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Credit Risk Management and Bank Performance: A Critical Literature Review

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Abstract: *This study has been necessitated by the continued challenge of the deteriorating levels of credit risks and nonperforming loans to the global financial system. Many stakeholders including the regulators take great interest in the performance of credit facilities granted to borrowers through commercial banks. A well-functioning banking sector with acceptable levels of credit risk translates into better bank performance and ultimately a stronger economy. When commercial banks' performance is strong, the general economy is exposed to huge economic and infrastructural developments. Employment opportunities are also created, and all these factors make regulators and other policy makers sufficiently interested in the performance of the financial system. The literature review provides a comprehensive analysis of the past studies that touch on the key variables that explains the relationship between credit risk administration and performance of commercial banks. It also attempts to interrogate the effect of NPLs and the macroeconomic factors on that relationship. There are numerous measures of bank performance, but this study recommends the use of the CAMELs financial rating model which many studies have also recognized. The study dissects the numerous theories that have tried to explain the key variables that explain the hypothesized relationship. In-depth empirical literature review of the past studies by other researchers especially touching of the key variables of this study has been done. This helped in the identification of the research gaps and future areas that deserve more study. Of great interest is the introduction of two important variables that have an impact on the relationship. These are the Non-Performing Loans as an intervening variable and macroeconomic factors as the moderating variables. These two important variables have enriched the study and have tested the limits of the hypothesized relationship under review. Most of the studies relied on data collected or secondary data and interpretation was carried out using analytical and logical reasoning to determine patterns, relationships or trends. Most of the findings and observations helped in coming up with the summary, conclusions and recommendations that have been useful in many jurisdictions.*

Key Words: *CAMELs, Credit Referencing Bureaus, Credit Risk Management, Enterprise Risk Management, Non-Performing Loans*

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I. Introduction

The challenge of nonperforming loans (NPLs) in bank systems in many countries cannot be overemphasized. It is also a succinct that banks or financial institutions that need to manage and maintain acceptable levels of NPLs must invest in a robust and reliable credit risk management system. The implementation of robust and effective credit risk management has become a critical aspect that determines the performance of commercial banks on a global scale. Provision of credit facilities is one of the biggest sources of revenue for any commercial bank in any corner of the globe. Nevertheless, the likelihood of borrowers being unable to meet their loans obligations or commitments has lately been on increase and this is a major concern for banks especially those involved in unsecured lending. Sujeewa (2015) indicated that this is because the risks associated with borrower's default could have huge impact on other related business. There is a clear interrelationship between the two main variables i.e. credit risk management and the bank performance. It is generally believed that the robustness of the systems set to manage credit risks has a bearing on the levels of non-performing loans a bank would record and ultimately influences the level of profitability and by extension the composite bank performance.

They study therefore also attempted to review the efforts to measure bank performances and the key tools or parameters used to measure it. For instance, Bikker (2010) observed that bank performance is broad and carries different meaning to the different stakeholders involved in the business. In broad sense, performance means the contribution financial institutions or banks make to the common wealth on behalf of their consumers,

shareholders and other key stakeholders. In another study, Lai (2015) observed that bank performance can be defined as the actual financial outcomes that can be assessed or measured against the set targets. These results could be efficiency, profitability, cost minimization, levels of liquidity, leverage and the thresholds of the total shareholder's wealth amongst others. Generally, financial performance is the threshold or measures used to determine or gauge the efficiency or effectiveness of a financial institution uses the committed resources and invested to increase value of the shareholders.

In terms of theoretical background, one of the key theories that explain credit is liquidity theory of credit. The theory postulates that firms that are undergoing limitations in terms of liquidity are likely to use more trade credit when compared with other normal-performing financial institutions. It means the firms which have surplus in liquidity are likely to bail out those facing liquidity challenges. Tax theory of credit is another theory that is applied in credit management and stipulates that a borrower's decision on whether to go for credit is a product of the ability to access funds from other sources. The theory provides the effect which is in line with the trade-off theory, which equilibriums the tax aids and insolvency costs of a business or entity so that it could increase the over-all firm value (Zhong, 2013). Equally there are several theories that explain bank performance. The agency theory postulates that due to competing interests, sometimes the agent-owner relationship could be faced with various challenges or conflicts. The actions of the managers could at times be geared towards self-aggrandizement and undeserving benefits and perks could be paid undeservingly which might injure the position of the providers of the seed capital. Another theory that explains bank performance is stewardship theory that gives an opposing view and stipulates that generally managers are not only trustworthy and reliable, they cannot misuse the resources entrusted to them by the shareholders. They are therefore viewed as great stewards to the performance of firms and in this case, banks.

