



# Unsystematic Risk Factors and Mortgage Non-Performing Loans in Kenya: Evidence from Commercial Banks

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## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Commercial banks face severe challenges relating to their processes due to variations in the financial system. Identifying methods for reducing mortgage defaults and reducing the level of nonperforming loans is very important. Mortgage defaults occur because of complex factors. The amounts of mortgage non-performing loans depend on unsystematic risk factors which have an effect on mortgage loans of commercial banks. The stronger the effect of such factors, the less useful is diversification across a large number of borrowers and the stronger are the fluctuations in portfolio losses over time. The study looked at unsystematic factors and mortgage non-performing loans in Kenya's commercial banks. Annual panel secondary data spanning from 2014 to 2019 was obtained from the Central bank of Kenya, Banking Supervision report and Kenya National Bureau of Statistics. The six year period was chosen because of availability of Mortgage secondary data. A panel fixed effects regression model was employed to address the objective of this study. The fixed effects panel regression model results indicated that capital asset ratio and lending rate had negative and statistically insignificant effect on Mortgage non-performing. Loans to deposit ratio and bank size results indicated a positive and statistically significant effect on mortgage non-performing loans implying that loans to deposit ratio and bank size affects mortgage non-performing loans in Kenya's commercial banks. ROA results indicated a negative but statistically significant effect on

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mortgage non-performing loans. The study recommended enactment of internal policies by banks in regard to unsystematic factors in order to minimize the surge in mortgage non-performing loans especially in Kenya.

*Keywords: Unsystematic risk factors; mortgage non-performing loans; Kenya; commercial banks; panel data; fixed effects.*

## 1. INTRODUCTION

The global financial crisis caused a sharp deterioration of bank asset quality in World financial institutions. High levels of non-performing loans (NPLs) paralysed the banking sector and necessitated a substantial cleansing of banks' balance sheets. Banks became more risk averse and wary of issuing new loans, which contributed to suppressing investment and consumption in ailing economies and made their recovery more protracted [1].

Non-performing loans (NPLs) increased significantly across Europe since 2008, mainly due to poor supervision and governance, aggressive lending and acquisition strategies, loose credit underwriting policies, high exposure to sectors that were most impacted by the financial crisis such as real estate (mortgage loan) and lax credit controls. The condition worsened with the prolonged economic downturn pushing highly leveraged mortgage borrowers into financial difficulties and leading to a large number of defaults. Increased regulatory requirements for NPL management such as asset quality reviews, harmonisation of NPL classification and disclosures, and the introduction of specific NPL codes and directives also contributed to the increase in the overall NPL pool in Europe. This triggered NPLs to increase enormously to €1 trillion, more than double the amount in 2009 [2].

Non-performing loans (NPLs) are a threat to sustainable financial development for developing economies especially in Africa. NPLs are considered as the main indicator of financial stability of the banking sector. In developing countries, commercial banks usually take greater risks to increase their market shares. With the opportunity of higher profit, risk increases, which ultimately results in non-performing loans [3].

Unsystematic factors affecting Mortgage NPLs are increasingly becoming a matter of concern for all countries globally, and as a prerequisite to reinstate the functionality of financial markets. Commercial banks at risk of failing have

significant proportions of Mortgage NPLs in their portfolios of loans before collapse or financial distress. Commercial banks are intertwined and operate with other banks in a competitive industry. Therefore, the poor performance of a bank can affect the entire sector and cause performance variability and create fear. Degraded Mortgage loan quality creates threats of systemic risk, fear and causes drainage of deposits, a hindrance to financial intermediation, and finally, slows down the pace of economic growth and financial development. Mortgage non-performing loans play a crucial part in creating deteriorating performance of banks. Mortgage NPLs are a real threat hence termed as financial pollutants because for their negative impacts on the economy. The unsystematic factors affecting mortgage NPLs should be considered first if regulatory authorities are to implement any policy [4].

The Mortgage market in Kenya has been one of the fastest growing sectors in the last decade with returns from property market outshining equity shares and government securities. Mortgages increased by Sh11.2 billion, a rise that outpaced other segments like manufacturing (19 percent), traders (4 per cent) and personal loans (six percent) in growth of default on loans [5].

