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Influence of Asset Liability Management on Financial Performance of Commercial Banks in Rwanda: Camel Model Approach

Immaculee Mukasinayobye[1], Dr Patrick Mulyungi[2]

[1, 2] Jomo Kenyatta University of Agriculture and Technology

Abstract: ***Sound asset liability management is a prerequisite for a financial institution's stability and continuing profitability, while deteriorating asset liability management is the most frequent cause of poor financial performance and condition With the prevalent challenges in the financial sector such as non-performing loans, slow growth of financial inclusion, limited securities for the loan seekers, stiff competition among the firms in the banking industry among others in the Rwanda's banking industry, there is need for sound asset liability management. The purpose of this study is to assess the influence of asset liability management on financial performance of commercial banks in Rwanda. The specific objectives were to determine the influence of capital adequacy on financial performance of commercial banks in Rwanda, to investigate the influence of income diversification on financial performance of commercial banks in Rwanda and lastly to determine the influence of operating efficiency on financial performance of commercial banks in Rwanda. The study adopted descriptive quantitative and correlational study design. The population of the study consisted of staff in the departments of finance, operations, credit and risk in all the 11 commercial banks in Rwanda. Purposive, stratified and simple Random sampling techniques were utilized in sample selection. The study used secondary and primary data. Primary data was collected using closed ended questionnaires whereas secondary data was sourced from quarterly financial statements of various banks and verified by the BNR reports to ascertain the accuracy of the figures. The findings indicated a positive significant influence of asset liability management on financial performance. The study recommended that banks should embrace income diversification sources but such sources should be properly managed to yield success,***

Keywords: Asset liability, asset liability management, financial performance, commercial banks

1. Introduction

The financial environment of any economy consists of typically five components, namely: money, financial instruments, financial institutions, rules and regulations and financial markets. Among the various financial institutions, banks are a fundamental component (Dhanabhakyam & Kavitha, 2012). The studies of Misra and Aspal, (2013) on the role of the financial system in economic growth revealed a strong correlation between economic growth and financial system development. Therefore, Bank system as a vital part of financial system plays a key role in the economic development of countries (Said &Tumin, 2011). Specifically, Commercial banks which form the greatest percentage of the banking system play an important role in the development of a country. A sound, progressive and dynamic banking system is a fundamental requirement for economic development. As an important segment of the tertiary sector of an economy, commercial banks act as the backbone of economic growth and prosperity by acting as a catalyst in the process of development. They inculcate the habit of saving and mobilize funds from numerous small households and business firms spread over a wide geographical area. The funds so mobilized are used for productive purposes in agriculture, industry and trade (Vossen, 2010).

Given the critical role that the banking sector plays in economic growth of a country through stimulation of capital formation, innovation and monetization and facilitation of monetary policy, it is imperative to carefully evaluate and analyze the performance of banks to ensure a healthy financial system and an efficient economy (Gupta, 2014). Precisely, there is need to explore the underlying factors that determines the performance of commercial banks. This will be essential to the bank managers, the government, national banks which act as regulatory authorities for example BNR in a case of Rwanda and other players in the financial industry in achieving sound financial system. The performance of banks can be analyzed in different angles for example financial performance which majorly focus on profitability, growth performance, liquidity performance among others. This study however will focus mainly on financial performance of banks in Rwanda..Aburime (2008) observed that the importance of bank financial performance can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. It is not merely a result, but also a necessity for successful banking in a period of growing competition on financial markets. Hence the basic aim of every bank management is to maximize profit, as an essential requirement for conducting business.

2. Statement of the Problem

The banking sector in Rwanda has become very competitive in the recent past with the players in the industry taking keen interest on the financial performance as it is the prerequisite for the banks survival both in the short term and long term. With the continued entry of new players in the industry and a rise in the number of NBFIs that also offer financial services, there is need for adoption of prudent management policies and strategies that propels the banks forward in terms of increased performance of which financial performance forms the major integral part. Banks face

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several risks in their operations which may affect their performance. These risks may be traced to the assets and liabilities of the bank which ultimately threatens the financial position of the bank and hence its long term survival. This is evident in Rwanda with the increased number of non-performing loans overtime. This trend may be caused by among other factors banks inability to manage its assets and liabilities of which loans are included. There is therefore need for banks to come up with proper measures to manage assets and liabilities in order to mitigate such risks.

