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*Factors Influencing Non-Performing Loans for Listed  
Commercial Banks in Tanzania*

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## Factors Influencing Non-Performing Loans for Listed Commercial Banks in Tanzania

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### **Abstract**

*This study investigated the factors that influence non-performing loans (NPLs) for listed commercial banks in Tanzania. Lower NPLs are indicators of best credit risk management that enhance financial stability. Specifically, this study examined the influence of bank-specific factors—return on asset, capital adequacy, licensed bank age, and bank size—on NPLs covering the 2015 – 2022 period. The study employed a quantitative research approach, specifically the panel data regression to calibrate the coefficients of the independent variables of the study. The study findings suggest that capital adequacy is significantly inversely related to non-performing loans (NPLs). Also, bank size is significantly negatively linked with NPLs. However, the age of licensed banks is positively correlated with NPLs. As such, the study recommends for listed commercial banks to enhance equity as it provides a governance supervision mechanism that lowers NPLs. Likewise, listed commercial banks ought to increase the number of branches that can result in more staff with skills and expertise that may further lower NPLs. Moreover, listed commercial need not consider licensed bank age as enough attribute to enhance lower NPLs. The new insight about bank-specific factors that influence NPLs stemming from the study may help to enhance low NPLs, thus stimulating financial stability.*

**Keywords:** *NPL, Capital Adequacy, Bank Size, Licensed Bank Age, Return on Asset*

### **1. Introduction**

Listed commercial banks play a crucial role in resource mobilisation and allocation among countries. Greater stability of listed commercial banks over unlisted ones has badly an added advantage in channelling funds to profitable projects that stimulate economic growth and reduce the non-performing loan levels (Tran et al., 2019). Governance mechanism resulting from the separation of control and ownership-induced supervision is can reduce overall listed bank credit risk, thus lowering non-performing loans or NPLs (Budotela et al., 2022). NPLs proxy the credit risk for the banking sector, with lower NPLs indicating good banking performance and higher NPLs reflecting poor banking performance. Of late, studies focusing on NPL performance indicators have generated keen interest from researchers, regulators, and policymakers globally (Ersoy, 2021; Golitsis et al., 2022; Khan et al., 2020; Rezina et al., 2020).

To ensure stable economic growth in Tanzania, the Bank of Tanzania (BoT), the country's central bank, introduced measures aimed to ease the liquidity of commercial banks to stimulate lending

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by commercial banks to the private sector after experiencing a sharp decline in credit growth in mid-2016/2017 (BoT, 2019). Since then, the Tanzania economy has experienced significant growth in credit extended to the private sector over the past five years, with credit expanding from 1.2% in 2016/2017 to 9.9% in 2021/22 (BoT, 2022). The growth in credit for the past five years has led to a sound and stable banking sector thus improving the financial performance of the commercial banks in Tanzania (BoT, 2022). Even though the relaxation of liquidity requirement by the country's central bank boosted the growth of credit growth, there was only a slight growth of the NPLs ratio to two digits in 2017 (10.6%), 2018 (10.3%), 2019 (10.7%) and 2020 (10.8%) (BoT, 2022, 2019). The NPLs then slightly declined to a single digit in 2021(9.3%) and 2022 (7.8%), which was still far away from the set benchmark of NPLs ratio of 5% set by the Bank of Tanzania (BoT, 2022). The decline in NPLs might be attributable to factors such as bank supervision, bank-specific factors, and macroeconomic factors.

Prior studies have come up with mixed findings regarding the influence of bank-specific factors on NPLs (Budotela et al., 2022; Golitsis et al., 2022; Socol & Sinişin, 2021). For example, Do et al (2020) found a significant inverse link between NPLs and Vietnam's bank performance. Impliedly, as performance improves, the NPLs of banks decrease due to better credit management practices. Likewise, Korankye (2022) found a profound inverse relationship between NPLs and financial performance of banks listed in Ghana. Similarly, Ozili (2019) established that bank liquidity, capital adequacy, and bank efficiency inversely correlate with NPLs. Furthermore, Golitsis et al. (2022) reported that non-performing loans (NPLs) significantly and positively correlate with unemployment, gross domestic product, and interest rates in North Macedonia. Moreover, Budotela et al. (2022) documented a profound inverse relationship between NPL and licensed bank age for commercial banks in Tanzania. Likewise, Owonye and Obonofiemro (2022) found a significant inverse relationship between NFLs and licensed bank age but an insignificant negative relationship with the financial performance of Nigerian banks.

