

EFFECT OF NON-PERFORMING LOANS AND OTHER FACTORS ON PERFORMANCE OF COMMERCIAL BANKS IN MALAWI

Eston Eston Chimkono 

PhD Candidate in Business Administration (Finance), School of Business Administration
Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
Eston.chimkono@gmail.com

Willy Muturi

Senior Lecturer, School of Business Administration
Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
mmuturi2001@gmail.com

Agnes Njeru

Lecturer, School of Business Administration
Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
Agnes3198@gmail.com

Abstract

The objective of the study was to investigate the effect of non-performing loan ratio and other determinants on the financial performance of commercial banks in the Malawian banking sector. The study covered a seven-year period from 2008 to 2014. Secondary data was used. The study used correlational research technique and regression analysis was carried out. The population of the data comprised the commercial banks licensed by the Reserve Bank of Malawi. Census study was conducted. The study found that non-performing loan ratio, cost efficiency ratios and average lending interest rate had a significant effect on the performance of banks in Malawi. Cash reserve ratio variable was positively related to bank performance but was not significant. The study recommends specific support from the monetary authorities and operations-enhancing innovation on the part of the banks themselves.

Keywords: Return on Assets, Non-Performing Loan, Correlation, Bank Performance, Financial Performance, Multicollinearity

INTRODUCTION

Why Non-Performing Loans (NPL) Matter

NPLs impinge on banks' objectives in a number of ways. Balasubramaniam (2013) argues that there are a number of implications that NPLs entail on the operations of banks. To begin with, managing NPLs involves a lot of time and efforts of management. This is an indirect cost which the bank has to bear due to poor asset quality. The opportunity cost of the 'lost' time and efforts is that management would handle fruitful activities which would have given good returns. Second, most banks have instituted specialised departments and hired specialised financial engineers and that deal with NPLs. This constitutes an additional cost to the bank. Third, since banks do not earn interest income on NPLs, the bad assets deny the bank of interest income that would have been earned. The NPLs do not only block the interest income, but they entail a missed chance of investing in some return-earning investment, thereby affecting future stream of profits. Fourth, NPLs imply blocked income which constrains the bank of cash at hand. Banks are therefore forced to borrow and this results in additional cost to the bank. Fifth, NPLs entail a reputational risk to the bank. If a bank is facing problem of NPLs, then it adversely affects its credit rating and would limit its opportunities of co-financing and syndication with other banks.

Non-Performing Loans and Bank Performance

NPLs are important because they affect the financial intermediation role of commercial banks which constitutes the banks' main source of their income, and ultimately, the financial stability of an economy (Klein, 2013). For this reason, NPLs have increasingly attracted attention recognising that a consequence of large amount of NPLs in the banking system is bank failure as well as a symptom of economic slowdown (Lata, 2014). This is largely because the financial performance of any commercial bank is measured in terms of profitability and NPLs have a direct adverse impact on the bottom line due to the provisions which the banks are forced to make on account of the NPLs (Balasubramaniam, 2013). Other researchers have commented that an increase in NPLs rate is a reflection of the failure of credit policy (Saba, Kouser and Azeem, 2012). Khemraj and Pasha (2012) explain that high percentages NPLs are often associated with performance problems of banks and financial crises in both developing and developed countries. Fofack (2005) associates the occurrence of banking crises with a massive accumulation of NPLs and further observes that the NPLs account for a significant portion of total assets of insolvent banks and financial institutions.

Global Perspective of NPLs

A review of the global perspective on the effect of NPLs reveals a consistent pattern of NPL trend, especially, in light of the pre and post global financial crisis. Evidence from Asia indicates that there was more than threefold increase in the volume of NPLs in Indonesian banks in the period leading up to the financial crisis (Cortavarria et al, 2000) and over sixty banks collapsed during the crisis. NPLs represented about seventy five percent of total loan portfolios. Karim, Chan, Hassan, 2010, indicate that in both Malaysia and Singapore, growth and innovation was constrained by banks which faced the accumulation of NPLs which eroded their capital. In the Middle East, according to Espinoza and Prasad (2010), the global crisis exposed the vulnerabilities of the banks in the Gulf Cooperation Council (GCC) to varying degrees. GCC countries experienced significant banking credit between 2003 and 2008. The favourable macroeconomic environment preceding the global crisis had been conducive to favourable credit conditions and lower NPLs. In 2009, the NPLs rose sharply and credit stagnated, causing worries that economic recovery could be stagnated by credit constraints. NPL levels increase as the economic situation deteriorates and interest payments rise. Conversely, deterioration in banks' balance sheets may feed back into the economy because banks will tighten credit conditions, especially if there remains uncertainty in the valuation of projects and of assets. Krueger and Tornell (1999) attribute the credit crunch in Mexico after the 1995 crisis partially to NPLs. They point out that banks were burdened with credits of negative real value, thereby reducing the capacity of the banks in providing fresh fund for new projects. In Asia, both Malaysia and Singapore, growth and innovation has been constrained by banks which faced the accumulation of NPLs which eroded their capital (Karim et al, 2010).