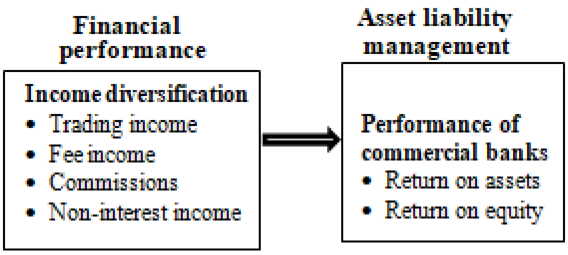
Sound asset liability management is a prerequisite for a financial institution‘s stability and continuing profitability, while deteriorating asset liability management is the most frequent cause of poor financial performance and condition. Commercial Banks must therefore ensure that the management of asset performance is efficient and effective. On that basis, it is simply good business to put asset liability management at the _front end‘ by managing it strategically. The objective of asset liability management is not to eliminate risk. Rather, it is to manage risks within a framework that includes self-imposed limits. In setting limits for particular types of risk, a bank should consider its solvency position and its risk tolerance. Limits should be set after careful consideration of corporate objectives and circumstances, and should take into account the projected outcomes of scenarios run using a range of plausible future business assumptions. Within these limits, risks can be reduced if this is cost effective, or increased, if justified by the expectation of enhanced returns and the availability of additional capital, without endangering the capacity of the bank to meet its commitments to stakeholders (Mihail, 2009).

With the prevalent challenges in the financial sector such as non-performing loans, slow growth of financial inclusion, limited securities for the loan seekers, stiff competition among the firms in the banking industry among others, there are several studies that have been carried out regarding performance of financial institutions and ways of risk mitigation in Rwanda. However most of these studies have focused on credit risks management, loan portfolio management and performance of the banks. This offers a partial analysis of the effect of assets and liabilities management on financial performance of commercial banks in Rwanda. No study has analyzed the influence of assets liability management and financial performance in totality despite the fact that it’s key towards financial sector stability through shedding light on the key asset liability management strategies that drives the financial sector forward.

3. Objectives of the Study

The general objective of the study was to analyze the effect contract management practices on performance of road construction projects in Kigali City. Some of its specific objectives was to investigate the influence of income diversification on financial performance of commercial banks in Rwanda

4. Conceptual Framework



5. Research Methodology

- **Research Design**: This study adopted descriptive quantitative and correlational research design.
- **Target Population:** The target population for this study was staff of 11 commercial banks in Rwanda working at the main branches in the departments of finance, operations, credit and risk. They included the heads of these departments in the main branches and other staff in the four departments. The study selected the main branches only due to financial and time resources constraints, (IlkerEtikan et al, 2016). The four departments were chosen since they were appropriate in line with the study objectives and purpose. The staff in these departments were perceived to have the right information regarding the study objectives.
- **Data collection instruments:**The primary data were collected using closed-ended questionnaires which were administered to the respondents with the help of research assistant. According to Mugenda and Mugenda (2013) closed-ended items have an advantage that they are easy to administer, analyze and also economical in terms of time.
- **Data processing and analysis**: Descriptive statistics such as percentages and frequencies were used to perform data analysis. The percentage and frequency scores were used to rate the factors in order of their importance. SPSS was utilized in data analysis to compute the findings of the study. This constituted computations of descriptive and inferential statistics which enabled the researcher to deduce conclusions and generalizations in line with the study findings.

6. Summary of Research Findings

6.1 DemographicInformation of respondents

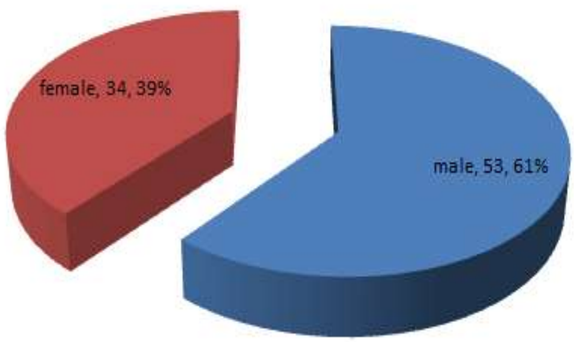


Figure 1: Sex of respondents
Source: Field data, 2018

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The findings revealed that male respondents were higher in number than female respondents. Male respondents accounted for 61% while female respondents accounted for 39%.