The results of prior studies have documented mixed findings over time of bank-specific determinants of NPLs (Golitsis et al., 2022; Kjosevski et al., 2019; Korankye, 2022). These mixed findings from prior studies warrant further investigation to determine factors that affect the NPLs

of listed commercial banks in emerging countries such as Tanzania. The current study differs from that of Budotela et al. (2022) that had focused on determinants of commercial banks in that it dwells on listed commercial banks with different governance structures. In fact, Umar and Sun's (2018) documented observation that the determinants of NPLs for listed and unlisted commercial banks differ further provides a justification for examining the determinants of NPLs for the listed banks in Tanzania. Furthermore, for the past five years, Tanzania has witnessed a slight decline in NPLs, a further justification to conduct this inquiry on the determinants. As such, the following question arises: Is the decline of non-performing loans (NPLs) influenced by bank-specific factors? Therefore, this study aimed to examine the influence of bank-specific factors (in this case Return on asset, capital adequacy, licensed bank age, and bank size) on NPLs to generate new insights from the context of an emerging market of Tanzania.

The rest of this study has been organised as follows. Section two reviews literature related to the study whereas section three covers the methodology. Section four analyses the study findings and section five is the conclusion.

## **2. Literature Review**

### **2.1 NPL and Bank Performance**

There exists a pessimistic link between commercial bank performance and non-performing loans or NPLs (Golitsis et al., 2022; Socol & Sinişin, 2021). Impliedly, the good performance of banks tends to lower NPLs; conversely, poor bank performance raises NPLs. As bank performance is proxied by return on asset, lowering the NPLs of commercial banks can result in the reduction of the overall risk of banks. Bank (2019), who investigated the link between NPLs and performance in Türkiye, found that bank performance to be inversely related to NPLs for Türkiye-listed commercial banks. Likewise, Nwosu et al. (2020) affirmed a significant negative association between NPLs and bank performance in Nigeria. In the same vein, Do et al. (2020) documented a significant inverse relationship between NPLs and the performance of Vietnamese commercial banks. Additionally, Aliu and Çollaku (2021) found a significant negative relationship between the performance of Kosovo commercial banks and NPLs. Also, Adelopo et al. (2022) found significant negative between banks' performance influence and in emerging economies. Moreover, Korankye (2022) found that the banks' performance in Ghana were significantly and

inversely linked to NPLs. Likewise, Socol and Sinițin (2021) affirmed a significant negative link between NPLs and bank performance in Europe. Along similar lines, Anik et al. (2019) found that bank performance played a vital role in lowering NPLs for Bangladeshi commercial banks. Also, Khan et al. (2020) affirmed a significant role that bank performance performed in conversely influencing NPLs in Pakistan's banking sector. Moreover, Gabriel et al. (2019) documented a significant converse association between NPLs and bank performance in Nigeria.

However, several studies have documented a significant positive link between bank performance and NPLs, implying that bank performance lowers NPLs. For example, Singh et al. (2021) found a significant and positive relationship between bank performance and the NPL level. Similarly, Alshebmi et al. (2020) affirmed an insignificant inverse link between NPL and the performance of Saudi Arabia banks. In other words, the majority of studies had found a significant inverse link between bank performance and NPLs across countries (see, for example, Adelopo et al., 2022; Aliu & Çollaku, 2021; Korankye, 2022; Singh et al., 2021). Based on these findings, we thus hypothesize:

*H<sub>1</sub>: The bank's performance has a significant negative influence on the NPLs of listed commercial banks in Tanzania.*

## **2.2 NPL and Licensed Bank Age**

The licensed bank age refers to the number of years that a bank has been providing services to customers and clients. It reflects banking experience, reputation, goodwill, and linkages with stakeholders. Moreover, banking licensed age reflects reputation, skills, and expertise gained over time to enhance performance and lowering NPLs (Işik & Ersoy, 2022). Ikram et al. (2016) found a significant converse link between banks licensed age and NPLs for Pakistan-listed banks. The findings suggest that higher licensed bank age lowers NPLs. Likewise, Owonye and Obonofiemro (2022) revealed a significant inverse link between licensed bank age and NPLs for Nigerian listed banks. Additionally, Giannopoulos (2018) revealed the significant influence of bank age in lowering the NPLs of Greece's banking sector. Moreover, some studies found a significant positive link between licensed bank age and NPLs, implying that a higher licensed bank age does not necessarily lower NPLs. For example, Budotela et al. (2022) conducted a study focusing on all

commercial banks operating in Tanzania and found a significant positive relationship between licensed bank age and NPLs. However, the majority of the studies attested to a significant role of licensed bank age in lowering NPLs (Benedicta Owonye & Godwin Obonofiemro, 2022; Giannopoulos, 2018; Işık & Ersoy, 2022). These postulations support the formulation of hypothesis H<sub>2</sub>:

*H<sub>2</sub>: Licensed bank age has a significant negative influence on the NPLs of listed commercial banks in Tanzania.*

### **2.3 NPL and Bank Size**

Bank size is an important aspect that proxies bank resources. In this regard, studies have indicated that total assets, total deposits, number of branches, and number of ATMs serve as proxies indicative of bank size ( Owonye & Obonofiemro, 2022; Golitsis et al., 2022; Yulianti & Ibrahim, 2018). Banks with large size have more resources than small sized ones, thus able to attract good human resources personnel for rendering services. Also, large banks have more funds relative to small banks, which enables them to offer sizeable loans to customers in addition to diversifying the overall loan risk by optimizing loan portfolios and lowering NPLs. For instance, Yulianti and Ibrahim (2018) found an inverse relationship between bank size and NPLs in Indonesia, hence signaling that large bank size lowers NPLs. Likewise, Mohanty et al.'s (2018) study in India similarly found a significant converse link between bank size and NPLs. Moreover, Rezina et al. (2020) found that bank size has a significant inverse relationship with NPLs in the Bangladeshi Islamic banking sector.

On the other hand, some studies did not find bank size to have an inverse influence on NPLs. Apan and İslamoğlu (2019), for example, found significant positive relationship between bank size and NPLs, which could be linked to the excessive lending behavior of some banks to enhance performance. Nevertheless, most of the prior studies affirmed a significant bearing of large bank size on lowering NPLs (Mohanty et al., 2018; Rezina et al., 2020; Yulianti & Ibrahim, 2018). Based on this premise, we hypothesis:

*H<sub>3</sub>: Bank size has a significant inverse influence on the NPLs of listed commercial banks in Tanzania*

## 2.4 NPL and Capital Adequacy

Capital adequacy, an important proxy that indicates banking internal funding, is calibrated as the ratio of equity to total assets of banks. A higher capital adequacy reflects less dependence on external funding, thus lowering bank risk while holding other factors constant (Martiningtiyas & Nitinegeri, 2020). In Tanzania, the minimum capital adequacy ratio has changed over time based on the performance of macro-economic parameters. However, the current minimum capital adequacy ratio set by the Bank of Tanzania (BoT) to ensure bank stability stands at 12 percent (BoT, 2022). A higher capital adequacy ratio above the minimum requirement relates to strong governance of commercial banks that lower NPLs. For instance, a study in West Africa by Info et al. (2022) found an inverse relationship between Capital adequacy and NPLs. Moreover, Ozili's (2019) study on the factors influencing NPLs across countries found that capital adequacy significantly influences NPLs negatively. Likewise, Ersoy (2021) established that capital adequacy enhances governance mechanisms that sufficiently reduce NPLs in the Turkish banking sector. Also, Kjosevski et al. (2019) affirmed a significant converse link between NPLs and capital adequacy. Furthermore, Mohanty et al. (2018) reported that a significant inverse relationship exists between NPLs and capital adequacy, by indicating that higher capital adequacy lowers the NPLs. However, Wood and Skinner, (2018) revealed a significant positive link between NPLs and capital adequacy signifying the irrelevant role of capital adequacy in enhancing lower NPLs. Likewise, Khan et al., (2020) affirmed that capital adequacy does influence NPLs in Pakistan banking sector. Despite the literature providing mixed findings over time, most of the prior studies had hinted at a significant inverse relationship between NPLs and capital adequacy (Ersoy, 2021; Kjosevski et al., 2019; Mohanty et al., 2018; Ozili, 2019). In line with prior studies, the study proposes the following hypothesis:

*H<sub>4</sub>: Capital adequacy has significant negative link to NPLs of listed commercial banks.*

## 3. Methodology

This section covers data, independent and dependent variables, and the model used to examine factors affecting NPLs of listed commercial banks in Tanzania.

