Credit Risk and Financial Performance of Commercial Banks in Kenya

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Abstract- Globally, credit risk is one of the significant concerns to banks, and, therefore, these institutions spend a substantial amount of money on managing it with a view of maximizing returns. Financial performance is a very crucial aspect for any institution since the majority of stakeholders use it as a parameter to gauge its viability. This research is anchored on credit risk theory, which postulates that credit risk is negatively related to the financial performance of a firm. The purpose of this study was to investigate the effect of credit risk on commercial banks' performance in Kenya for five years (2014-2018). The study used secondary data from the respective banks' annual financial statements. Descriptive statistics, such as mean and standard deviation, were used to explain the characteristics of the study variables. Also, a multiple regression method was used to examine the effect of credit risk on the banks' performance. It was found that non-performing loans and loan loss provision had non-significant negative effects on the banks' profitability with p=0.394 and p=0.653, respectively. The research also unveiled that loans and advances (LA) had a significant positive impact on commercial banks' profitability (p=0.001). Based on the study findings, commercial banks should be keen on clients' appraisal and loan analysis to mitigate credit risks.

Index Terms- Commercial banks, Credit risk, secondary data, performance

1. Introduction

Commercial banks play a critical role in developing the economy of a country, even though their performance is affected by both intrinsic and extrinsic factors (Karim & Alam, 2013). Credit risk is one of the banks' idiosyncratic determinants affecting their performance, and it can be defined as the likelihood that the borrowers might fail to pay the loans (Yesmine, Saif, & Bhuiyah, 2015). Banks with higher loan volume and lower credit risk perform better than those without (Mauricio, Moya, & Arturo, 2014). According to Ally (2014), asset quality, which is measured by the ratio of non-performing loans (NPL) to total loans (TL), has a significant adverse effect on the banks' performance.

Kolapo, Ayeni, and Oke (2012) opine that credit risk can be evaluated using loan loss provision (LLP), non-performing loans (NPL), and loans and advances (LA). Sound credit risk management can reduce loan default and increase commercial banks' performance. To enhance higher profitability, banks need to institute loan administration strategies, such as utilizing credit information bureaus before deciding whether to approve or decline loan requests (Ogboi & Unuafe, 2013).

The presence of a high level of nonperforming loans means that there is poor management of credit in the bank (Ally, 2014). NPL reduces interest income and leads to loan loss provisioning, hence reducing the banks' profitability. Commercial banks tend to be profitable when they enhance their lending activities. To mitigate the continuous growth of NPLs, banks must be keen on credit analysis, and the regulatory authorities must ensure that all the financial institutions comply with provisions of the prudential guidelines (Kolapo et al., 2012).

Loan loss provision can be reduced through efficient credit risk management techniques, strict credit policies, and restructuring of non-performing loans (Alexiou & Sofoklis, 2009). Moreover, credit managers should enhance their recovery efforts on non-performing assets to boost the profitability of their financial institutions (Nahang & Araghi, 2013).

Sometimes, a positive association is experienced between credit risk and banks' profitability in instances where the financiers charge high-interest rates and fees on their credit customers (Boahene, Dasah, & Agyei, 2012). Kaaya and Pastory (2013) argued that credit risk is not a bad situation because it is a reflection of the banks' portfolio growth, hence the higher the risk, the higher the return. Further to this, the authors opined that banks ought to maintain the capital reserve and adopt a sound mechanism to manage and reduce default.

Non-performing are costly to recover; hence they affect the profitability, liquidity, and the normal operations of the banks' activities (Almekhlafi, Almekhlafi, Kargbo, & Hu, 2016). According to Căpraru and Ihnatov (2014), credit risk hurts the growth of financial institutions, and this trend can be reversed if the banks' management adopts efficient monitoring of loan indicators to optimize costs. Moreover, quite often, there is a strong inverse relationship between credit risk and profitability of the banks; hence loan officers should adopt the best practices of managing these risks to enhance the institutions' performance (Ramadan, Kilani, & Kaddumi, 2011).

In Kenya, research shows that a change in banking risk has a significant effect on financial institutions' performance (Lukorito, Muturi, Nyang'au, & Nyamasege, 2014). Olweny and Shipho (2011) argue that banks specific factors, such as credit risk, significantly influence profitability more than the market factors. Study shows that banks with high-quality asset portfolios and low NPLs perform better than others (Ongore & Kusa, 2013). According to CBK's prudential guidelines, loan loss provisioning is essential for all classifications, and commercial banks must provide for 20%, 100%, and 100% for Substandard, Doubtful, and Loss, respectively (CBK, 2013).