Commenting on the Central and Eastern and South-Eastern Europe (CESEE), Klein (2013) discloses that high and rising levels of NPLs in most of the CESEE countries exerted a strong pressure on banks' balance sheets which adversely effected the banks' lending operations. NPLs in the region increased to an average of 11 percent (end-2011) from just above 3 percent in 2007 and this was a destabilizing factor, with the feedback effects from the banking system to economic activity undermining a sustained recovery and posed significant vulnerabilities going forward. In North America, the USA saw its NPL ratio rise to an alarming 7.50 percent during its peak in the first quarter of 2010 from below 3.0 percent, prior to 2008, in light of the ongoing financial crisis, though it declined to 5.55 percent during the fourth quarter of 2011.

In South America, Argentina experienced domestic credit growth of 36.14 percent during the second quarter of 2012, while Brazil saw domestic credit growing by 13.36 percent during the third quarter of 2012. These growth rates were not accompanied by significant increases in

NPLs at least not for Argentina, Brazil and Mexico. Bréard, Blancas, Correa and Arbe (2014), comment that asset quality metrics in South America pointed towards a record-low level of NPLs which reached 3.0 percent of total loans. The Mexican banking sector was well capitalized, however, the NPL ratio increased to 3.4 percent in December, 2013, above the 2.5 percent registered a year earlier, due to financial problems among major home builders. In Colombia, the NPL ratio rose modestly, reaching 2.1 percent in October, 2013 from 1.9 percent from previous year. In Venezuela, the local credit context remained stable. Based on official data, credit growth (only in the banking system) accelerated whilst the NPL ratio decreased to 0.6 percent in July, 2013 from 0.9 percent the previous year.

RBM's Definition of NPLs

The monetary authorities in Malawi, the Reserve Bank of Malawi, provided guidance of loan classification for Malawian banks through a directive referenced as NO.DO1-06/ASCL (RBM Directive, 2006). Loans extended by the commercial banks in Malawi are classified as 'Standard' (or 'Acceptable'), 'Special mention', 'Substandard', 'Doubtful' and 'Loss'. An asset is classified as 'Standard' or 'Acceptable' if there are no outstanding arrears and the obligor is expected to continue to comply with all terms of the loan contract; there being no reason to believe that the entity will be, subject to risk of loss.

An asset is classified as 'Special Mention' if potential weaknesses exist in the obligor's financial position and/or the collateral pledged. An asset should be classified as 'Substandard' if it has one or more well-defined weaknesses that make the full collection of the principal and interest questionable, especially when the obligor's financial condition, including net worth and/or repayment capacity, is unfavourable and is deteriorating; the pledged collateral, if any, is insufficient or is deteriorating; and/or if an actual breach of contract has occurred. At a minimum, credits that are ninety days or more past-due shall be classified as Substandard. An asset is classified as 'Doubtful' when weaknesses exist which make collection or repayment in full highly questionable and improbable based upon currently existing circumstances, conditions, and the estimated recoverable amount of the pledged collateral, if any. At a minimum, credits that are one hundred eighty days or more past-due shall be classified as Doubtful. At the time of classification, the asset is deemed Loss if it is uncollectible and of such little value that it should not be included on the books of account and financial statements of the licensed institution. An earlier prudential guideline, directive referenced as NO.DO1-93/AQ (RBM, 1993) clarifies that all loans classified as substandard, doubtful and loss are categorized as NPLs.

Composition of the Banking Sector in Malawi

The banking sector is made up of the RBM, eleven commercial banks, one leasing company and two discount houses with the RBM as the regulatory and supervisory authority of all banks and financial institutions. Relative to the development and size of the economy the Malawi banking industry is fairly developed with assets representing thirty seven percent of gross domestic product (Kaluba and Chirwa, 2015). Compared to countries within the region, Malawi's banking industry is small yet growing in terms of product range and coverage (RBM, 2010).