### 3.1 Data

Data for the current study has been extracted from the annual report of listed commercial banks in Tanzania in the Dar es Salaam Stock Exchange (DSE). The study focused primarily solely on commercial banks but excluded microfinance and community banks listed on DSE (Mufindi Community Bank and Yetu Microfinance Bank). The list was then narrowed by including only commercial banks listed before 2015, thus excluding Mwalimu Commercial Bank (MCB). Subsequently, the sample dropped to six banks— CRDB Bank plc (CRDB), DCB Commercial Bank plc (DCB), KCB Group Limited (KCB), NMB Bank plc (MNB), Maendeleo Bank plc (MBP), and Mkombozi Commercial bank plc (MKCB). The sample period for the study was eight (8) years from 2015 to 2022, thus yielding 48 bank-year observations.

### 3.2 Dependent Variable

The current study’s dependent variable is calibrated as NPL scaled by gross loans. Prior studies have extensively applied the ratio based on factors affecting NPLs (Golitsis et al., 2022; Khan et al., 2020; Mohanty et al., 2018).

### 3.3 Independent Variables

Recent literature on the determinants of NPLs suggests that bank-specific factors relative to external factors significantly influenced the (Owonye & Obonofiemro, 2022; Budotela et al., 2022; Korankye, 2022). In line with these studies, the independent variables of the study are return on asset (ROA), capital adequacy (CA), bank size (BS), and licensed bank age (LBA). Table 1 presents the measurement of these variables and their projected relationship with NPLs:

**Table 1: Measurement of Variables**

Variables	Measures	Projected Sign
Dependent Variable		



NPL	The ratio of Non-performing loans to Gross Loans	
Independents Variables		
ROA	Ratio of profit before tax to total assets	-
CA	The ratio of total equity to total assets	-
LBA	Natural log of the number of years since licensed	- / +
BS	Natural log of the number of branches	- / +

### 3.4 Research Approach and Model Specification

To enhance the best estimation of factors influencing NPLs for the listed commercial banks in Tanzania, the study applied the quantitative research approach in line with prior studies (Adelopo et al., 2022; Owonye & Obonofiemro, 2022; Korankye, 2022). Specifically, the panel data regression model facilitated the estimation of the coefficients of the independent variables. Prior studies have also extensively used panel data regression to estimate factors linked with NPLs (Aliu & Çollaku, 2021; Apan & İslamoğlu, 2019; Golitsis et al., 2022; Khan et al., 2020). In connection with these prior aforementioned, the empirical model for the study is expressed as follows:

$$NPL_{i,t} = \varphi + \alpha_1 ROA_{i,t} + \alpha_2 CA_{i,t} + \alpha_3 BS_{i,t} + \alpha_4 LBA_{i,t} + \pi_{i,t}$$

Where:

NPL<sub>i,t</sub>, stands for non-performing loans, ROA<sub>i,t</sub> stands for return on asset, CA<sub>i,t</sub> for capital adequacy, BS<sub>i,t</sub>, for bank size, LBA<sub>i,t</sub> for licensed bank age, α<sub>i</sub> coefficients, π<sub>i,t</sub> for error term, and φ r for constant.

## 4 Discussion of the Results of Test Employed

### 4.1 Descriptive Statistics

This section reports the descriptive statistics of the variables of the study specifically the mean, maximum, and minimum values and their deviations. Table 2 depicts descriptive statistics for the variables. The mean value of NPL is 0.087, which is slightly higher than the recommended ratio of 0.05 set by BOT. Moreover, the mean value of NPL is far lower than the value of 0.141 reported by Owonye and Obonofiemro, (2022) in Nigeria. The upper and lower values of NPL are 0.2030 and 0.0209, respectively. The average value of ROA is 0.001, which is lower than the average value of 0.009 reported in Indonesia by Rachman et al. (2018). Moreover, the upper and lower values for ROA are 0.0595 and -1, respectively compared to average values of 0.11 and -0.725 reported by Rachman et al. (2018). The mean value of capital adequacy is 0.1520, which is closer

to the value of 0.1740 reported by Wood and Skinner (2018) for the commercial banks of Barbados. The mean value of the licensed bank age is 2.7044, and the value of the licensed bank age is calibrated as a natural logarithm of the number of years since being licensed. The mean value of bank size is 3.1353, which is proxied as the natural logarithm of several branches. The mean value of the bank size reported is slightly lower than the value of 7.5587 reported by Owonye and Obonofiemro (2022). Moreover, the upper and lower values of bank size are 5.5909 and 0.6931, respectively.

