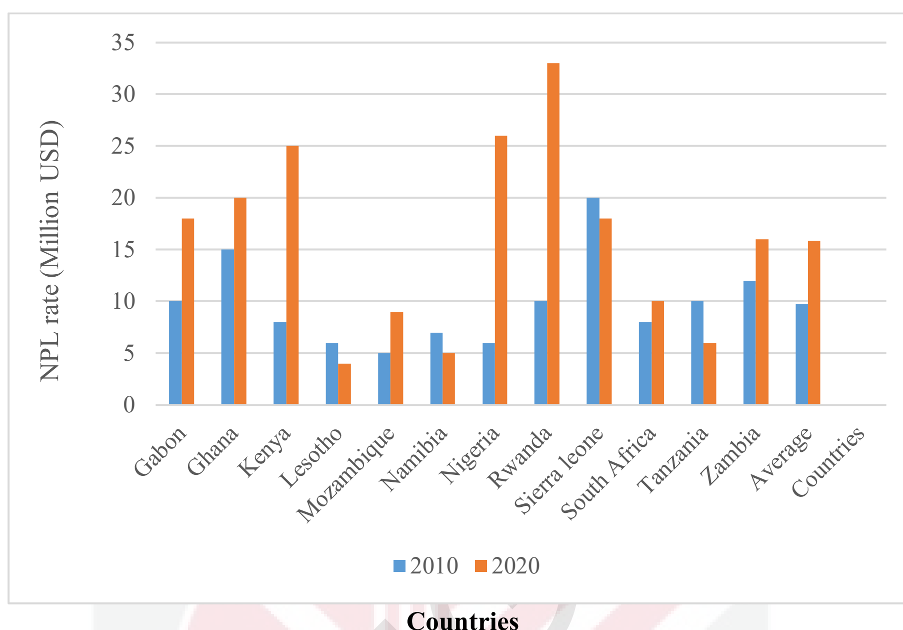

Figure 1.2: Non-Performing loans (Moderator) in 2010 and 2020 to percentage of total loans in sub-Saharan Africa (Million USD)
[Source: Author's construction based on available data, 2021]

Figure 1.2 shows how the rising rate of non-performing loans among sub-Saharan banks, except Tanzania, Lesotho and Namibia, to all other countries witnessed a rapid increase in their non-performing loan profile, which contributes to the problems of banks within the region.

Nevertheless, this study is undertaken at a time when there is a declining movement of development among sub-Saharan Africa economies following the growth of NPLs, resulting in spill overs in the banking sector. Banks within the sub-Saharan region are increasingly seen as possessing high liquidity risk profiles, in addition to having inadequate capitalisation. As such, there is a complete adjustment with regard to the strategy to contain challenges posed by the environment which constitute; strict funding requirements, decreasing lending growth and increasing rivalry and competition for bank customers and deposits (Revoltella, 2016). Accordingly, the corporate governance of banks needs to play a greater role, particularly concerning credit risk policies and compliance with regulations by banking regulators. Though, the management of banks appears weak in constructing sound credit policies which, in turn, exerts pressure on their customers to pay back their loans when due. This leads to a rise in non-performing loans in their credit portfolios. Likewise, supervisory deficiency and weak regulatory adherence have left most banks within the sub-Saharan region highly prone to risk (Bosiu, 2018).

Therefore, the quest to instil monitoring attitude within the bank management has necessitated the introduction of Basel III. The Basel III accords emphasise the need to manage risk and for management to establish a risk governance unit within the corporate governance structure of banks. Risk governance refers to the rules, processes and procedures that aid in highlighting the risks and make appropriate decisions (Azim, Jubb, & Nahar, 2016). It helps management to select a suitable risk management approach. A composition of legal, political, socio-cultural norms and extensive economic coverage that are faced with risk and need to be handle by a modern approach is term as risk governance (Azim et al., 2016). Ineffectual risk governance is aligned with the failure to identify, evaluate, monitor and transmit risk exposures. Top management, as well as, the Board of Directors, determine the impact of the risk and risk category, which can be tolerated by the organisation (Stulz, 2008). Scholars argue that improved disclosure of risk mitigates interest conflicts between stakeholders and agents (Jensen & Meckling, 1976) and strengthens the productivity of organisations (Bhagat & Bolton, 2007).