Problem Statement

The RBM reported a deterioration of the sector's asset quality which manifested itself in the rise and worsening of the NPL position (RBM, 2012). Clarifying on the problem, RBM (2014) indicated that the ratio of NPLs to gross loans rose between September, 2012 from 6.5% and March, 2014 when the ratio reached 15.7 percent.

Research Objective

The objective of this study was to investigate the effect of NPL ratio and other determinants of bank performance in Malawi in light of the problem as reported by the RBM.

CHOICE AND MEASUREMENT OF VARIABLES

Bank Performance

Several studies, including those carried out by Haron (2004) who studied determinants of Islamic bank profitability, Hassan and Bashir (2003), Bashir (2003), Demirguc-Kunt and Huizinga (1999) who carried out a study on the determinants of commercial bank interest margins and Naceur (2003) who studied the determinants of the profitability of the Tunisian banking industry; used ROA as a measure of performance and profitability. This observation is supported by Athanasoglou, Brissimis and Delis (2008) who argue that ROA is considered to be a core performance indicator used in the majority of empirical studies. Studies by Golin (2001) and Rose and Hudgins (2008) confirm the view that ROA is one of the most important measures of profitability in banking literature. The performance of commercial banks is normally measured by the return on assets (ROA) which reflects the ability of bank management to generate profits from the available assets.

NPL and Bank-Specific Factors

To measure the non-performing loans, the study used the NPL ratio computed as a percentage of non-performing loans to gross loans i.e. $\text{Gross NPLs} = \frac{\text{Gross NPLs}}{\text{Gross Loans}}$. Chisti

(2012) explains that asset quality can be measured on both gross and net basis. According to Achou and Tenguh (2008), NPL ratio has an inverse relationship with banks' profitability. The study also employs cost efficiency as one of the variables. Ahmad and Bashir (2013) argue that low efficiency (high inefficiency) is a signal of bad performance of senior management in running day-to-day activities and loan portfolio. Louzis, Vouldis and Metaxas (2012) submit that if a bank has "bad" management with poor skills in credit scoring, appraisal of pledged collaterals and monitoring borrowers, it is likely to experience an accumulation of NPLs. Banks which devote less effort to ensure higher loan quality will be more cost-efficient (Berger and DeYoung, 1997). This reasoning suggests negative relationship because improved management of operating expenses (lower cost to asset ratio) improves efficiency and eventually leads to higher profits. To measure cost efficiency, the study adopted the view of Athanasoglou et al (2008) who argued that efficient cost (expenses) management is an important determinant of bank profitability. It is usually measured by the ratio of total operating costs to total revenue because only operating expenses can be viewed as the outcome of bank management. i.e. $\text{Cost efficiency} = \frac{\text{Total operating costs}}{\text{Total revenue}}$. Another important variable is the Cash reserve requirement (CRR). According to Dornbusch and Fischer (1990), CRR is the specified minimum fraction of the total deposits of customers, which commercial banks have to hold as reserves either in cash or as deposits with the central bank. Some researchers hold the view that such requirements encourage disintermediation of commercial bank credit, hence adversely affect bank profitability. These include Montoro and Moreno (2011). Another group of researchers, including Friedman and Schwartz (1963) argue that an increase in CRR tends to increase the banks' credit creation ability. In support of this view, Olusanya, Oluwatosin, and Chukwuemeka (2012) also argue that, CRR has a positive impact on commercial bank loans and advances in that banks raise credit when CRR increases. In an alternative argument, Meltzer (2003) contends that a rise in CRR would have little or no impact on bank's capacity to create loans. Similarly, Chandler (1971) also supports by indicating that an increment in reserve requirements does not encourage banks to hold back their lending or sell securities or cause interest rates to rise. Wilcox (1982) found that changes in CRR had only small and statistically insignificant impacts on bank loans and investments. CRR is measured as cash reserves as a percentage of total deposits. Average lending interest rate (ALIR) is a center-piece of commercial banks' core business of financial intermediation. It constitutes the key price in the financial sector, the main transmission mechanism of monetary policy, the key medium for matching supply and demand and, normally, the key determinant of profitability (Davies and Vaught, 2012). According to Dornbush and Fisher (1990), ALIR represents the payment per dollar per year that an individual or entity which borrows from a bank or any

financial institution pays. It is therefore a cost of borrowing. Flannery (1980) explains that an increase in ALIR raises the amount of income that a commercial bank can earn on its loan portfolio and therefore increases the return on its assets. To measure the average lending interest rate, the study uses the average base lending rate which was guided by the RBM.