**Table 2: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
NPL	48	0.0874	0.0484	0.0209	0.2030
ROA	48	0.001	0.1491	-1	0.0595
CA	48	0.1520	0.0301	0.0820	0.2370
LBA	48	2.7044	0.6008	0.6931	3.2581
BS	48	3.1353	1.7160	0.6931	5.5909

#### 4.2 Multi-collinearity Tests

Table 3 presents the results of multi-collinearity among the variables. The study employed both pairwise correlation and a superior test named variance inflation factor (VIF) for checking the possibility of multicollinearity problems. The results of pairwise correlation indicate that NPL had a negative correlation with ROA, CA, and BS with the following coefficient (-0.011, -0.195, -0.252) respectively. Moreover, NPL had a positive association with LBA with a coefficient of 0.179. Likewise, ROA had a positive correlation with both LBA and BS with coefficients of 0.0237, and 0.1571, respectively.

**Table 3: Multi-collinearity Results**

Pairwise Correlation						Variance Inflation Factor	
	NPL	ROA	CA	LBA	BS	VIF	1/VIF
NPL	1						
ROA	-0.011	1				1.06	0.939136
CA	-0.195	-0.1816	1			1.12	0.89611

<b>LBA</b>	0.179	0.0237	-0.2455	1		1.87	0.53485
<b>BS</b>	-0.252	0.1571	-0.2718	0.6724	1	1.92	0.520508

Also, ROA had a negative correlation with CA with a coefficient of -0.1816. In addition, CA had a negative correlation with both LBA and BS with coefficients of -0.2455 and -0.2718, respectively. Moreover, LBA had a positive correlation with BS with a coefficient of 0.6724. Additionally, the results of VIF revealed an upper value of 1.92 and a lower value of 1.06 for BS and ROA. Moreover, LBA and CA had VIF values of 1.87 and 1.12, respectively. Therefore, the coefficients of the pairwise correlation among variables are significantly below the cutoff of 0.8, and the VIF values for the independent variables are well below the cutoff value of 10 as suggested by Wooldridge (2015), which reflects that the independent variables are free from multicollinearity issues that can induce bias in the OLS estimator.

### 4.3 Heteroskedasticity Test

The study employed the Breusch-Pagan and Cook-Weisberg test to check for the possibility of a heteroskedasticity problem. Table 4 depicts the results of the test. The result reports a p-value of 0.0716 slighter higher than a critical value of 0.05, signalling that there is the problem of heteroskedasticity which makes OLS an inefficient estimator. To overcome this problem the study employed panel data estimators.

**Table 4: Heteroskedasticity Results**

Breusch-Pagan / Cook-Weisberg test
Ho: Constant variance
Variables: fitted values of NPL
chi2(2) = 3.25
Prob> chi2 = 0.0716

### 4.4 Results of Unit Root Test

The study calibrated the stationarity of variables using the Levin-Lin- Chu unit root test. The p-value of the results of the test uncovered that NPL (0.0203), LBA (0), and BS (0) were stationary at a level as supported by reported significant p-values. Moreover, ROA (1.0) and CA (0.0914) were not stationary at level, however, ROA (0.0) and CA (0.0) were stationary at first difference. Since all the variables were not stationary at the level, OLS does not furnish the best estimates for the coefficient (Im et al., 2003).

**Table 5: Unit Test Results**

Variables	At Level					First Difference	
	NPL	ROA	CA	LBA	BS	ROA	CA
P-value	0.0203	1.0	0.0914	0	0	0	0
Unadjusted t	-4.157	-5.871	-4.7564	-9.2503	-39.338	-15.9297	-14.493
Adjusted t*	-2.047	7.354	-1.3322	-9.7307	-41.683	-13.9272	-13.1775

#### 4.5 Empirical Results

Table 6 depicts the results of the factors affecting the NPLs for the listed commercial banks in Tanzania. Specifically, Table 6 depicts the results of OLS, Random Effect, Fixed Effect, and Hausman specification test. The results of diagnostic tests performed (heteroskedasticity and unit root) favour panel regression over OLS, therefore results of OLS reported in Table 6 are for comparison purposes. Moreover, in deciding between the Random effect and fixed effect model Hausman test was employed. The result of the Hausman test favours the Random effect model since the p-value is insignificant ( $p = 0.7395$ ) at a five percent level of significance. Therefore, the results of the fixed effect model are for comparison only.