The realisation of having international cooperation on financial regulation has resulted in the formation of the first Basel Committee on Banking Supervision (BCBS) in 1987, as a result of the failure in the Bretton Wood's system of exchange rate management. The activities of the BCBS among its member countries consequently led to its members to increase from ten to twenty-eight countries between 1974 and 2015. The member countries are represented by the central banks or national financial authorities which were saddled with the functions of enforcing prudential guideline compliance, supervisory roles, strategies and measures to facilitate good understanding and enhance cross-border integration. Moreover, the committee is also responsible for transferring vital information relating to the development of the banking and financial market, which will aid in tracing current or emerging risks for the financial system globally. Issues which are typically examined relate to the lack of legal backing, BCBS, supervisory standards, and guidelines and agreements which need execution from each member country's jurisdiction (Goodhart, 2010).

Most banks in developing countries find it difficult to maintain optimal liquidity which is required to sustain the activities of banking operations, which has become a significant source of concern not only to the management of the banks but also to the government, banking public, and researchers. This issue became the motivation behind the need for this study to be undertaken. Also, it is vital to examine the effects of bank capitalisation, liquidity risk, risk governance on bank performance using NPLs as the moderator, in order to ascertain its influence on these factors.

1.3 Statement of the Problem

Between 2007 and 2009, the banking industry was at the centre of the Global Financial Crisis (GFC). Banks in most emerging countries became vulnerable to risk following this crisis, others became distressed, and many were left with problems of liquidity (Waemustafa & Sukri, 2015). The GFC exposed the international environment in which financial institutions and markets operated. This study focuses on the problems facing banks in sub-Saharan Africa, particularly on issues relating to capitalisation, liquidity risk and risk governance.

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Bank Capital

The first issue is the fact that banks in sub-Saharan Africa are generally, poorly capitalised. While better capitalised banks are seen as to have better chances of having good performance ratings, scholars, such as, Oduor, Ngoka, and Odongo, (2017); Proença, Augusto, and Murteira, (2020) and Vanhoose, (2007), believe that holding larger capital could result in excessive risk-taking, which may affect profit due to problems with non-performing loans. The capitalisation of most sub-Saharan banks has been unstable over recent years. Most sub-Saharan African banks are working towards achieving the minimum threshold of Basel III regulatory capital provision[1] so that both the total of Tier 1 and Tier 2 will amount to 8% of the risk-weighted asset.

Indeed, there has been a trend in the recapitalisation of sub-Saharan banks notably among the Nigerian banks' consolidation policy, which has seen the Central Bank of Nigeria (CBN), issuing a dateline of 31st December 2005, for all deposit money in banks to recapitalise their minimum capital requirement to twenty-five billion nairas (equivalent to USD100 million).

The recapitalisation policy in Nigeria set precedence for many sub-Saharan Africa countries' banks reforms. There is series of reports on recapitalisation development across the SSA countries but Nigeria is still maintaining the leading role with 100 million USD and Zambia has the lowest with 2.2 million USD as reports by Bank of Zambia, (2013). Despite all these series of recapitalisation policies, the issues of poor banking performance continue to resurface. Thus, the study intends to answer the following questions; what is the effect of bank capital on bank performance? How does the moderating role of NPLs affect the relationship between bank capital and bank performance?

Liquidity Risk

The second issue in this study is the liquidity risk factor affecting banking performance in the sub-Saharan Africa region. A survey conducted by Marchitto, Revoltella, & Berze, (2020), indicates that banking groups in sub-Saharan Africa plan to increase the size of their loan portfolio. They further reveal a 74% loan to deposit ratio within the banks, giving rise to higher liquidity risk exposure among sub-Sahara African banks.

