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EFFECT OF LIQUIDITY MANAGEMENT PRACTICES ON PROFITABILITY OF COMMERCIAL BANKS IN RWANDA: A CASE STUDY: ECOBANK

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Abstract: **In the portfolio of commercial banks, liquidity assets play a very crucial role because banks operate largely with the funds borrowed from depositors in form of demand and time deposits. These liquidity assets are the essential balance sheet items which have the capacity to maintain the confidence of depositors which is the most valuable intangible asset of the commercial banking business. The same time liquidity level should not fall below minimum requirement as it lead to the inability of the organization to meet short term obligation that are due. Many banks have investment in safe and high yielding illiquid assets but are tied up in loans. Some banks despite having a lot of assets, the sudden withdrawals and the lack of liquid funds lead to a huge loss as a result of taking out emergency loans. This was identified as the major cause of bank failures. The general objective of the study was be to analyse the effect of liquidity management practices on profitability of commercial banks in Kigali. The following are specific objectives of the study: To analyze the effect of liquidity ratio on profitability of commercial banks in Kigali, To examine the effect of Loan to Deposit Ratio on profitability of commercial banks in Kigali and to evaluate the effect of Cash Reserve Ratio of commercial banks in Kigali. Population of this study was 20 banks staff whose views and knowledge can derive the study. As the target population were found to be small. There was no need for sampling, the researcher applied census method. Questionnaires distributed to 20 staff (Operation department, Finance department and Treasury Department) from Ecobank. The mentioned people were chosen purposively due to the nature of their roles of dealing with liquidity on daily basis. The researcher used both primary data and secondary data, primary data collected using structured questionnaire and secondary data collected using documents like books, journals and internet. Questionnaires tested by two experts in academic research to ensure that the questionnaires can answer the set objectives and hypotheses which are also to be tested. However, Liquidity ratio (0.739) has greater influence on bank profitability followed by Cash reserve ratio (0.48 8) and lastly Loan to deposit ratio (0.166). This implies that embarking on either of the variables would improve bank profitability. Since the Pearson Correlation value was 0.969 and it is significant, the researcher proved that there is very strong and positive relationship between liquidity management practices and profitability. Bank should maintain strategy for the day-to-day management of liquidity management.**

Keywords: **commercial banks, depositors, bank profitability liquidity management.**

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY:

Liquidity is a financial term that means the amount of capital that is available for investment. Today, most of this capital is credit, not cash. Bank Liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements (Agbada A. & Osuji C. 2013).

Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. The concern of business owners and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder's wealth. Liquidity management, in most cases, are considered from the perspective of working capital management as most of the indices used for measuring corporate liquidity are a function of the components of working capital (Sambasivam Y. & Biruk A., 2013).

In a study carried out by Sammy (2013) to investigate the effectiveness of liquidity management risk management best practices in the United States reported that over 70% of the financial institutions have adopted the best practices in the country. There has been an increased concern regarding effective credit ri sk management due to the fact that inadequate credit risk policies are the main source of vital problems in most of the financial institutions. An effective credit risk management policy must therefore aim at maximizing an institution's rate of return.

Lartey *et al.* (2013) found a weak positive relationship between the liquidity and the profitability of the listed banks in Ghana in their 2013 study. Olagunju *et al.* (2011) in their study in Nigeria concluded that for the success of operations and survival, commercial banks should not compromise efficient and effective liquidity management and that both illiquidity and excess liquidity are "financial diseases" that can easily erode the profit base of a bank as they affect bank's attempt to attain high profitability-level.

According to National Bank of Rwanda (2014), most of Rwandan financial institutions had a cut dawn in the process of loan Granting in the last quarter of the year 2012 up to first quarter 2013 and this drastic downward trend is suspected to be associated with Inability to apply right credit risk Management techniques. The National Bank has adopted the Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity (CAMEL) rating system in assessing the soundness of the commercial banks. BNR report, 2016 indicates that the level of profitability and sustainability of the sector dropped significantly with ROE and ROA reported at merely 8% and 1% respectively. Banking is a risky business and liquidity risk has been identified as critical to ensure that the banks position remain intact amid the intense competition in the industry.