II. Research Problem

Many banks are investing huge amounts of cash and human resources in development of credit risk management systems. This is because the challenge of NPLs has led to poor bank performances largely due to several reasons. First, if the credit system is weak, NPLs are likely to increase which effectively increases the levels of loan loss provisions. This is an expense that directly hits the income statement and therefore reduces the bank's profitability. Secondly, deterioration of the asset quality leads to higher risk weighted assets which effectively lowers a bank's capital adequacy. Thirdly, when levels of non-performing loans increase, this implies that the expected or projected cash inflows are either delayed or are not received at all. This negatively impacts the liquidity positions of a financial institution. Fourthly, the increase of non-performing loans calls for additional hands or people to manage the problem loans which also increases expenses and consequently increases the cost to income ratio. All these negatively affected parameters are the real fundamentals that are used in measuring bank performance under the acronym, CAMELs i.e. Capital, Asset Quality, Management, Earnings, liquidity and sensitivity to the market.

The asset quality challenges which are largely caused by weak credit risk management structures were brought to the open during the infamous 2008 economic catastrophe. It is true that the global financial system has been struggling with huge stock on nonperforming assets especially after the 2007/2008 financial crisis. This makes the challenge of non-performing loans more complex. Financial institutions must invest in very current and flexible credit risk management systems if they are to arrest the calamitous impact of the nonperforming assets (Islam et al., 2005). Another study by Waweru and Kalani (2009) examined the causes of nonperforming loans in the Kenyan banking sector, the activities done to regularize the challenge of the NPLs and the apparent level of accomplishment from the interventions. The study concluded that countless lending entities that became unsuccessful or failed since mod 1980s could be attributed to the gigantic weight of the NPLs and ailing asset quality. Some studies use different measures of performance for instance CAMELs model, Return on Investment, return on assets, return on capital amongst others. The results from such studies may yield into different results but largely due to the tools adopted to measure the performance of the banks.

III. Conceptual Framework and Review

The study adopted credit risk management as the independent variable because it is believed that robustness of such a system could be altered or changes under different financial institutions. Bank performance is adopted as the dependent variable which is basically the key factor that the research seeks to interrogate its changes of the credit risk management systems. The CAMELs model is used as the composite tool that helps in the measurements of the bank performance.

The levels of non-performing are a symptomatic of a weak credit risk system that is not able to satisfactorily manage the default risk in a bank or a lending entity. It is therefore adopted in the study as an intervening variable while macroeconomic factors are incorporated in the review as a moderating viable and

seeks to explain how the outside economic factors influence the relationship between the credit risk and bank performance.

Null Hypothesis: There is no relationship between credit risk management and bank performance.
Alternate Hypothesis: Credit risk management has a relationship with the bank performance.