The mortgage market is currently experiencing declining growth due to ever increasing number of non-performing loans. The mounting defaults in the mortgage market are a reflection of the struggles that mortgage holders are facing in an economy that has seen a lot of job losses annually across nearly all sectors. This has caused employees who took mortgages on the strength of their pay slips default with the slowdown in real estate hurting property developers who are finding it difficult to sell units that were built on loans. Commercial Banks have improved debt recovery efforts to clean up their loan books, leading to an increase in property seizures by aggressive lenders. Deterioration in asset quality was mainly attributed to subdued business activities, delayed payments from public and private entities and low uptake of

housing and commercial units. The depressed mortgage market was worsened by credit access limitations under the environment where interest rates were under government control. Commercial banks blamed the cap which the government implemented in September 2016 to curb high interest rates, for constricting private sector lending growth, especially to segments of the population that were seen as risky. Auctioneers carried out more auctions in 2018 compared to 2017 which were linked to mortgage defaults, arguing that banks were moving much faster to seize properties from loan defaulters since the interest rate cap was put into place [6].

### 1.1 Statement of the Problem

Real estate has been one of the Kenya's country's fastest growing sectors in the last 15 years, with returns from property market outshining equity shares and government securities. The sector has, however, suffered dwindling growth in sales and rental prices recently due to a huge stock of unsold units. Default on mortgages shot 41 percent to Sh38 billion, indicating widespread distress in the real estate sector as Kenya's economy slows down and property auctions pick up further. Recent data showed that mortgages recorded the highest growth in non-performing loans (NPLs) from Ksh. 27.3 billion in December 2017 to Ksh.38.1 in December 2018. The mortgage NPLs to gross mortgage loans was 16.9 percent in December 2018 as compared to 12.2 percent in December 2017, reflecting the struggle by investors to find buyers for their houses amid the ever declining returns (CBK annual report 2018). [6].

The Kenyan mortgage market continued to lag behind with mortgage to GDP ratio of 3.1% in 2016, significantly lower than the developed markets in Africa. The barriers hindering its maturity are failure to maintain minimum capital reserve, high interest rates, high exchange rates, difficulties with property registration and titling, undeveloped standardization of loan underwriting & documentation and the inability to access long term financing (CBK annual report, 2016) [7].

Conversely, the main concern of the Kenyan government is the construction of affordable houses as part of its big four agenda. The mortgage market is in a crisis owing to increasing cases of payment default. There are increasing cases of payment defaults, slow uptake of new units and lenders shunning away from the market

segment that has become one of the largest contributors of ballooning non-performing loans. Numerous previous studies have studied the determinants of non-performing loans in general, this study bridges the gap in empirical literature by investigating the unsystematic factors influencing mortgage non-performing loans in Kenya.

### 1.2 Objective

To find out whether unsystematic factors have an effect on mortgage non-performing loans in Kenya's commercial banks.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Review

The theoretical review of Mortgage non-performing loans rests on three key pillars: information asymmetry, adverse selection and moral hazard theories. The three theories give specific information on the long established causes of mortgage loan default that lead to banking system instability. Information asymmetry theory was first applied by [8]. The theory asserts that it may be very complex to differentiate between good and bad borrowers and this may lead to adverse selection and moral hazard problems. In line with the theory, [9] showed the function of loan growth in bank risk-taking and resulting instability. The theory also relates to contagious withdrawals when depositors are imperfectly informed about the type of shocks hitting banks and about interbank exposures [10]. Postulated by [8] the adverse selection theory described the situation where the probability of loan default increased with rising interest rate and the quality of borrowers worsened as the cost of borrowing rises. The theory is based on the assumption that banks are not certain in selecting credit-worthy borrowers from a pool of loan seekers with different credit risk exposures ex-ante. Therefore, financial intermediaries are more likely to lend to high-risk borrowers who are not concerned about the harsh lending conditions and are prone to loan default. Information sharing reduces adverse selection problems by enhancing information on loan applicants [11]. Padilla and Pagano [12] further documented that if banks exchange credit information on defaults, then borrowers have no options but to apply more energy in their projects knowing fully well that loan default either carries the penalty of higher interest rates or no future access to credit facility. Musara and Olawale [13]

also pointed out that moral hazard exist where the borrower of bank credit takes action that adversely affects the returns to the lender. The theory is based on the assumption that the likelihood of borrowers engaging in activities that will guarantee repayment of bank credit extended to them cannot be determined ex-post by banks.