This study intends to find answers to these questions; what is the effect of liquidity risk on bank performance? How does the moderating role of NPLs affect the relationship between liquidity risk and bank performance?

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[1] Maintaining a minimum level of 4.5% of the risk-weighted asset (higher by at least 2% of Basel II requirement).

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Risk Governance

Risk management in sub-Saharan Africa banks have been ineffective in addressing the concerns of rising risks and threats faced within the banking sector. Likewise, poor regulatory compliance and supervisory weaknesses also contribute to the failures of most banks within the Sub-Sahara African region. The compliance rate of Basel I and II have reached 85% and & 79% respectively. The statistics indicate that 30% of the banks are compliant with Basel III, 55% are working towards compliance and 14% consider the Basel accords as not an immediate priority (Marchitto et al., 2020). Given that risk governance is a new orientation directed towards risk management in the banking industry, it is vital to test how effective it could be towards risk management in the context of sub-Saharan Africa. Hence, this study intends to answer these questions; how does risk governance affect bank performance? To what extend do NPLs moderate the relationship between risk governance and bank performance?

Non-performing Loans

The NPL constitute a major contributing factor to bank failures within the sub-Saharan Africa region. NPL is used as a moderator in this study to determine its role in affecting other bank performance determinants. A report by IMF, (2020) indicates that the average rate of NPLs in Europe and Central Asia is 5.96, in East Asia is 2.23, in Latin America and the Caribbean, it stood at 2.32, while it is within the range of 10.54 in sub-Saharan Africa. Nahar, Azim, and Hossain, (2020) reveal that 2.5 to 3 rate of NPLs is considered normal in the global scenario. The high rate of NPLs among the Sub-Sahara African banks is a clear indication that it may be one of the reasons for the recurrent bank failures within the region.

To the best of the author's knowledge, this is the first study that focuses on the effect of bank capitalisation, liquidity risk, risk governance and bank performance taking into consideration the moderating effect of non-performing loans in sub-Saharan Africa.

1.4 Research Questions

The research questions were formulated as the following:

i. What is the effect of bank capital, liquidity risk and risk governance on bank performance in sub-Saharan Africa (SSA)?

ii. Does the moderating effect of non-performing loans (NPL) affect the relationship between bank capital and bank performance in sub-Saharan Africa (SSA)?

iii. Does the moderating effect of non-performing loans (NPL) affect the relationship between liquidity risk and bank performance in sub-Saharan Africa (SSA)?

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iv. How does the moderating effect of non-performing loans (NPL) affect the relationship between risk governance and bank performance in sub-Saharan Africa (SSA)?

1.5 Research Objectives

The objective of this study is to examine the effect of bank capitalisation, liquidity risk, and risk governance on the bank performance in an emerging country in sub-Saharan Africa. The specific objectives are:

i. To assess the effect of bank capital, liquidity risk and risk governance to bank performance in sub-Saharan Africa (SSA).

ii. To ascertain the moderating effect of non-performing loans (NPL) on the relationship between bank capital and bank performance in sub-Saharan Africa (SSA).

iii. To ascertain the moderating effect of non-performing loans (NPL) on the relationship between liquidity risk and bank performance in sub-Saharan Africa (SSA).

iv. To ascertain the moderating effect of non-performing loans (NPL) on the relationship between risk governance and bank performance in sub-Saharan Africa (SSA).

1.6 Significance of the Study

This study has both practical and theoretical significance, not only among the various stakeholders in the banking industry, but also among players in the banking industry. The study contributes in highlighting issues relating to bank capitalisation, which is a major problem with banks in the sub-Saharan Africa region. The study emphasizes on the perils of managing banks that are under capitalised and the need to comply with recapitalisation policies initiated by the regulatory authorities. The liquidity problem is central to many banks, and failure to address the remote and immediate causes had created significant collateral damage to banks.

Accordingly, this study examines the effect of this risk and measures to remedy it. It is anticipated that this study would be appreciated among practitioners with regard to risk governance, which is, slowly becoming a central approach in managing risk within the banking industry. Risk governance is part of the requirement of Basel III; in which, bank management would be advised on the need to consolidate their efforts on risk governance to provide strong foundation to manage current and potential risks facing the organisation.