The liquidity in the commercial bank represents the ability to fund its obligations by the contractor at the time of maturity, which includes lending and investment commitments, withdrawals, deposits, and accrued liabilities (Riley, R. and G. Young, 2014).

A day-to-day management of a firm's short term assets and liabilities plays an important role in the success of the firm. Firms with glowing long term prospects and healthy bottom lines do not remain solvent without good liquidity management. According to Agbada A. & Osuji C. (2013) a useful way of assessing the liquidity of firms is with the cash conversion cycle (CCC). The cash conversion cycle measures the time lag between cash payments for purchase of inventories and collection of receivables from customers. The traditional measures of liquidity such as the current ratio and quick ratio are useful liquidity indicators of firms though they focus on static balance sheet values.

Profitability and liquidity are two important variables which give information about the performance of any business entity. For long-term survival and healthy growth both profitability and liquidity should go parallel to each other .Profitability is one of the major goals of any business. Without being profitable it is not possible for a business to survive and the business growth is difficult. To generate profit a business need short-term funds to fulfill its day to day needs in operations and other requirements. Business will be more profitable when this short- term need of funds is generated by business operation not through external debts. So the liquidity tells about the business capability to meet short-terms need of funds by the business and profitability tells about the profit generated from the operations of business.

Efficient management of liquidity is a fundamental part of the overall corporate strategy to maximize the wealth of shareholders. Firms try to keep an optimal level of liquidity that maximizes their value. According to Chief Financial Officer (CFO), liquidity management a simple and straightforward concept of ensuring the ability of the organization to fund the difference between the current assets and current liabilities. However, a "Total approach should be followed which cover all the company's activities relating to customer, supplier and product" (Baltacı N., 2014).

1.2 STATEMENT OF THE PROBLEM:

Liquidity management and bank profitability are key factors in determining the development, survival, sustainability, growth and performance of a banking system and the ability to handle the trade-off between the two is a source of concern for bank managers. For instance, banks make loans that cannot be sold quickly at a high price and also issue demand

deposits that allow depositors to withdraw at any time. Such a mismatch of liquidity, in which a bank's liabilities are more liquid than its assets, causes problems for banks when too many depositors attempt to withdraw at once as it affects bank liquidity position. Many banks have investment in safe and high yielding illiquid assets but are tied up in loans. Some banks despite having a lot of assets, the sudden withdrawals and the lack of liquid funds lead to a huge loss as a result of taking out emergency loans.

The problem arises when the Bank is not able to meet these demands, especially those unexpected ones, which may embarrass the bank with its clients and may lose their trust over the time, in light of the intensive competition in the banking sector resulting from the increasing number of local banks, as well as intensive competition from the foreign banks that work in the local banking market.