## 2.2 Empirical Review

### 2.2.1 Unsystematic factors and mortgage non-performing loans

Johannes [14] investigated the unsystematic causes for bad loans in commercial banks in Namibia with an objective of finding out the contributing factors that influence bank's non-performing loans. The study applied different techniques of unit root, co-integration, impulse response and forecast error variance decomposition on quarterly data for the period 2001:Q1 to 2014:Q2. The findings showed that return on assets, return on equity, loan to total asset ratio and log of total assets were the key drivers of non-performing loans. The negative association amongst non-performing loans and return on assets as well as return on equity proved that banking institutions with greater returns tend to be reluctant in diversifying their income streams and participating in uncertain events such as giving risky loans. Besides, a positive relationship between nonperforming loans and loan to total asset ratio, implied that the quality of assets played a significant part in the case of Namibia; lower quality assets tend to generate higher non-performing loans for banks. Lastly, Johannes pointed out a positive relationship between non-performing loans and log of total assets indicating that the bank size plays a role in determining non-performing loans in Namibia.

According to [15], in his study of non-performing loans, pointed out that lenient credit terms, credit orientation, bank size, cost efficiency, poor loan follow-up, poor risk assessment, strict admittance exit policies, rapid loan growth and high interest rate as bank specific determinants of non-performing loans. Hue results found out that the most significant factors affecting NPLs were risk assessment and monitoring, borrower admittance, credit orientation, operating efficiency, bank size, credit terms, margin of interest and rapid loan growth.

Makri et al. [2] using GMM examined the determinants of non-performing loans in Eurozone area's banking system utilizing

aggregate panel data of 14 countries over the period 2000 to 2008. Makri et al. [2] findings indicated a negative relationship between capital ratio, return on equity and GDP growth and non-performing loans. Conversely, the return on asset ratio, the loan to deposit ratio, inflation rate and budget deficit were found to have no effect on Non- performing loans. A strong positive effect between public debt, unemployment rate and non- performing loan was also exhibited by their results.

Changjun, Probir & Niluthpaul [16] examined the influence of systematic and unsystematic determinants of non-performing loans (NPLs) in the entire banking system of Bangladesh. They performed an analysis for the period from 1979 to 2018 by an autoregressive distributed lag (ARDL) model and checked the robustness of the results in the vector error correction (VEC) model. The outcomes of this research demonstrated that both systematic and unsystematic factors affected NPLs significantly. Among the unsystematic elements, bank loan growth, net operating profit, and deposit rates negatively influenced NPLs with statistical significance while bank liquidity and lending rates had a significant positive association with NPLs.

Laxmi, Ram, & Shouyang [17] evaluated the macroeconomic and bank specific determinants of non-performing loans (NPL) in the Nepalese banking system using both static and dynamic panel estimation approaches. The study considers 30 Nepalese commercial banks over the period 2003 to 2015 using seven bank-specific and five macroeconomic variables to gauge the influence of banking management and economic indicators on NPL. The results showed that NPLs had significant positive relationship with the export to import ratio, inefficiency, and assets size and a negative relationship with the GDP growth rate, capital adequacy, and inflation rate. The results of the empirical study indicated low economic growth as the primary cause of high NPLs in Nepal pointing out that proficient management and effective financial policies are mandatory for a stable financial system and economy.