LITERATURE REVIEW

In East Africa, Qin and Pastory (2012) carried out a study with the objective of examining the determinants of commercial banks' performance in Tanzania. The findings revealed that liquidity and asset quality had positive impact, whilst NPLs had a negative influence on profitability. Khalid (2012) carried out a study on the impact of asset quality on profitability of private banks in India and found that asset quality had a positive significant effect on financial performance of banks. In a related study, Flamini, McDonald and Schumacher, (2009) investigated the determinants of commercial bank profitability and results were that apart from asset quality, higher returns on assets are associated with larger bank size, activity diversification, and private ownership. On their part, Olweny and Shipho, (2011), studied the effects of banking sectoral factors on the profitability of commercial banks in Kenya and found that all the bank specific factors had a statistically significant impact on profitability. Jiang, Tang, Law and Sze (2003) carried out studies on cost efficiency on the profitability of the banking sector in Hong Kong and found that both bank-specific as well as macroeconomic factors were important determinants in the profitability of banks. Specifically, operational efficiency and business diversification were found to contribute to higher returns on assets.

Abreu and Mendes (2001) studied several European countries and found that operating costs had a negative effect on profit measures despite their positive effect on net interest margins. In a similar study, Davydenko (2010) found that operating costs of a bank, as percentage of its profits, have a negative correlation with profitability. In support of this view point, other studies including those which were carried out by Bourke (1989) and Molyneux and Thornton (1992) found a significant relationship between bank profitability and expense management. In another study, Karim, Chan and Hassan (2010), investigated the relationship between NPLs and bank efficiency in Malaysia and Singapore. The results showed that higher NPLs reduced cost efficiency. Likewise, lower cost efficiency increased NPLs. The result also supports the hypothesis of bad management proposed by Berger and DeYoung (1997) that poor management in the banking institutions results in bad quality loans, and therefore, escalates the level of NPLs. In examining the significance of cash reserve requirement, Olokoyo (2011) carried out a study on the determinants of commercial banks' lending behaviour in Nigeria. The study found that lending interest rate, cash reserve ratio and liquidity ratio were

significant variables with a positive relationship to credit. Olusanya et al (2012) researched on the determinants of lending behaviour of commercial banks in Nigeria and included the cash reserve ratio among the independent variables. The results of the study showed that there is a direct or positive relationship between commercial bank loan and advances and the cash reserve requirement ratio. In yet another study, Malede (2012) examined the role of cash reserve ratio in his study on determinants of commercial banks' lending in Ethiopia. The results showed that there is significant relationship between commercial bank lending and its size, credit risk, gross domestic product and liquidity ratio. Okoye and Onyekachi, (2013) examined the impact of bank lending rate on the performance of Nigerian deposit money banks between 2000 and 2010. The study concluded that lending rates and monetary policy rate are true parameters of measuring bank performance. In another study, Flannery (1980) carried out a study on banks in the USA and found out that lending rates had a significant positive impact on the financial performance of the banks. Chepchirchir (2011) in Kenya carried out a study and found that the coefficients for liquidity, capital, expense management (cost efficiency), bank size, market share, inflation and loan loss provisions (asset quality) were the most significant in determining profitability in the Kenyan banking sector.

A number of studies have been carried out on the Malawi banking sector. Chirwa (1999) carried out a study on banks in Malawi over the period 1970-94 and found that there existed a long-run relationship between profitability and market structure. In another study, Chirwa (2001), found a significant relationship between monopoly power and commercial bank profitability, but rejected the efficient market hypothesis. On his part, Lipunga (2014) found that bank size, liquidity and management efficiency had a statistically significant impact on ROA but capital adequacy was not significant. Kanyoma (2006) concluded that bank privatization in Malawi was associated with low profitability and that other factors which included state ownership and market share, significantly impacted on bank profitability. In yet another study, Mlachila and Chirwa, (2002) found that interest rate spreads increased significantly following liberalization and this was attributable to high monopoly power, high reserve requirements, high central bank discount rate and high inflation.