The results from the Random effect model uncovered that capital adequacy is significantly negatively linked with NPLs (-0.37917,  $p = 0.048$ ). Impliedly, as equity of listed commercial banks increases, NPLs reduce signalling that governance mechanisms lower NPLs. Listed commercial bank may float more equity on the market to enhance governance mechanisms that

influence NPLs conversely. The result is supported by prior studies that uncovered a converse link between capital adequacy and NPL. For instance, Ozili (2019) documented the profound role of capital adequacy in lowering NPLs when conducting cross-country studies with data extracted from 134 banks. Likewise, Ersoy (2021) found a significant inverse link between NPL and capital adequacy. Moreover, Kjosevski et al. (2019) found a significant converse association between capital adequacy and NPLs for the Macedonian listed commercial banks. Furthermore, Wood and Skinner (2018) affirmed a significant positive link between NPLs and capital adequacy for Barbados banks. The study found a significant negative association between NPL and bank size (-0.0208, p =0.000). Impliedly, the listed commercial banks with many branches have the financial power to attract employees with better credit appraisal skills, and funds for lending resulting from the overall credit risk, which lowers the NPLs. Rezina et al.'s (2020) study in Bangladesh similarly attested to the significant role of banks in lowering NPLs. Also, Yulianti and Ibrahim (2018) found a converse relationship that bank size and NPL are conversely related in Indonesia. Besides, the findings are similar to those reported in India by Mohanty et al. (2018), who established a profound converse link between bank size and NPLs. Furthermore, the results indicate that licensed bank age and NPL are significantly positively linked (3.64, p =0.001). The result implies that reputation, goodwill, and skills gained over time do not enhance lower NPLs for listed commercial banks. The finding is similar to Budotela et al. (2022), who uncovered a significant positive link between licensed age and NPLs for commercial banks in Tanzania.

**Table 6: Regression Results**

Variable	OLS (Coefficient & p-value)	Random Effect (Coefficient & p-value)	Fixed Effect (Coefficient & p-value)
ROA	0.01543 (0.712)	0.0153 (0.71)	0.0676 (0.111)
CA	-0.37917** (0.049)	-0.37917** (0.048)	-0.36218* (0.096)
LBA	3.64*** (0.001)	0.04969*** (0.000)	-0.09313 (0.832)
BS	-0.0208*** (0.000)	-0.02082*** (0.000)	0.05901 (0.93)
Constant	0.07597 (0.119)	0.126159* (0.098)	0.187851 (0.93)
R-square	0.3412	0.3412	0.161

N	48	48	48
Hausman Test			
Ho: difference in coefficients not systematic			
$\chi^2(4) = (b-B)'[(V_b-V_B)^{-1}](b-B)$			
1.98			
Prob> $\chi^2 = 0.7395$			

## 5 Conclusion

The variables affecting Tanzania’s listed commercial banks’ non-performing loans (NPLs) have been investigated in this study. Using a sample spanning from 2015 to 2022, the study focused on bank-specific parameters, namely, return on asset, capital adequacy, licensed bank age, and bank size. Additionally, a quantitative research methodology was used in the study to calculate the impact of bank-specific variables on the non-performing loans (NPLs) of commercial banks with listings. The study produced important results, including the conclusion that capital sufficiency and NPLs are substantially inversely correlated. According to the research, listed commercial banks might improve reduced non-performing loans (NPLs) by increasing market equity. The augmentation of equity would strengthen the listed commercial banks' governance process, leading to a reduction in non-performing loans. Furthermore, the results showed a substantial inverse relationship between NPLs and bank size. Impliedly, the listed commercial banks ought to try to staff more branches to draw in employees with the knowledge and abilities necessary to properly manage credit to reduce non-performing loans. The results further indicate a strong positive correlation between licensed bank age and non-performing loans (NPLs). Also, the listed commercial banks should concentrate on governance structures and hire personnel with the necessary skills and experience to improve lower NPLs rather than relying solely on their long-standing goodwill and reputation. Further research is also necessary to examine the impact of macroeconomic variables since such research could demonstrate how macroeconomic variables affect non-performing loans.

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