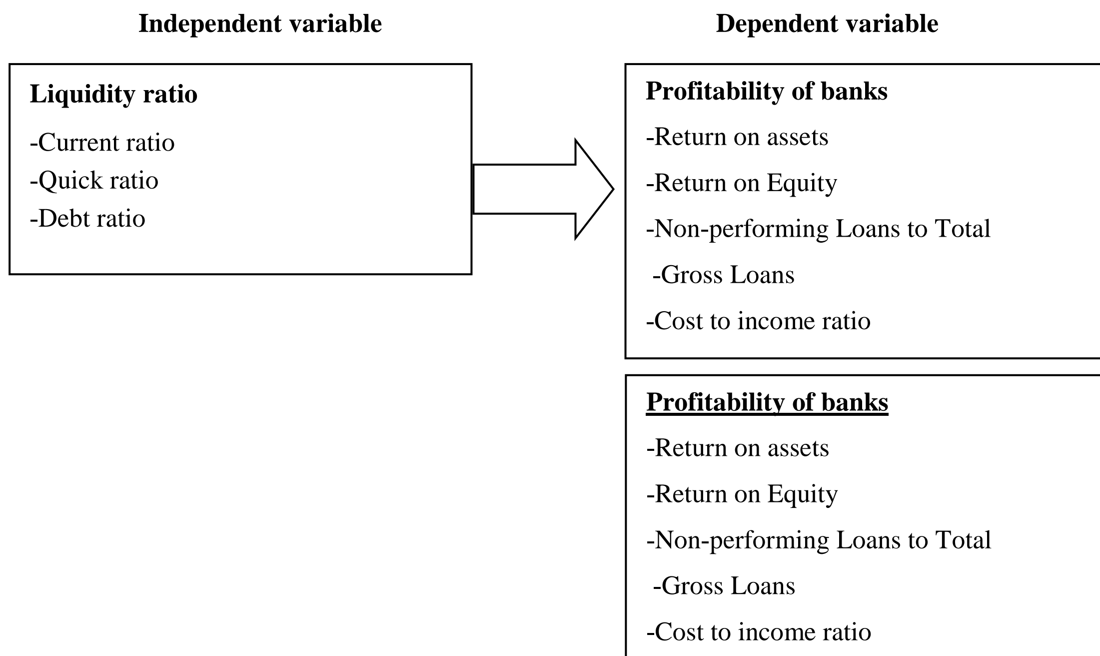
Mistakes in liquidity planning and implementation affect bank operations and might exhibit long term effect on the economy. At the same time liquidity level should not fall below minimum requirement as it will lead to the inability of the organization to meet short term obligation that are due.

Banks should determine the optimal amount of cash that enable them in achieving balance between profitability and liquidity together, because each level of liquidity has a different effect on the levels of profitability, and the problem arises when the commercial banks try to maximize their profit at the expense of neglecting the liquidity effect, which may cause a technical and financial hardship with the consequent withdraw of deposits. This was identified as the major cause of bank failures. It is from the above points, researcher come out with idea to conduct research on effect of liquidity management practices on profitability of commercial banks in Kigali.

1.3 OBJECTIVE OF THE STUDY:

-To analyze the effect of liquidity ratio on profitability of commercial banks in Kigali.

2. CONCEPTUAL FRAMEWORK



2.1 RESEARCH DESIGN:

This study employed the use of a case study because it represents a comprehensive description and explanation of the many components of a given social situation. The study was used descriptive research design in order to show the relationship between the effects of liquidity management practices on profitability of commercial banks in Kigali.

2.2 TARGET POPULATION:

Population of this study was 20 banks staff whose views and knowledge can derive the study.

2.3 SAMPLING FRAME:

The sampling frame defines a set of elements from which a researcher can select a sample of the target population. It's a complete list of everyone or everything you want to study. For this study, the frame was Ecobank staffs from Operating department, Finance department and Treasurer Department.

3. RESEARCH FINDINGS AND DISCUSSION

3.1 Effect of liquidity ratio on profitability:

The first objective of the study was to analyze the effect of liquidity ratio on profitability of commercial banks in Kigali. Liquidity ratio measures how well bank can pay its bills while a profitability ratio examines how much profit bank has earned versus the expenses it has incurred. Ratios bank management, as well as its creditors and investors, to examine a bank's financial health and profitability potential.

Table 1: Effect of liquidity ratio on profitability

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Adequate liquidity is paramount to the profitability of bank	10 (50.0%)	8 (40.0%)	2 (10.0%)	
The liquidity ratio is an important determinant of profitability for bank	9 (45.0%)	7 (35.0%)	1 (5.0%)	3 (15.0%)
Bank that maintain a high level of liquid assets perform better financially	12 (60.0%)	7 (35.0%)	1 (5.0%)	
Increase in the minimum liquidity requirement for commercial banks would have a negative effect on profitability of bank	11(55.0%)	8 (40.0%)		1 (5.0%)
Bank keeps a regular watch over their liquidity ratios to comply with central bank requirements	14(70.0%)	6 (30.0%)		