METHODOLOGY

Census study was conducted under which data was collected in respect to ten commercial banks in Malawi. The eleventh bank was left out considering that it had been in operation for only three years at the time of the study. The study covered a seven-year period from 2008 to 2014. The choice of variables, the number of banks and the time period was mainly determined by availability and completeness of data. The data used in the study was obtained from the

audited financial statements of the individual banks, where available, and from Bankscope database. The study used a correlational research technique and multiple linear regression was employed in line with similar studies including those carried out by Khalid (2012), Olweny and Siphon (2011), Olokoyo (2011), Malede (2012), Chepchirchir (2011) and Ngugi (2013). The multiple linear regression model used in the study is as follows: $P = \beta_0 + \beta_1 NPLR_i + \beta_2 CER_i + \beta_3 CRR_i + \beta_4 ALIR_i + \epsilon$; where:

P is Performance of commercial banks in the Malawian banking sector; $NPLR_i$ is non-performing loan ratio for bank i; CER_i is Cost efficiency ratio for bank i; CRR_i is Cash Reserve Requirement; $ALIR_i$ is Average Lending Rate; ϵ is the error component; β_0 is the y-intercept (constant); and β_i ; $i = 1, 2, 3$ and 4 represents the independent variable coefficients to be estimated.

Pre-Regression Tests

The study carried out multicollinearity and heteroscedasticity tests. The test for multicollinearity was carried out using the VIF (Variance Inflation Factor) which quantifies the severity of multicollinearity in ordinary least squares. It provides an index that measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increased due to collinearity. According to Myers (1990), a VIF greater than 10 would be a cause of concern. If the VIF value lies in the range of 1-10 ($VIF < 1$ or > 10), it may be concluded that there is no multicollinearity. If the $VIF < 1$ or > 10 , then it can be concluded that multicollinearity exists. The Table 1 below gives the outcome of the test.

Table 1 : VIF Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
NPLR	.432	2.314
CER	.677	1.478
CRR	.489	2.047
ALIR	.613	1.632

a. Dependent Variable: ROA

The above table shows VIF values of 2.314, 1.478, 2.047 and 1.632, for NPLR, CER, CRR and ALIR, respectively, meaning that the VIF values obtained are between 1 and 10. It was, therefore, concluded that there were no multicollinearity symptoms. The study also undertook a test for heteroscedasticity. Heteroscedasticity is useful to examine whether the error terms have a constant variance (Studenmund, 2011). There are several statistical methods that can be

used to determine whether a model is free from the problem of heteroscedasticity or not. This study used Glejser test (Glejser, 1969) and found that indeed there was heteroscedasticity problem. Therefore, the study used the Generalized Least Squares (GLS) model to estimate the equation. GLS yields estimators which are best, linear and unbiased when either heteroscedasticity or serial correlation is present.

EMPIRICAL RESULTS

Model Testing

Table 2: Results from GLS regression model

R ² within	R ² between	R ² Overall	F	p-value
.6269	.8751 ^a	.7520	57.39	.000

a. Predictors: (Constant), Asset Quality, Cash Reserve Requirement, Cost Efficiency, Lending Interest Rate

The results of the GLS model shown above indicate that the overall coefficient of determination R² was 0.7520 which means that the independent variables explained 75.2% of the variations in the dependent variable. This is an indication that there is a strong relationship between the dependent variable, bank performance as measured by Return on Assets, and independent variables in the Malawian banking sector. The results further show that F=57.39 and P-value = 0.000 which is less than 5%. This indicates that the overall model is statistically significant. It further implies that Asset Quality, Cost Efficiency, Cash Reserve Requirement and Lending Interest Rate had a significant effect on the performance of commercial banks in the Malawian banking sector.

Table 3: Coefficients from Regression of the Overall Model

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
NPLR	-0.0900	0.0293	-3.07	0.002	-0.147 -0.032
CER	-0.2117	0.0134	-15.76	0.000	-0.238 -0.185
CRR	-0.1356	0.0462	-2.93	0.087	-0.201 0.014
ALIR	0.1081	0.0362	2.99	0.022	0.013 0.179
Constant	0.1569	0.0127	12.34	0.000	0.131 0.181

a. Dependent Variable: Return on Assets (ROA)

b. Predictors: (Constant), AQ, CER, CRR, LIR.