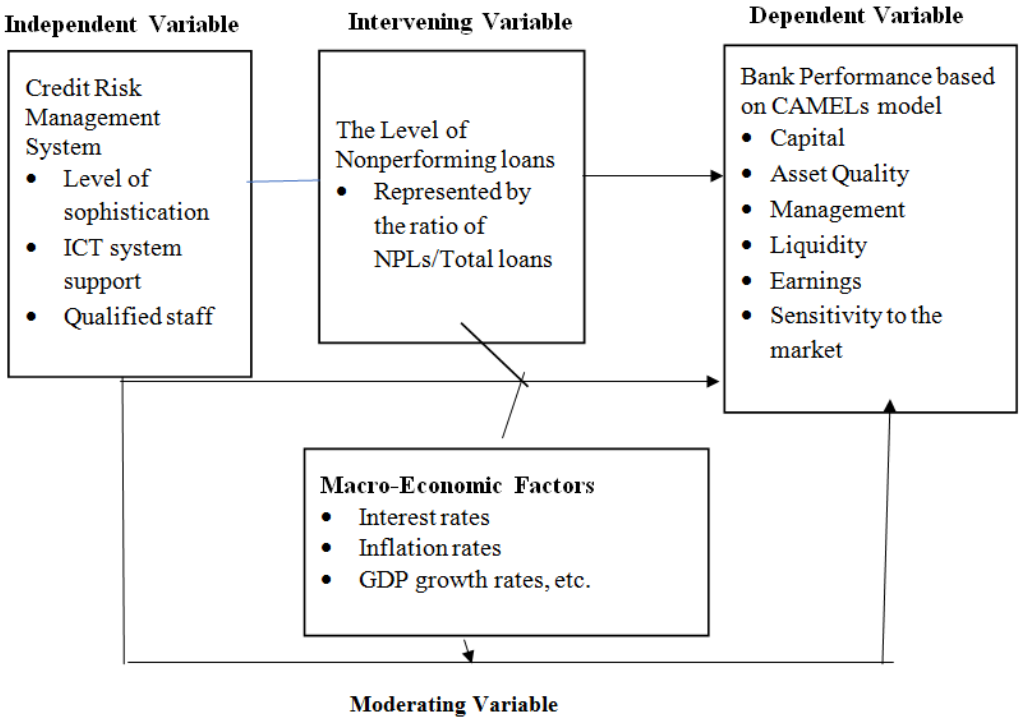

Figure 3. 1: The conceptual model

The general research objective is to determine the relationship between credit risk management and bank performance and investigate the impact of moderating and intervening variables which in this case are macroeconomic factors and level of nonperforming loans respectively. The study was able to establish that most of the studies that rely on only two variables are likely to end up with certain conclusions or results that would change drastically once other key variables are taken into consideration. While there are numerous studies that have tied to investigate the relationship between credit risk management and bank performance, very few were able to go beyond the veil of the two factors. However, it is now clear that the role of moderating and intervening variables cannot be ignored in research that seeks to not only be comprehensive but also exhaustive.

Firstly, to measure the robustness of a credit risk management system, it is important that key cogs in such a system be reviewed and assessed. It is important to test the system's level of sophistication, whether the system is anchored on a reliable ICT platform, whether it is also manned by well qualified people or staff. These key facets of the systems are defined, and a very clear scoring methodology is determined so that ultimately each bank or financial institution can earn a score based on the procedure. Secondly, the bank performance measurement must be very well defined. Most of the studies relied on one aspect of bank performance such as capital adequacy, asset quality, earnings etc. However, this study recommends a more encompassing tool or proxy that will be able to measure a bank performance. The CAMELs model is more encompassing and gives a composite score based on an assessment of the capital, asset quality, management, earnings, liquidity and sensitivity to the market. The CAMELs model is more broad-based, and the results are taken to be more representative while comparing the performances of the banks or other financial institutions.

A detailed review of several studies points towards the fact that the robustness or weakness of a credit risk management has a negative impact on the bank performance. Weak credit risk management platform is a recipe for a higher level of NPLs and this ultimately leads to a poor financial performance of commercial banks. For instance, Ahsan (2018) study on the problems and obstacles in credit risk management in Indian Public-Sector Banks concluded that there were various grey areas in credit risk systems and proposed an immediate attention and action if reduction of the bank's non-performing assets was to be achieved. The study noted that these grey areas lead to a weak credit risk system that results into high NPLs and consequently low profitability or bank performance. The research also found out that level of NPLs has intervening characteristics on the

relationship between credit risk management and bank performance. Therefore, increase in NPLs leads to the deterioration in firms' balance sheets which precipitates poor bank performance.

After an in-depth dissection of many studies that used a mixture of primary and secondary data, the key outcomes of the review were that there is a relationship between credit risk management and bank performance. The study equally tested the impact of the changes in the macroeconomic environment to the relationship between the independent and the dependent variables. For instance, Inaba et al. (2005) investigated the interrelationship between the increase in NPLs and real economic performance and this was based in an Asian economic giant, in Japan and was based from the 1990s. The study also noted that some cyclical economic slumps caused increased NPLs. Second, the upward surge in NPLs led to slanted real economic performance due to a wrecked banking sector. Dietrich and Wanzenried (2010) sought to examine how the bank internal features, macroeconomic factors and industry-related influences which impact numerous banks in Switzerland. The study involved the time within 1999 to 2006 and considered the impacts of recent financial crisis. The conclusion was that healthier capitalized bank seems to be more profitable and banks with faster growing loan book posted better results. Waweru and Kalani (2009) who also carried out a research study on the causes of nonperforming loans in Kenya concluded that the hostile economic environment was perceived as a perilous external factor.