Source: Primary Data, 2018

Results in table 1 reveal that 50.0% of total respondents strongly agree with the statement that adequate liquidity is paramount to the profitability of bank, 40.0% agree while only 10.0% of respondents disagree with the statement. 45.0% of respondents strongly that liquidity ratio is an important determinant of profitability for bank with other 35.0% who agree while the remaining minorities of respondents 5.0% disagree and 15.0% strongly disagree. The majority of respondents 60.0% strongly agree with the statement that Bank that maintain a high level of liquid assets perform better financially with other 35.0% who agree with the statement and the remaining 5.0% disagree. Increase in the minimum liquidity requirement for commercial banks would have a negative effect on profitability of bank as confirmed by 55.0% of total respondents who strongly agree on mentioned statement with 40.0% who agree while 5.0% strongly disagree. The majority of respondents equal to 70.0% of total respondents strongly agree with the statement that Bank keeps a regular watch over their liquidity ratios to comply with central bank requirements and 30.0% agree with mentioned statement.

By considering the majority of respondents researcher revealed that, liquidity ratio is very important for every bank that means to pay current obligations, the payment obligations include to meet customers withdrawals, operating and financial expenses that are short term but maturing long-term debt. Liquidity ratios are used for liquidity management in every bank in the form of current ratio, quick ratio and Acid test ratio that greatly effect on profitability of bank.

3.2 Effect of Loan to Deposit Ratio on profitability:

The second objective of the study was to examine the effect of Loan to Deposit Ratio on profitability of commercial banks in Kigali. Loan deposit ratio is a useful instrument to determine bank liquidity, and by extension, it influences the profitability of the bank. The bank profit is based on the interest charged against the deposits; it means the profit is generated through the positive difference between interest of loans and interest on deposits

Table 2: Effect of Loan to Deposit Ratio on profitability

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
The amount of deposit in a bank affect the bank liquidity level	16 (80.0%)	4 (20.0%)		
Bank with a high level of loan to deposit perform better financially	13 (65.0%)	5 (25.0%)	2 (10.0%)	

The ratio of loan to deposit is an important profitability measure for commercial banks	11 (55.0%)	7 (35.0%)	2 (10.0%)	
Bank with diversified loan portfolios perform better financially	19 (95.0%)	1 (5.0%)		
Bank keeps a regular watch over loan to deposit ratio to comply with central bank requirements	17 (85.0%)	2 (10.0%)	1 (5.0%)	
Commercial banks carefully evaluate loans applications and monitor borrower activities regularly	16 (80.0%)	3 (15.0%)	1 (5.0%)	

Source: Primary Data, 2018

Table 2 presents the results showing the respondents' views on Loan to Deposit Ratio as liquidity indicator; the majority of respondents 80.0% strongly agree with the statement that the amount of deposit in a bank affect the bank liquidity level and also 20.0% agree with mentioned statement. The majority of total respondents 65.0% strongly agree that Bank with a high level of loan to deposit perform better financially with 25.0% who agree while the remaining minorities of respondents 10.0% disagree with the statement. The ratio of loan to deposit is an important profitability measure for commercial banks as confirmed by 55.0% who strongly agree and also 35.0% agree with the statement. The majority of respondents 95.0% strongly agree with the statement that bank with diversified loan portfolios perform better financially also 5.0% of total respondents agree with mentioned statement. Bank keeps a regular watch over loan to deposit ratio to comply with central bank requirements as confirmed by 85.0% who strongly agree with the statement and 10.0% who agree while the remaining 5.0% disagree on mentioned statement. The majority of respondents 80.0% strongly agree with the statement that commercial banks carefully evaluate loans applications and monitor borrower activities regularly and 15.0% agree while the remaining 5.0% disagree.

3.3 Effect of Cash Reserve Ratio on profitability:

The third objective of the study was to evaluate the effect of Cash Reserve Ratio on profitability of commercial banks in Kigali. Reserve requirement ratio is the minimal percentage of deposits to be kept up with central bank by the banks.