Summary of the Findings

Non-Performing Loan Ratio

The NPLR turned out with a beta coefficient of -0.090 meaning that it was negatively related to financial performance. The results also indicate that NPLR is significant at 1% level. This outcome is in line with several studies including one carried out by Lata (2014) who found out that non-performing loans had an adverse effect on the banks in Bangladesh. The outcome also concurs with Roy (2015) who found that non-performing loan is one of the major factors of influencing banks profitability and it is statistically significant with a negative effect on net profit margin of listed banks in Dhaka. The result further agrees with Muasya (2008) who found that non-performing loans adversely affected the performance of banks in Kenya. Additionally, the results confirm the study by Li and Zou (2014) who found that NPLR had a significant effect on ROA in European banks.

Cost Efficiency

The CER had a beta coefficient of -0.211 implying a negative relationship with bank performance. The result also indicates that CER is statistically significant variable at the 1% level. This outcome reinforces the study carried out by Lipunga (2014) who found that management efficiency, among other factors, had a statistically significant impact on ROA on banks in Malawi. The result also agrees with the findings by Karim et al (2010) who observed that that poor management in the banking institutions resulted in bad quality loans, escalated the level of non-performing loans and adversely affected the performance of banks in Singapore. Additionally, the results concur with those obtained from a study which was undertaken by Munyambonera (2013) who found that operational efficiency was significant and negatively affected bank profitability. A study by Berger and DeYoung (1997) also found a similar outcome.

Cash Reserve Requirement

CRR was found to have a beta coefficient of -0.135, implying a negative relationship with bank performance. This variable is not statistically significant at both 1% and 5% levels and implies that CRR is not a significant driver of performance in the Malawi banking sector. This outcome agrees with studies carried out by Meltzer (2003), Chandler (1971) and Wilcox (1982) who found that changes in reserve requirements did not have any significant impacts on loans and investments, hence, bank performance. On the other hand, the outcome does not concur with results which were obtained by Chika (2014) who established that CRR had a significant effect. Ajayi and Atanda (2012) also found that cash reserves ratio (and liquidity ratio) exerted negative

and significant effect on banks' total credit, hence profitability, in Nigeria. The result also contradicts the outcomes of studies by Olusanya, et al (2012) and Friedman and Schwartz (1963) who claimed that a raise in commercial bank cash required reserves tends to increase the banks' credit creation ability, hence, profitability.

Average Lending Interest Rate

ALIR had a beta coefficient of 0.1081 implying a positive relationship between ALIR and ROA. The outcome also indicates that the variable is statistically significant at the 5% level. This finding is consistent with Borio, Gambacorta and Hofmann (2011) who found a positive relationship between the level of interest rates and the slope of the yield curve on the one hand, and bank profitability – ROA – on the other. The results also concur with those of Khan (2014) who found that in Pakistan there was strong and positive correlation between interest rate and commercial banks' profitability meaning that if the value of interest rate is increased/decreased then as result, value of bank profitability also increased/decreased. Additional studies which had a similar outcome include those of Flannery (1980) in the USA, Okoye and Onyekachi, (2013) in Nigeria and Haron (2004) who studied determinants of profitability of Islamic banks.

POLICY RECOMMENDATIONS

Non-Performing Loan

The regulatory framework should create and support an environment where commercial banks in Malawi have strong credit risk management practices. This can be achieved through strengthening the banks' internal risk management systems to strengthen the process of identification, measurement and monitoring of credit risk. The regulatory authorities should also institute appropriate prudential regulations that would reduce the risk of accumulation of non-performing loans. Such regulations should include setting benchmarks for non-performing loan ratio, limits on loan concentrations, single obligor limits, sector limits, and guidance on appropriate loan-to-asset ratios; and there should be clear consequences for violation of these.

On their part, it is recommended that the banks' management teams should sharpen their respective internal credit control and due diligence procedures. These include regular project monitoring, close follow-up on repayments from the borrowers, periodic collateral assessment, instituting appropriate and timely remedial measures for accounts in distress, etc. The banks should also put in place robust credit on-boarding system to minimize the incidence of non-performing loans on their books. This may be realised by employing competent staff, putting in place well-functioning operations and technical committees as well as credit

committees to review any new transactions. For transactions which are already on the books, there should be an efficient monitoring system.