Muhammad [18] examined the unsystematic factors that determine the NPLs in the banking sector of Pakistan. The random-effect panel least square model showed that profitability had a negative and significant impact upon NPLs. This indicated that the profitability of the banks is strongly influenced by the increase in the amount

of NPLs. The level of NPLs is increased by various factors such as political interference in the banking system of the country and wrong investment decisions by the management. Based on the result, Muhammad concluded that the policymakers must secure a strong financial position of banks by making more profits which will enable the banks to do proper loan management processes such checking the creditworthiness of the creditors. Consequently, banks will gain more profits as the value of NPLs decreases. Equally, the bank's top management should invest in profitable investment opportunities leaving no chance to loss, hence, making the banks to realize more returns. In case of capital asset ratio and income diversifications, both had a negative association with NPLs. The results also showed that the operating efficiency had negative and significant impact upon NPLs. He further concluded that when the banking sector expenses are more as compared to income, the banks tend to have more expenses compared to revenue and the overall profit tends to be low, influencing NPLs of the banks. Muhammad asserted that for the better financial position of the banking sector, the operating efficiency should be maintained as low as possible.

Marijana, Sandra & Klime [19] empirically investigated the determinants of non-performing loans in Southeastern European banking systems. The analysis was based on a sample of 69 banks in 10 countries in the period from 2003 to 2010 and Generalized Method of Moments estimator for dynamic panel models. The results showed that lower economic growth, higher inflation and higher interest rate were associated with higher non-performing loans. Additionally, credit risk is affected by bank-specific variables such as bank size, performance (ROA) and solvency.

Vijaya & Pallavi [20] used panel data methodology including random effects model to recognize the unsystematic determinants and systematic determinants of non-performing loans in the United Arab Emirates (UAE) conventional banks for the period 2008 to 2015. Amongst the unsystematic determinants, non-performing loans (NPL,  $t-1$ ) indicated a significant positive relationship with NPL and liquidity ratio indicated a significant negative relationship with NPL, whereas capital adequacy ratio and return on assets was found to have an insignificant relationship due to the robust banking regulations in UAE. All the macroeconomic determinants,

namely, gross domestic product, growth, inflation, domestic credit to private sector, unemployment and government debt appeared to be insignificant in determining the level of NPLs, suggesting that the crisis is more intrinsic to internal issues within the corporates and not related to macroeconomic factors.

Yilmaz [21] researched on the macroeconomic and bank-specific determinants of NPL in emerging market economies during the 2000 to 2013 period by employing the model GMM dynamic panel data estimator. The results revealed that unemployment, public debt, and one lagged value of NPL had a positive impact on NPL, while economic growth, inflation, general government net lending/borrowing, and economic freedom (institutional development) had a negative impact on NPL. On the other side, domestic credit to private sector (credit growth), cost to income ratio, and one lagged value of NPL had a positive impact on NPL, while regulatory capital to risk-weighted assets, return on assets and equity and noninterest income to total income had a negative impact on NPL. Furthermore, the dummy variable representing the recent financial crisis denoted that crises have a positive impact on NPL.

Using GMM difference estimation, with data ranging from 2005 to 2014, [22] analysed the macroeconomic and bank-specific determinants of NPLs for a panel of 27 banks from the 3 Baltic States. Jordan and Mihail [22] findings were largely consistent with the literature. Namely, we found that, from among the macroeconomic determinants in our baseline model, the growth of GDP, inflation and domestic credit to the private sector have the strongest effect on NPLs. Additionally, they also found that equity to total assets, return on assets, return on equity and growth of gross loans have an influence on NPLs. Further, they discovered that the dummy variable that was introduced in order to cover the global economic crisis had the biggest effect on the deterioration of loan quality in the banks of Baltic States. The scrutiny of the feedback effects between the NPLs and economic activity confirmed the strong macro-financial linkages in the Baltic region. The findings pointed out that NPLs responded to macroeconomic conditions, such as GDP growth, and also indicated that there are feedback effects from the NPLs on the real economy. More precisely, the estimations proposed that an increase in NPLs had a significant impact on private credit (as a share of GDP), GDP growth, inflation and unemployment,

thus validating the notion that a healthy and sustainable growth cannot be achieved without a sound and resilient banking system.

### 2.3 Conceptual Framework

Fig. 1 represents a conceptual framework for unsystematic factors and mortgage non-performing loans.