For quite sometimes, the majority of banks in Kenya have been recording poor performance due to a high level of NPLs in their asset portfolios. For instance, a report by CBK (2019) indicates that the ratio of gross NPLs increased from 12.03% in 2018 to 12.78% in 2019, and this increment negatively affected the profitability of these institutions.

Although many studies have been conducted on the impact of credit risk on banks' performance, their findings are still inconsistent. For example, Yesmine et al. (2015) and Kolapo (2012) found that a rise in LLP led to the deterioration in banks' performance. On the contrary, similar studies by Boahene et al. (2012) and Tariq, Usman, Mir, Aman, and Ali (2014) unveiled that loan loss provision had a positive effect on commercial banks' performance. Furthermore, there is little research on the impact of credit risk on banks' performance in Kenya. Therefore, the current study seeks to bridge these gaps.

The rest of the paper is organized as follows: Section 2 presents literature reviews, section 3 is about research methodologies, section 4 highlights the findings and discussion, and section 5 gives the conclusion and recommendation of the study.

2. LITERATURE REVIEW

This section entails the theoretical review, conceptual framework, and an overview of past studies on the effect of credit risk on the financial performance of commercial banks in Kenya.

2.1 Theoretical Review

This study is anchored on the Credit Risk Theory, as explained below.

2.1.1 Credit Risk Theory

Merton (1974) opined that there is a relationship between credit risk and the capital structure of the firm. According to Merton, a company is considered to default if its asset value is less than its outstanding debt. In such circumstances, the lenders are paid an amount equivalent to the asset, and the shareholders get nil. Therefore, according to this theory, credit risk has an adverse effect on the profitability of a firm. In another study, it was postulated that a financial asset is prone to credit risk not only at maturity but throughout its lifetime (Longstaff & Schwartz, 1995).

In their research on credit risk and financial performance of banks, Kajirwa and Katherine (2019) found a significant negative association between credit risk and banks' ROE, hence confirming the theory. They further noted that an increase of NPL to total LA reduced the banks' financial performance. Similarly, Almekhlafi et al. (2016) established that NPL had a significant negative impact on performance, thus consistent with the theory. However, some studies are not in line with this theory. For instance, Ogboi and Unuafe (2013) found out that LLP positively affected performance and Boahene et al. (2012) unveiled that credit risk and banks' performance had a positive-significant relationship.

2.2 Credit Risk and Financial Performance

This section dives into various aspects that constitute credit risk, e.g., NPLs, LLP, and LA.

2.2.1 Non-Performing Loans and Financial Performance

NPLs are assets that have not been paid for at least ninety days (CBK, 2013). Studies show that NPLs have an adverse impact on banks' performance, and, therefore, for these institutions to enhance their profitability, they must adopt sound risk management approaches and strict lending policies (Alexiou & Sofoklis, 2009; Million, Matewos, & Sujata, 2015; Nasserinia, Ariff, & Fah-Fan, 2014). However, some studies reveal that NPLs have a positive relationship with commercial banks' profitability (Boahene et al., 2012; Naceur & Omran, 2011; Weersainghe & Perera, 2013). Therefore, based on the inconsistent findings on the impact of NPLs on banks' performance, it is hypothesized that:
H1. There is no significant effect of NPLs on the performance of commercial banks in Kenya.

2.2.2 Loan Loss provision and Financial Performance

Loan loss provision is the amount of money that reduces the magnitude of bad loans to the corresponding amount on the balance sheet (CBK, 2013). According to the CBK's prudential guideline, banks should make a 20% provision for substandard loans and 100% provision for loans in doubtful and loss categories. Basel Committee on Banking Supervision (BCBS) (2001) recommended that banks should always identify bad credits to determine the extent of making loan-loss provisions. Research indicates that LLP has a significant negative effect on banks' performance (Kaaya & Pastory, 2013; Samad, 2015). On the contrary, some studies show a positive association between LLP and the banks' profitability (Ogboi & Unuafe, 2013; Tariq et al., 2014). Due to such mixed findings, it is postulated that:
H2. There is no significant effect of LLP on the performance of commercial banks in Kenya.

2.2.3 Loans and Advances and Financial Performance

Loans and advances are financial assets derived from the delivery of cash by a lender to a borrower in exchange for a promise to pay on a specific date, usually with interest (CBK, 2013). Based on BCBS (2001), loans constitute a bulk of the banks' asset, and if credit risk is mitigated, their profitability will increase. Almekhlafi et al. (2016) argue that although loans are riskier assets, they form a significant part of the banks' revenue. Kolapo, Ayeni, and Oke (2012) noted that credit facilities are significant determinants of banks' profitability; hence bank officers should adopt prudent credit analysis in their quest to grow their loan portfolios. This study hypothesizes that:
H3. There is no significant effect of LA on the performance of commercial banks in Kenya.