Cost Efficiency

The regulatory authorities should ensure commercial banks are prudent in their expenditure by imposing appropriate industry cost efficiency ratios which all commercial banks should comply with. The authorities should also introduce suitable penalties for non-compliance. The commercial banks themselves should be innovative and institute cost control activities such as introduction of technology-based banking services and controlled branch expansions which could potentially minimize costs via reduction of the number of staff required and the branch opening costs. This should, however, be balanced in such a way not to stifle the future growth strategy of the banks. Cost control could also be achieved through minimization of hiring of consultants and outsourcing of services which can be handled by the bank staff.

Cash Reserve Requirement

Considering the negative correlation that CRR has with performance, the monetary authorities should keep this policy tool at an optimal level and maintain a balance that would ensure that the banks are regulated and at the same time, that the rate facilitates investment in the economy. Despite CRR turning out non-significant, it is important that the commercial banks continue to operate optimally even in events of any policy changes of the CRR. The study, therefore, recommends that the banks should come up with innovative ways of ensuring that they enhance their financial capacity to enable them smoothly handle any possible policy movements in CRR. One way of achieving this is to attract a financially strong equity partners or shareholders who could inject funds in the banks at call whenever the monetary authorities institute a policy change resulting in an upward adjustment in CRR.

Lending Interest Rates

Monetary authorities should monitor the bank lending rates and make appropriate interventions. Specifically, in the event of poor performance of commercial banks, the authorities should facilitate the enhancement of the banks' profitability with a monetary policy that would lead to a rise in interest rates. This is in recognition of the fact that the intermediation function is more efficiently carried out by a healthy banking sector. However, in order to cushion consumers from exploitation by the commercial banks, the monetary authorities need to exercise their monitoring roles strictly and take disciplinary action against any commercial banks that may be increasing the interest rates baselessly.

On their part, the banks should lend at favourable interest rates such that the interest obligations do not adversely affect the viability of the borrowed funds, and cause the loans to become NPLs in the banks' books. Additionally, as the demand for the loans increases due to the favourable lending rates, the banks should enhance their credit management policies and ensure that the customers are adequately screened to eliminate those who cannot repay the loans. More importantly, the banks themselves need to create a situation of relief from significant dependence on interest-based income and cushion their performance from movements in interest rate policy which mainly affects interest-based income. To attain this position, the banks should diversify their revenue sources by having an appropriate mix of interest and non-interest bearing assets in their portfolios.

REFERENCES

- Achou, F. T., & Tegnuh, N. C. (2008), Bank Performance and Credit Risk Management, Master Degree Project School of Technology and Society, University of Skovde Press.
- Ahmad, F., & Bashir, T. (2013). Explanatory Power of Bank Specific variables as Determinants of Non-Performing Loans: Evidence from Pakistan Banking Sector, *World Applied Sciences Journal*, 9, 22.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability, *Journal of International Financial Markets, Institutions and Money*, 18(2), 121-136.
- Bashir, A. H. M. (2003), Determinants of Profitability in Islamic Banks, *Islamic Economic Studies*, 11(1), 31-57.
- Berger, N. A., & De Young, R. (1997). Problem Loans and Cost Efficiency in Commercial Banks, Washington DC. *Journal of Banking and Finance*, 12(6), 849-870.
- Bréard, P. F. G., Blancas, D., Correa, M., & Arbe, G. (2014). Scotia Economics, Global Economics, Latin America Regional Outlook.
- Chepchirchir, S. S. (2011). Determinants of Commercial banks profitability in Kenya. University of Nairobi.
- Cortavarria, L. C., Dziobek, A., Kanaya & Song, I. (2000). Loan Review, Provisioning, and Macroeconomic Linkages. IMF Working Paper, WP/00/195.
- Davies, M. and Vaught, J. (2012). Interest Rates And Bank Profitability In the South Pacific, IMF Working Paper.
- Demirguc-Kunt, A., & H. Huizinga, H. (1999). Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence, *World Bank Economic Review*, 13, 379-408.
- Dornbusch, R., & Fischer, S. (1990). *Macroeconomics*. (5th ed.). McGraw-Hill, Inc.
- Espinoza, R., & Prasad, A. (2010). Non-performing Loans in the GCC Banking System and their Macroeconomic Effects, IMF Working Paper, Middle East and Central Asia Department, WP/10/224.
- Flannery, M. J. (1980). How do changes in market interest rates affect bank profits? Philadelphia FED Research Papers, Federal Reserve Bank of Philadelphia, October, 1980.
- Friedman, M., & Schwartz, A. (1963), *Money and business cycles*, Review of Economics and Statistics.
- Golin, J. (2001). *The Bank Credit Analysis Handbook: A Guide for Analysts, Bankers and Investors*. John Wiley & Sons (Asia).