### 3. METHODOLOGY

Annual panel secondary data spanning from 2014 to 2019 is obtained from the Central bank of Kenya, Banking Supervision report and Kenya National Bureau of Statistics. The six year period was chosen because of availability of Mortgage secondary data. This period saw a drop in mortgage lending by banks and reluctance from buyers who were holding out for an anticipated slump in property prices. The variables used in the study are capital to asset ratio, lending rate, Loan to deposit ratio, size, return on assets and Mortgage non- performing loans. Annual data is used because for many banks, information on

Mortgage non-performing loans is available on an annual frequency only.

A panel fixed effects regression model was employed to address the objective of this study with the help of the following econometric model:

$$MNPL_{i,t} = \beta_0 + \beta_1 CAR_{i,t} + \beta_2 LR_{i,t} + \beta_3 LDR_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROA_{i,t} + \epsilon_{i,t}$$

Where:

- $\beta_0$  = Intercept
- $MNPL_{i,t}$  = Ratio of Mortgage non-performing loans to gross loans for banks  $i$  at  $t$
- $CAR_{i,t}$  = Capital Asset Ratio for bank  $i$  over time  $t$
- $LR_{i,t}$  = Lending rate for bank  $i$  at time  $t$
- $LDR_{i,t}$  = Loans to Deposit ratio for bank  $i$  over time  $t$
- $SIZE_{i,t}$  = The size for bank  $i$  over time  $t$
- $ROA_{i,t}$  = Return on Assets for bank  $i$  for period  $t$
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  = Beta coefficients
- $e$  = error term