2.2.4 Financial Performance

In this study, Return on Equity (ROE) was used as a proxy to evaluate the financial performance of banks for five years. ROE can be derived by evaluating the ratio of net income to total shareholders' equity. ROE shows the extent of efficiency of managers in using assets to generate income (Lan, 2012).

Empirical Review

Kolapo et al. (2012) examined the effect of credit risk on commercial banks' performance in Nigeria. They collected data from five banks' financial statements for eleven years. Their findings indicated that a 100% rise in NPLs reduced performance (ROA) by 6.2% and a 100% increase in LA enhanced performance by 9.6%. Yesmine et al. (2015) studied the elements of banks' financial performance by comparatively analyzing the national and private banks in Bangladesh for the period 2008-2014. Their findings unveiled that credit risk had a significant adverse effect on the banks' performance. Finally, they concluded that a rise in the ratio of LLP to total loans reflected poor credit management and deterioration in profitability. One weakness in their research is that they didn't incorporate foreign commercial banks as part of their sample.

Alexiou and Sofoklis (2009) studied the determinants of the Greek banking sector's performance over the period 2000-2007. Their study established that credit risk had a significant negative impact on banks' performance. The study observed that banks in Greece had a higher level of NPLs than those in the EU, and drastic measures were needed to combat the situation. For the banks to enhance their profitability, the study recommended the adoption of excellent risk management strategies, strict credit policies, and the restructuring of NPLs.

Kaaya and Pastory (2013) investigated the impact of credit risk on the profitability of eleven banks in Tanzania. From their research, it was found that credit risk had a negative impact on the performance of banks. However, the effect of NPLs on the banks' performance wasn't significant. Almekhlafi et al. (2016) examined the impact of credit risk on banks' performance in Yemen for 1998-2013. In their study, secondary data was used to explore the performance of six banks. The findings from their research indicated that NPLs negatively affected return on assets (ROA). Moreover, the effect of credit risk management on performance was found to be similar across banks in Yemen.

By using the panel data for 2000-2010, Ramadan (2011) investigated the causes of Islamic banks' performance in the Jordanian market. From their results, credit risk had a significant positive effect on the institutions' returns. Furthermore, their study unveiled that the impact of banks' specific factors on performance was significantly different among the Islamic banks. A survey by Samad (2015) on the determinants of commercial banks' profitability in Bangladesh established that the loan deposit ratio and LLP to total assets had a significant impact on the institutions' profitability. Weersainghe and Perera (2013) researched the influencers of commercial banks' performance in Sri Lanka for the period 2001-2011. They established that credit risk had a non-significant positive association with performance.

Ogboi and Unuafe (2013) investigated the effect of credit risk on the performance of commercial banks in Nigeria and established that loan loss provisions (LLP) had a positive effect on ROA. A study by Million et al. (2015) found out that LLP had a significant positive effect on the performance of commercial banks. Tariq, Usman, Mir, Aman, and Ali (2014) investigated the causes of commercial banks' performance in Pakistan over the period 2004-2010. Their findings revealed that loan LLP had a positive impact on the profitability of banks. Boahene et al. (2012) investigated the relationship between credit risk and performance of six selected commercial banks in Ghana for the period 2005-2009. From the results, it was unveiled that credit risk and banks' performance had a positive-significant relationship. It was concluded that in order to achieve excellent results, banks increased the percentage of default risk elements in their loan rates beyond the actual default risk to increase their profitability.

3. METHODS

The study used a quantitative approach to collect secondary data from the published financial statements of commercial banks in Kenya over the period 2014-2018.

3.1 Sample Size

A census sampling method was used to select the entire population of 43 commercial banks for the study. According to Sekaran and Bougie (2016), this method is suitable when dealing with a small population. However, out of the 43 banks, only 31 met the inclusion criteria since 3 of them were under receivership while the other 9 banks' data could not be found online.