Mileris (2014) carried out an analysis of macroeconomic factors and the likely impact of the levels of NPLs in commercial banks in the EU nations and concluded that was a positive relationship. It is therefore safe to conclude that the changes in the macroeconomic environment have an impact on the levels of NPLs or asset quality in a banking system. This effectively has an impact on the bank performance. Changes in lending rates due to the prevailing interest rates in a market have a direct impact on the intake of credit and the ability of borrowers in repaying loan facilities. There is a lot of dynamism in the banking sector especially with many changes on the macroeconomic factors such as Gross Domestic Product (GDP) growth, interest rates, inflation rates etc. All these gaps and developments conspire to stimulate the interest to carry out the research on the subject topic. For measurement, the GDP Growth Rate will be used as a proxy of the changes in the macroeconomic factors. Of course, this is an assumption as the macroeconomic factors encompass more than the GDP growth alone. Analysis of the last changes on the GDP growth rate over a certain time frame say, the last 10 years, will be carried out to ascertain the real movement of the macroeconomic environment over the period.

A weak credit risk system precipitates high levels of nonperforming loans and that is why the NPLs levels have been used as the intervening variable. The principal way of reducing loan losses and ensuring that loan loss provisions properly replicate the risk profile is to device a robust, unified, quantitative credit risk management solutions. One of the biggest tests to any lender or a financial system is the performance of the loan assets and ultimately the asset quality of the portfolio. The major stock in trade for most of the banks or lenders is their loan assets or interest or fees earning credit facilities. Loans generate revenue income in form of interest income, commissions and other chargeable fees and therefore a lifeline to these financial institutions. Therefore, the literature reviewed provides a fertile ground for development of robustness in credit risk management systems for commercial banks. If banks develop such robust systems the likelihood of the growth in NPLs will significantly reduce, reduce the levels of provisions held and ultimately improve the bank performance.

IV. Conclusion

Although generally known that weak credit risk management systems may lead to higher non-performing loans and ultimately negatively impact on the bank performance, a lot of studies have been carried on the topic. However, there are still notable gaps that need to be bridged or addressed and therefore the need to commission even more studies on the topic. It is important to cross-examine the impact of the emerging new ICT supported tools in improving the credit risk management systems. It will be important to test the impact of improved credit assessment models as well as the revamped credit information platforms such as the Credit Reference Bureaus (CRBs). Has the introduction of Basel II and III and advanced Enterprise-wide Risk management frameworks improved the management of credit risk? Not many studies have factored in the impact of the external forces such as macroeconomic factors on the relationship between the NPLs and the bank performance. Many banks ignore the impact of future changes on key macroeconomic factors such as the interest rates, inflation rates, GDP growth rates, etc. Future studies should attempt to examine the impact of the improved credit information sharing platforms such s as CRBs in improving credit risk management. Such studies should also ascertain if such improved due diligence processes have helped to minimizes cases of NPLs and if that consequently improves the overall bank performance. Scholars and researchers should also interrogate the effectiveness of the other emerging credit risk management solutions to solve NPLs and improve bank performance.

In Africa, the secondary markets for nonperforming loans are still at infancy which at times makes it hard for lenders to unburden these distressed assets from their books. In more developed financial systems, it

could be easier to bundle NPLs into special purpose vehicle and sell them into a secondary market. Additional research on the impact of such vehicles would be very interesting and suitable. Another area that would benefit with more studies is on the other innovative credit risk management solutions for improving asset quality in banks. For instance, debt for asset or debt for equity swaps as a solution to the bad debts. Many banks especially in Europe are advocating for these solutions to avoid long and sometimes expensive legal foreclosure processes. A bank contemplates using such a procedure that is largely an out-of-court or voluntary foreclosure process as it ensures there a more decent and quick exit plan. This is an area that would benefit lenders especially in the developing financial markets where judicial systems are still not well developed and legal foreclosure process may drag in courts for a long time.

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