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Other professionals such as bankers, risk managers and accountants operating within the banking industry, and investors will find this work relevant in updating them on the innate problem within the banking sector. The study exposes types of banks that are weak and prone to risk, to help the investors in making sound investment decisions.

This study would also assist professional bodies in formulating sound policies and reviewing their curriculum to meet the latest standard. The government, as stakeholders and the highest authority will appreciate the contribution of this work since it exposes the weaknesses on their part and how they could strengthen some policies through various regulations for a better working business environment.

The study contributes to the existing body of knowledge, as mentioned earlier. The research questions and objectives which are intended to be used will add to the existing field of literature in this domain. The research could be used by scholars across different institutions and disciplines of learning as a guide and act as a point of reference for future research. Risk governance is an emerging concept in the banking literature and is explored in this study in the context of sub-Saharan Africa; this is indeed a good contribution in the banking literature. The interaction (moderating) relationships being studied are important contribution to the study. The interaction of bank capital and the non-performing loan has not previously been tested by past literature, in which this study contributes significantly. Moreover, the interaction of risk governance and the non-performing loan has not been previously explored.

1.7 Scope of the Study

The study aims to examine the moderating effect of non-performing loans on the relationship bank capitalisation, liquidity risk and risk governance on bank performance with evidence from the sub-Saharan Africa region. The study intends to cover a period of nine (9) years, from 2012 to 2020. The sub-Saharan Africa region is the least in terms of resilient financial institutions, supervision, and regulations, and as such represents the least region in terms of development as compared to its counterpart like the Middle East and North Africa (MENA), South-East Asia (SEA) regions etc. Moreover, the sub-Saharan Africa region contributes about 3% to global GDP with an average increase of 5% annually (IMF, 2020).

Furthermore, the region provides a large market for developed and developing economies. However, research scholars have shown less research interest in this region, which is the reason why the concepts have not been fully explored in the region. As such, there is a growing need for further research to be conducted in this region to provide a solution to the lingering problems facing the region. The study period of 2012-2020, represents the recent period in the banking literature, following the GFC of 2007-2009. Moreover, it represents the period that witnessed many banking policy reviews concerning banking capitalisation, credit policies and supervision, and is, therefore, an ideal period to be considered for this study.

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1.8 Definition of Terms

Regulatory Capital: This is a capital requirement, also known as capital. It is the amount of capital a bank or another financial institution is needed to have as required by its financial regulators. This is usually expressed as a percentage of risk-weighted assets. The Basel Committee in 2010, after the GFC in 2009, proposed a new bank capital standard known as regulatory capital. Regulatory bank capital consists of Tier1, Tier2, and Tier3 components (Basel Committee for Banking Supervision, 2010). The bank capitalisation is proxied by the regulatory capital measures.

Liquidity Risk: Liquidity risk is a risk due to the inability of the bank to meet the obligations due from sources of cash flow financing and/or high-quality liquid assets that can be mortgaged without disrupting the activity and financial condition of banks (Saif-Alyousfi & Saha, 2021).

Risk Governance: This refers to mechanisms, processes, and rule conventions of an institution where decisions concerning risks are considered, actions decided upon and implemented. It can be both positive and normative since it formulates and analyses risk management strategies to minimise and/or avoid economic and human costs resulting from disasters. This is an integrated approach to risk management in an organisation. Risk governance ensures that all stages that include pre-assessment, interdisciplinary assessment, risk evaluation, risk management and risk communication are fully undertaken to resolve any risk-related issues within the organisation (International Financial Corporation, 2012).

Non-Performing Loan: Is that part of a loan that fails to produce principal and interest amount after expiration of ninety (90) days period (International Monetary Fund, 2020).

Bank Performance: Bank performance is the appraisal of a bank in terms of its profitability or returns. The main motive behind any bank is profit maximization and cost minimization, at the end of a financial year, the bank is appraising to determine their performance which is measured in terms of their profitability level.