3.2 Model Specification

The model for this study was selected based on the work of Kolapo et al. (2012), Poudel (2012), and Almekhlafi et al. (2016), who conducted studies on credit risk and commercial banks' profitability. According to this model, commercial banks' performance is determined by credit risk variables, such as NPLs, LLP, and LA.
Therefore, the model equation becomes;
$ROE = \beta + \beta_1 NPL + \beta_2 LLP + \beta_3 LA + \mathcal{E}_i$
Where;
ROE: Return on Equity
NPL: Non-Performing Loan
LA: Loan and Advances
LLP: Loan Loss Provision
β = Constant parameter
β_1- β_3 = Coefficients of predictor variables
$\mathcal{E}i$ = Error term
Therefore, transforming the equation into natural logarithm it becomes;
$\ln ROE = \beta + \ln \beta_1 NPL + \ln \beta_2 LLP + \ln \beta_3 LA + \mathcal{E}_i$

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

As shown in Table 1, the average return on equity (ROE) for the 31 banks was 0.098. This implies that each shilling from the shareholders' equity generated a profit of Kes 0.098. Moreover, the findings indicate that the average non-performing loan (NPL) was Kes 6.851 billion, average loan loss provision (LLP) was Kes 2.566 billion, and the average loans and advances stood at Kes 74.15 billion. The results of this study concur with the CBK (2019) report, which indicated that commercial banks performed poorly due to a high level of non-performing loans.

Table 1 Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROE	31	-.24	.2424	.098	.10
Non-performing loans (Kes 'million')	31	487.47	28776.5478	6851.21	6901.19
Loan loss provisions (Kes 'million')	31	151.95	14377.1370	2565.99	3051.52
Loans and advances (Kes 'million')	31	5532.800	378802.2000	74149.84	90144.49
Valid N (listwise)	31				

4.2 Credit Risk and Financial Performance

In this study, credit risk was measured using NPLs, LLP, and LA. The following are the results relating to these variables.

4.2.1 Non-Performing Loans and Financial Performance

A multiple regression analysis was conducted to determine the effect of non-performing loans on the financial performance of banks. From the results (Table 2), NPLs had a non-significant negative impact on ROE (p=0.394) at 0.05 level of significance. Therefore, the null hypothesis that there is no significant effect of NPLs on the performance of commercial banks in Kenya was accepted. The results of this study agree with Kaaya and Pastory (2013), who found a non-signficant effect of non-performing loans on the banks' profitability. However, this study's findings differ with Yesmine et al. (2015), Alexiou and Sofoklis (2009), and Almekhlafi et al. (2016), who established that credit risk had a significant and negative impact on banks' performance. Furthermore, the outcome of this research is not in line with Nasserinia et al. (2014), who reported that NPLs had a significant positive relationship with the banks' net interest margins.

4.2.2 Loan Loss Provision and Financial Performance

The findings in Table 2 reveal that LLP had a non-significant negative effect on the banks' return of equity (p=0.653) at 0.05 level of significance. Based on the results, the null hypothesis that there is no significant effect of LLP on the performance of commercial banks in Kenya was accepted. The findings of this study confirm Merton's (1974) theory that credit risk is negatively related to the financial performance of a firm. However, the results of this study don't tally with Samad (2015), Ogboi and Unuafe (2013)**,** and Tariq et al. (2014), who found that loan loss provision affected the banks' performance positively.

4.2.3 Loans and Advances and Financial Performance

According to the findings (Table 2), loans and advance had a significant positive impact on the banks' performance (p=0.001) at 0.05 level of significance. Therefore, the null hypothesis that there is no significant effect of LA on the performance of commercial banks in Kenya was rejected. The findings of this study are in line with Ramadan (2011), Samad (2015), and Boahene *et al*. (2012), who unveiled that LA significantly affected banks' performance. On the contrary, the results of this study differ with Weersainghe and Perera (2013)**,** who established that that credit risk had a non-significant positive relationship with profitability.

Table 2 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.920	1.224		-5.653	.000
	Ln NPL	-.284	.328	-.398	-.867	.394
	Ln LLP	-.160	.352	-.241	-.455	.653
	Ln LA	.766	.197	1.167	3.892	.001

a. Dependent Variable: Ln ROE

5. CONCLUSION AND RECOMMENDATIONS

The study used a regression model to examine the effect of credit risk on the financial performance of commercial banks in Kenya. From the findings, an R Square of 0.479 was derived. This implies that 47.9% of the variation in banks' financial performance was contributed by credit risk, and 52.1% of the variation in the performance was due to the error term or other variables not studied.

Also, it was revealed that non-performing loans and loan loss provision had non-significant negative impacts on the banks' performance with p=0.394 and p=0.653, respectively. However, LA had a significant positive effect on commercial banks' profitability (p=0.001).

To reduce NPLs, commercial banks should meticulously appraise their clients before advancing any credit to them. Credit officers should enhance their recovery efforts on non-performing loans through the adoption of appropriate risk management approaches. Moreover, the commercial banks' regulator should strictly enforce prudential guidelines through periodic supervision of financial institutions.

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