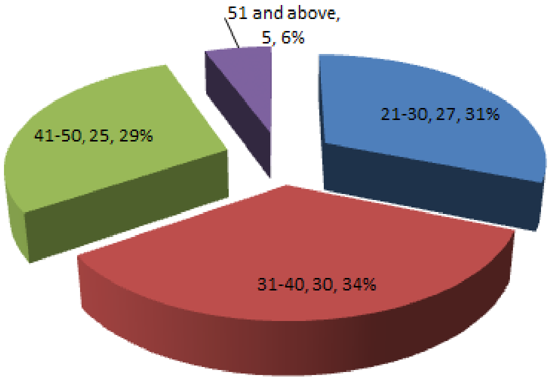

Figure 2: Age bracket of respondents
Source: Field data, 2018

From the findings, the highest number of respondents were in the age bracket of 31-40 followed by 21-30, 41-50 and 51 and above in a descending order. This is an indication that majority of staff of commercial banks in Rwanda are aged 50 years and below while minority are above age of 50 years.

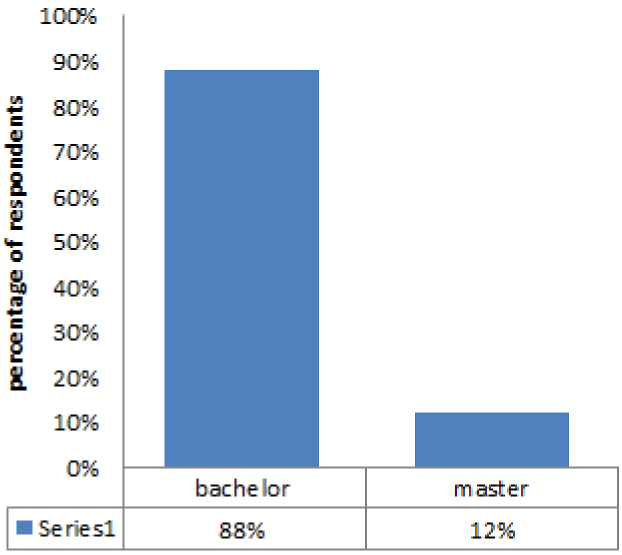

Figure 3: Education qualification of respondent
Source: researcher, 2018

The findings revealed that 88% of the respondents were bachelors' holders whereas 12% were Masters Holders. There was no respondent whose highest qualification is a diploma or PhD. This is an indication that most staff of commercial banks in Rwandahave bachelors as their highest education qualification

6.2 Income diversification and financial performance of commercial banks

Table 1: Income diversification and financial performance

Statement	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
1. Investing in other income generating activities by banks greatly supplements banks income and performance		4(5%)		57 (65%)	26 (30%)
2. High non-interest income ratio is healthy for banks financial performance				65 (75%)	22 (25%)
3. investing in other income generating activities by banks reduces financial risks				47 (54%)	40 (46%)
4. High total income to non-interest income strengthens the financial performance of banks				57 (65%)	30 (35%)

Source: researcher, 2018

The findings indicated that almost all respondents agreed widely with the statements. However 5% of the respondents did not agree that investing in other income generating activities by commercial banks save for interest income supplements banks income and performance. All respondents agreed that high non-interest income ratio is healthy for banks financial performance, exploring other sources of income reduces financial risks and finally high total income to non-interest income strengthens financial performance of banks.

Table 2: Correlation between income diversification and financial performance of commercial banks

Correlations			
		Income diversification	Financial Performance
Income diversification	Spearman Correlation	1	.790**
	Sig. (2-tailed)		0.001
	N	87	87
Financial Performance	Spearman Correlation	.790**	1
	Sig. (2-tailed)	0.001	
	N	87	87
Source: researcher, 2018			

The strength of association between income diversification and financial performance was arrived at by conducting correlation analysis using secondary data. Percentage growths in profits before tax and percentage composition of non-interest income on total income were used as proxies for financial performance and income diversification respectively. The findings posted the Spearman's correlation coefficient value of0.790 with a significance of 0.01 between income diversification and financial performance.