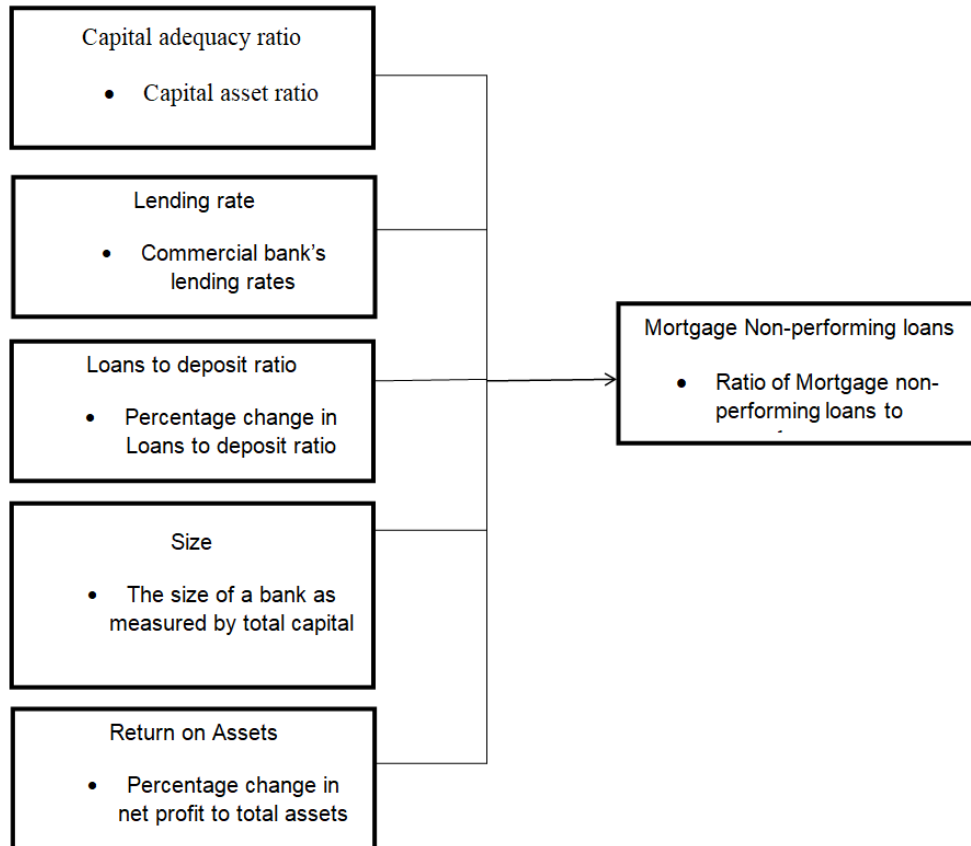


Fig. 1. Conceptual framework

**4. RESULTS**

Table 1 of test of between subject effects present the ANOVA results of unsystematic factors and mortgage non-performing loans interaction effect. Loans to deposit ratio, Size and ROA had P-values which are less than 0.05, indicating that they are statistically significant with and F- value of 9.227, 7.062 and 16.971 respectively. Capital asset ratio and Lending rate had P- values of 0.824 and 0.190 which are greater than 5% level of significance indicating that they do not affect mortgage non-performing loans.

The partial eta squared statistics reports the real significance of each variable, centered on the ratio of the sum of squares (variation) accounted for by the variable, to the sum of the variation accounted for by the variable and the variation left to error. Partial eta squared of capital asset ratio, lending rate, loans to deposit ratio, Size and ROA showed a smaller amount of variation accounted for by Mortgage non- performing loans.

The R squared of 0.408 showed that 40.8 percent of the change in Mortgage non-

performing loans is collectively explained by capital asset ratio, lending rate, loans to deposit ratio, Size and ROA.

The fixed effects panel regression model results indicated that capital asset ratio had negative and statistically insignificant effect on Mortgage non-performing loan as depicted by a P- value of 0.824 which is greater than 0.05. The results implied that capital asset ratio in Kenya's commercial banks does not affect Mortgage non-performing loans.

Lending rate results specified a negative and statistically insignificant effect on Mortgage non-performing loans as pointed out by a P- value of 0.190 which is greater than 0.05 implying lending rate is not affected by Mortgage non-performing loans.

The results also showed that loans to deposit ratio had a positive and statistically significant effect on mortgage non-performing loans as indicated by a P-value of 0.004 at 5% level of significance.

**Table 1. Tests of between-subjects effects**

Source	Dependent variable: Mortgage non-performing loans					
	Type III Sum of squares	Sumdf	Mean square	F	Sig.	Partial eta squared
Corrected Model	419.670 <sup>a</sup>	5	83.934	7.724	.000	.408
Intercept	23.684	1	23.684	2.179	.145	.037
CapitalAsset ratio	.542	1	.542	.050	.824	.001
LendingRate	19.133	1	19.133	1.761	.190	.030
LoanstoDepositratio	100.269	1	100.269	9.227	.004	.141
Size	76.737	1	76.737	7.062	.010	.112
ROA	184.422	1	184.422	16.971	.000	.233
Error	608.537	56	10.867			
Total	2690.141	62				
Corrected Total	1028.207	61				

R Squared = .408 (Adjusted R Squared = .355)

**Table 2. Parameter Estimates**

Parameter	Dependent variable: Mortgage non -performing loans						
	B	Std. Error	t	Sig.	95% Confidence Interval		Partial eta squared
					Lower bound	Upper bound	
Intercept	4.941	3.347	1.476	.145	-1.764	11.646	.037
CapitalAsset ratio	-.027	.121	-.223	.824	-.270	.216	.001
LendingRate	-.173	.130	-1.327	.190	-.433	.088	.030
LoanstoDepositratio	.077	.025	3.038	.004	.026	.127	.141
Size	.462	.174	2.657	.010	.114	.810	.112
ROA	-1.512	.367	-4.120	.000	-2.247	-.777	.233

Further, bank size results indicated a positive and statistically significant effect on mortgage non-performing loans as depicted by a P- value of 0.010 which is less than 0.05 implying that bank size affects mortgage non-performing loans in Kenya's commercial banks.

ROA results indicated a negative but statistically significant effect on mortgage non-performing loans as exhibited by a P-value of 0.000 which is less than 5% level of significance. The results demonstrated that a decrease in return on assets by one percent lead to an increase in mortgage non-performing loans due to diminishing levels of profits.