Table 3: Effect of Cash Reserve Ratio on profitability

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
The level of cash reserve ratio affect the banks liquidity position	11(55.0%)	6 (30.0%)	3 (15.0%)	
Bank keeps a regular watch over Cash Reserve ratio to comply with central bank requirements	19 (95.0%)	1 (5.0%)		
The cash reserve ratio is a major determinant of effective liquidity management.	14 (70.0%)	3 (15.0%)	2 (10.0%)	1 (5.0%)

Source: Primary Data, 2018

Results in table 3 reveal that 55.0% of total respondents strongly agree with the statement that the level of cash reserve ratio affect the banks liquidity position and also 30.0% agree while the remaining 15.5% disagree with mentioned statement. The majority of respondents 95.0% strongly agree that Bank keeps a regular watch over Cash Reserve ratio to comply with central bank requirements and also 5.0% of total respondents agree with the above statement. The cash reserve ratio is a major determinant of effective liquidity management as confirmed by 70.0% who strongly agree, 15.0% agree and the remaining respondents 10.0%disagree and 5.0% strongly disagree with the statement.

By considering the majority of respondents researcher revealed that the required reserve rate represents the important instrument of bank liquidity regulating instrument. The change of required reserve rate influences on decrease, or extension of commercial banks credit potential, and on the other side, on creation of additional banks liquidity.

Table 4: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.971	.56797
a. Predictors: (Constant), Cash reserve ratio, Loan to deposit ratio, Liquidity ratio.				

The results in the Table 4.showed statistical significance of the variables is considered were 0.000. From the ANOVA, the *P*-value is less than 0.05 implying that the model is a good fit for the data. The results indicated that there is positive relationship between Cash reserve ratio, Loan to deposit ratio, Liquidity ratio and profitability of bank.

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	209.838	3	69.946	216.823	.000[b]
	Residual	5.162	16	.323		
	Total	215.000	19			
a. Dependent Variable: Profitability						
b. Predictors: (Constant), Cash reserve ratio, Loan to deposit ratio, Liquidity ratio.						

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.078	.892		.088	.931
	Liquidity ratio	.739	.125	.893	5.915	.000
	Loan to deposit ratio	.166	.092	.251	1.799	.041
	Cash reserve ratio	.488	.181	.347	2.699	.016
a. Dependent Variable: Profitability						

Fitting the study variables in the regression model the following equation was obtained: Profitability= 0.078 + 0.739 Liquidity ratio + 0.166 Loan to deposit ratio + 0.488 Cash reserve ratio. The regression equation revealed that holding Liquidity ratio, Loan to deposit ratio, Cash reserve ratio to a constant zero, bank profitability would be 0.078. All the three independent variables are important factors in enhancing profitability in Bank. However, Liquidity ratio (0.739) has greater influence on bank profitability followed by Cash reserve ratio (0.48 8) and lastly Loan to deposit ratio (0.166). This implies that embarking on either of the variables would improve bank profitability.

4. CONCLUSIONS

The general objective of the study was to analyse the effect of liquidity management practices on profitability of commercial banks in Kigali. The following are specific objectives of the study; analyze the effect of liquidity ratio on profitability of commercial banks in Kigali, examine the effect of Loan to Deposit Ratio on profitability of commercial banks in Kigali and evaluate the effect of Cash Reserve Ratio on profitability of commercial banks in Kigali. Based on the research findings, the researcher concluded that, there is an effect of the liquidity management practices on profitability in commercial in Kigali as measured by ROE, ROA, cost to income Ratio and non performing ratio where the effect of the liquidity ratio, loan to deposit ration and cash reserve ratio on profitability is positive. Based on the research findings, all research objectives have been achieved.

5. RECOMMENDATIONS

Bank's board of directors should improve the strategy and policies related to liquidity management. The board should also ensure that management takes the steps necessary to monitor and control liquidity risk. The board should be informed regularly of the liquidity situation of the bank and immediately if there are any material changes in the bank's current liquidity position. Bank should maintain strategy for the day-to-day management of liquidity management. This strategy should be communicated throughout the organization.

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