6.3 Regression Analysis of Findings

After finding the direction and degree of association between the independent variables and the dependent variable through correlation analysis, the researcher went ahead to find the percentage changes in the financial performance of commercial banks due to unit changes in

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capital adequacy, income diversification and operating efficiency keeping other factors constant. The researcher achieved this by carrying out regression analysis in addition to correlation analysis. The regression analysis further enabled the researcher to fit the linear CAMEL model adopted in this study in addition to knowing its overall significance in and strength in explaining the relationship between the variables under consideration in this study. The findings of the regression model indicated that the R squared value was 0.655 equivalent to 65.5%. The F statistic value was found to be 99.684 which was significant at 0.000 as shown in the ANOVA table below. Lastly the coefficients table indicated that the coefficients of the constant term, capital adequacy, income diversification and operating efficiency were 0.108, 0.184, 0.265 and 0.356 respectively. The linear camel model was therefore fitted as:$Y_i = 0.108 + 0.184X_1 + 0.265X_2 + 0.356X_3$

Table 3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789[a]	0.655	0.624	0.49284
a. Predictors: (Constant), capital adequacy, income diversification, operating efficiency.				

Table 4: ANOVA

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.543	3	31.578	99.684	.000[a]
	Residual	18.325	98	0.259		
	Total	76.389	101			
a. Predictors: (Constant), capital adequacy, income diversification, operating efficiency						
b. Dependent Variable: Financial Performance						

6.4 Discussion of findings

6.4.1nfluence of income diversification on financial performance of commercial banks

The second objective focused on influence of income diversification on financial performance of commercial banks. The respondents agreed widely that income diversification greatly influences financial performance of commercial banks. The correlation coefficient of 0.790 indicates that there is strong positive correlation between income diversification and financial performance of commercial banks in Rwanda. The beta coefficient of 0.265 which is equivalent to 26.5% indicates that banks financial performance improves by 26.5% if income diversification improves by one unit keeping other factors constant. These findings are similar to those of Sufian and Chong (2008) and ShoaibNisar (2018) who found a positive significant effect of income diversification on bank profitability. However the arguments of this research contradicts those of Kotrozo (2006) who was against income diversification by banks arguing that it brings complexity of organizations which may make manager to lose control and this may at the end lead to the costs associated with such diversification exceeding the benefits that comes along with it. This study is however of the view that income diversification by banks is healthy and they stand a higher chance of making higher returns from such diversifications.

7. Conclusions and Recommendations

7.1 Conclusions

The researcher concluded that income diversification contributes greatly to the financial performance of commercial banks. There is a strong positive and significant association of income diversification and banks financial performance. With the increased competition in the financial sector, the bank's decision to invest in other activities which supplements their income is a good strategy provided there is proper management of such activities. This has proved to pay overtime going by the increased value of non-interest income across all the 11 banks that the study dwelt on. Income diversification involves widening the income sources to supplement the main income source mainly through investing in other business activities. Banks have continuously made efforts to widen their income base by not only depending on Interest income but also other sources such as fees, commission and securities income among others. This is a great step towards reducing financial risk i.e. curbing liquidity problems among commercial banks.

7.2 Recommendations

The researcher recommended that the banks should embrace income diversification by diversifying their operations. However structures should be put in place to ensure sound management of such operations in order to get positive returns. This initiative will go a long way in protecting the banks from financial risks such as the liquidity risk which led to some banks being put under receivership or management taken over by other banks in Kenya because they are unable to finance their recurrent expenses hence putting customers under state of fear and anxiety. Income diversification therefore improves the liquidity position of the bank through additional operating income besides interest income. Banks should make their customers aware of the various financial services that they offer and explain to them how better such services are compared to their competitors hence the customers are able to keep within and even attract more. This can only be achieved through aggressive marketing of these services within the banks premises and even through professional online platforms.

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