## 5. DISCUSSION

The fixed effects panel regression model results indicated that capital asset ratio had negative and statistically insignificant effect on Mortgage non-performing loans. The results are consistent with the work of [20] that used panel data methodology including random effects model to recognize the unsystematic determinants and systematic determinants of non-performing loans in the United Arab Emirates (UAE) conventional banks for the period 2008 to 2015. Amongst the unsystematic determinants, non-performing loans (NPL, t-1) indicated a significant positive relationship with NPL and liquidity ratio indicated a significant negative relationship with NPL, whereas capital adequacy ratio was found to have an insignificant relationship due to the robust banking regulations in UAE.

Lending rate results specified a negative and statistically insignificant effect on Mortgage non-performing loans. The results contradicted with the work of [16] who examined the influence of systematic and unsystematic determinants of non-performing loans (NPLs) in the entire banking system of Bangladesh. They performed an analysis for the period from 1979 to 2018 by an autoregressive distributed lag (ARDL) model and checked the robustness of the results in the vector error correction (VEC) model. The outcomes of their research demonstrated that both systematic and unsystematic factors affected NPLs significantly. Among the unsystematic elements, bank loan growth, net operating profit, and deposit rates negatively influenced NPLs with statistical significance while bank liquidity and lending rates had a significant positive association with NPLs.

The results also showed that loans to deposit ratio had a positive and statistically significant

effect on mortgage non-performing loans. The findings contradicted with the work of [2] who used GMM to examine the determinants of non-performing loans in Eurozone area's banking system utilizing aggregate panel data of 14 countries over the period 2000 to 2008. Makri et al. [2] findings indicated a negative relationship between capital ratio, return on equity and GDP growth and non-performing loans. Conversely, the return on asset ratio, the loan to deposit ratio, inflation rate and budget deficit were found to have no effect on Non- performing loans.

Further, bank size results indicated a positive and statistically significant effect on mortgage non-performing loans. The results are in line with the work of [15], in his study of non-performing loans, Hue pointed out that lenient credit terms, credit orientation, bank size, cost efficiency, poor loan follow-up, poor risk assessment, strict admittance exit policies, rapid loan growth and high interest rate as bank specific determinants of non-performing loans. Hue results found out that the most significant factors affecting NPLs were risk assessment and monitoring, borrower admittance, credit orientation, operating efficiency, bank size, credit terms, margin of interest and rapid loan growth.

ROA results indicated a negative but statistically significant effect on mortgage non-performing loans. The results support the work of [14] who investigated the unsystematic causes for bad loans in commercial banks in Namibia with an objective of finding out the contributing factors that influence bank's non-performing loans. Johannes applied different techniques of unit root, co-integration, and impulse response and forecast error variance decomposition on quarterly data for the period 2001:Q1 to 2014:Q2. The findings showed that return on assets, return on equity, loan to total asset ratio and log of total assets were the key drivers of non-performing loans. The negative association amongst non-performing loans and return on assets as well as return on equity proved that banking institutions with greater returns tend to be reluctant in diversifying their income streams and participating in uncertain events such as giving risky loans.

## 6. CONCLUSION

It is evident from the literature that commercial banks across the globe are experiencing increasing levels of mortgage non-performing loans. The fixed effects panel regression model



results indicated that capital asset ratio and lending rate had negative and statistically insignificant effect on Mortgage non-performing. Loans to deposit ratio and bank size results indicated a positive and statistically significant effect on mortgage non-performing loans implying that loans to deposit ratio and bank size affects mortgage non-performing loans in Kenya's commercial banks. ROA results indicated a negative but statistically significant effect on mortgage non-performing loans.

Banks in Kenya should follow the regulators guidelines of maintaining minimum capital reserve so as to cushion themselves from adverse effects of non-performing loans. Commercial banks in Kenya should also aim at maximizing returns which in turn improves profitability of commercial banks; this is because commercial banks with high profits levels tend to have low mortgage non-performing loans. The study recommended further the enactment of internal policies by banks in regard to unsystematic factors in order to minimize the surge in mortgage non-performing loans especially in Kenya.

### COMPETING INTERESTS

Author has declared that no competing interests exist.

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