Sub-Saharan Africa: This is a regional part of Africa that comprises West Africa, East Africa and Southern Africa. It constitutes a total of forty nine (49) countries with an estimated population of over 1 billion.

Risk Committee: This is a stand-alone committee of the Board of Directors that has as the exclusive role and responsibility for the supervision or oversight of risk management policies and practice of the corporation's global operators. The risk committee is charged with supporting the Board, reviewing the bank's risk profile and risk appetite in connection with liquidity, capital and reviewing the effectiveness of the banks' risk management framework, reviewing the techniques and approaches used in the determination of bank capital. The risk committee also supports the board regarding

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remuneration by ensuring that risk management is considered when making remuneration policy and monitoring prudential regulatory requirements across the bank (Karyani & Meirine, 2017).

Chief Risk Officer: As the chief risk management officer (RMO) of a bank, this person is charged with ensuring effective and efficient governance processes are in place on significant risks and related issues. The CRO provides support to the business that offers oversight to the enterprise-wide risk management (ERM) strategy and framework, which effectively translates the risk appetite framework into informed decision-making practices for the business (International Financial Corporation, 2012).

Deposit Insurance Scheme: This is an integral component of an effective financial safety net established by the government to protect depositors against the loss of their insured assets placed with member institutions in the event of a member institution failure. It is intended to offer assistance and promote prudential risk-taking (Kane & Demirguc-Kunt, 2000) to customers of bankrupt banks who have underrated the risks involved. In addition, safety nets avoid disintermediation from the failures of banks and the banking system at large. The deposit insurance scheme helps in maintaining reliability and confidence in the banking sector (Calomiris, 1999).

Explicit Deposit Insurance Scheme: This is a form of depositors' protection scheme that is formal with an established statutory provision for deposit guarantees. It is a deposit insurance scheme that is well defined and established by the government, guided by laws and other regulations that specify the existence of a deposit insurance scheme and the amount covered. The amount of guaranteed protection on deposits is outlined by the government with its assurance through the regulations (Angkinand & Wihlborg, 2010).

Implicit Deposit Insurance Protection: This is a form of depositors' protection scheme, not guided by any formal regulations or law in its operations. This system of deposit insurance is not adequately nor provided for by the law or its regulation. It is a system of deposit insurance without any formal communication by the government to the public or bankers on the deposit insurance coverage or the amount of coverage (Angkinand & Wihlborg, 2010).

Basel Committee for Banking Supervision (BCBS): This is an idea of global financial prudential regulation that came about following the GFC. The BCBS is established to serve as the main global standard-setter for the prudential regulation of banks, providing a forum for regular cooperation on banking supervisory matters, and strengthen the regulations, supervision and practice of banks worldwide to promote financial stability (BCBS, 2001).

Liquidity Coverage Ratio: This is the requirement where banks must hold an amount of high-quality liquid assets that are sufficient to fund cash outflows for 30 days. The liquidity coverage ratio (LCR) is designed to enable banks to hold an adequate reserve of high-quality liquid assets (HQLA) to allow them to survive a significant liquidity

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stress period lasting 30 calendar days. The supervisory scenario capturing the period of stress combines the element of bank-specific liquidity and market-wide stress period and includes many of the shocks experienced between 2007 and 2012 (BCBS, 2010).

Net Stable Funding Ratio: This is a liquid standard requiring banks to hold adequate, stable funding to cover the duration of their long-term asset, normally for more than one year. The net stable funding ratio (NSFR) is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio should be equal to at least 100% on an ongoing basis (Basel Committee for Banking Supervision, 2010).

1.9 Summary of the Chapter

This chapter presents a general background to the study with some justification and detailing the need for the research to be undertaken. The statement of the problem captures the main area of focus of the study. Research questions and objectives were then outlined to give focus and direction to the study. The significance of the study is also discussed explaining some of the potential beneficiaries of the research. The scope and limitation were the last aspects discussed in the chapter, which explains the area of coverage, as well as, the boundary of the research.

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