- Glejser, H. (1969). A New Test for Heteroscedasticity. *Journal of the American Statistical Association* 64 (235): 315–323.
- Haron, S. (2004). Determinants Of Islamic Bank Profitability, *Global Journal of Finance and Economics*. USA, 1(1).
- Hassan, K., & Bashir, A. H. M., (2003), Determinants of Islamic Banking Profitability, Proceedings of the ERF 10th Annual Conference, Marrakesh, Morocco, 16-18 December, 2003.
- Karim, M. Z. A., Chan S. G, & Hassan, S. (2010). Bank Efficiency and Non-Performing Loans: Evidence From Malaysia and Singapore *Prague Economic Papers*, 2, 2010.
- Khalid, A. C. (2012). The impact of Asset Quality on Profitability of Private Banks in India: A Case Study of JK, ICICI, HDFC & YES Banks, *Journal of African Macroeconomic review*, ISSN 2220-945X. 2(1).
- Klein, N. (2013). Non-Performing Loans in CESEE: Determinants and Impact on Macroeconomic Performance, IMF Working Paper, WP/13/72.
- Krueger, A. O., & Aaron Tornell, A., (1999), The Role of Bank Restructuring in the Recovery from Crises: Mexico 1996 – 98, NBER Working Paper No. 7042, 1999.
- Kwambai, K. D., & Wandera, M. (2013), Effects Of Credit Information Sharing On Nonperforming Loans: The Case of Kenya Commercial Bank Kenya, *European Scientific Journal*, May 2013 Edition, (9)13.
- Li, F., & Zou, Y. (2014), The impact of Credit risk management on profitability of commercial banks: a study of Europe. UMEA School of Business and Economics, Unpublished MBA Thesis.
- Lipunga, A. M. (2014), Determinants of Profitability of Listed Commercial Banks in Developing Countries: Evidence from Malawi, *Research Journal of Finance and Accounting*, ISSN 2222-1697, 5(6), 41.
- Louzis, D. P., Vouldis, A. T., & Metaxas, V. L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance*, 36 (4), 1012-1027.
- Malede, M. (2014), Determinants of Commercial Banks Lending: Evidence from Ethiopian Commercial Banks, *European Journal of Business and Management*, ISSN 2222-1905, 6(20), 2014.
- Meltzer, A. H. (2003), *A History of the Federal Reserve*, Chicago, University of Chicago Press, 1, 1913-1951.
- Naceur, B. (2003), The determinants of the Tunisian banking industry profitability: Panel evidence, Paper Presented at the Economic Research Forum (ERF) 10th Annual Conference, Marrakesh-Morocco, 16-18 December, 1-17.
- Okoye, V., & Onyekachi, E. R. (2013), Effect Of Bank Lending Rate On The Performance Of Nigerian Deposit Money Banks, *International Journal of Business and Management Review*, 1(1), 34-43.
- Olokoyo, F. O. (2011), Determinants of Commercial Banks' Lending Behavior in Nigeria, *International Journal of Financial Research*, 2 (2).
- Olusanya, S. O., Oluwatosin, O. A., & Chukwuemeka, O. E. (2012), Determinants of Lending Behaviour Of Commercial Banks: Evidence From Nigeria, A Co-Integration Analysis (1975-2010) *IOSR Journal Of Humanities and Social Science (JHSS)* ISSN: 2279-0837, ISBN: 2279-0845. 5(5), 71-80.
- Olweny, T., & Shiphoo, T. M. (2011). Effects Of Banking Sectoral Factors On The Profitability Of Commercial Banks In Kenya, *Economics and Finance Review*. 1(5), 1-30.
- Ngugi, K. (2013), Influence Of Intellectual Capital On The Growth Of Small And Medium Enterprises In Kenya, *International Journal Of Arts And Entrepreneurship*, Special Issue, 2013, ISSN 2307-6305.
- Rose, P., & Hudgins, S, (2008), *Bank management & financial services*. (7th ed). Macgraw-hill.
- Studenmund, A. H. (2011). *Using econometrics: a practical guide*. (6th ed). Boston, Massachusetts: Pearson.
- Wilcox, J. A. (1982), *Excess Reserves in the Great Depression*, University of California, Berkeley, Working Paper 128, 1374.