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Effect of Central Bank Regulations on Financial Performance of Commercial Banks in Rwanda

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Abstract: ***This study aimed to assess the effect of regulations of central bank of on performance of commercial banks in Rwanda. The specific objectives are to examine the effect of capital adequacy regulation on the financial performance of commercial banks in Rwanda, to determine the effect of liquidity Management regulation on the financial performance of commercial banks in Rwanda and to find out the effect of credit risk management regulation on the financial performance of commercial banks in Rwanda.Descriptive research design was used to establish the relationship between study variable that is, if change in regulation requirement results to a change in financial performance of a bank. The target population was 11 licensed commercial banks in Rwanda. A census sampling method of eleven commercial banks in Rwanda. This study used secondary data from Central Bank of Rwanda for eleven licensed commercial banks. Variance inflation factor were used in STATA software to detect multicollinearity problem in the model from the study variables.The P values obtained are as follows: Core capital to total risk weighted assets ratio yielded a value of 0.9744, core capital to total deposit liabilities ratio yielded a value of 0.9987 while total capital to total risk weighted assets ratio yielded a value of 0.9884. The P value for return on assets ratio was 0.9998 while for return on equity ratio it was 0.9795. Return on capital ratio had a P value of 0.595 while credit risk ratio had 0.987. Liquidity risk ratio yielded a P value of 0.9999 and interest coverage ratio a value of 0.00. The above P values for all the ratios except the interest coverage ratio leads us to accept the null hypothesis that there is no relationship between regulations and the financial performance of commercial banks in Rwanda The interest coverage ratio yielded a P value of zero which is assumed to be a rounding off by Microsoft Excel. This being a zero value has not yielded a result that can be used to either accept or reject the null hypothesis.In the analysis of capital adequacy, 100% of the banks in 2011, 2012 and 2015 fully complied with the minimum capital requirement. In 2010, 2013 and 2014, 97.62% complied. The amount of capital in the banks has been increasing steadily over the last six years. At a glance there seems to be no relationship between bank regulations and the growth of capital otherwise we would have seen a major increase from 2012 to 2013 when the minimum requirement was increased from 250 million to 1 billion shillings. The high levels of capital in the commercial banks are indicative of a stable banking sector. The researcher concluded that regulations of central bank of Rwanda highly affect financial performance of commercial banks operating in Rwanda, Capital adequacy has a positive and significant effect on profitability and growth in customer base of commercial banks in Rwanda, Liquidity management practices prove a positive on profitability and growth in customer base of commercial banks in Rwanda, Credit risk Management also have a significant effect on profitability and growth in customer base of commercial banks in Rwanda. The study findings confirmed that 100 % of the banks in 2011, 2012 and 2015 fully complied with the minimum capital requirement which affect their daily operations positively. The researcher recommended that banks comply fully with the stipulated regulations and the Central Bank must ensure that all banks comply. The commercial banks should be equipped with adequate capital so that they may meet their mandates, the commercial banks should adopt appropriate risk management measures that help them to manage the credit appropriately so that the number of non-performing loans may be reduced and the central bank of Rwanda should effectively monitor the commercial banks how they manage their liquidity so that a stable banking environment is established.***

Keywords: Capital Adequacy, Liquidity Management, Financial Performance, Commercial Banks, Bank Regulations

1. Introduction

Bank regulations can be defined as a form of government or a state commands that subjects banking sectors into certain requirements, restrictions and guidelines as formulated by their regulators such as Central Bank in order to ensure market transparency between banking industry and individuals or between banking institution and other corporation with whom they conduct business with. Banks' regulators keeps on revising Banks' regulations and guidelines in order to respond effective to the adverse changes in business environment, which if not properly dealt with, it may lead to financial problems (Richard et al, 2009). National Bank of Rwanda is the main commercial banks regulator in Rwanda and is dedicated to carry out its functions free from any interference of the individuals, group of persons or politics.

Commercial banks are one of the major financial intermediary in financial market which acts as middleman between two parties in a financial transaction such as transferring funds from the parties with excess capital (lenders) to parties with less capital (borrowers). In financial market, there is a very rare case of funds flowing directly from the provider to end users without passing through the financial intermediary, so great banks regulations has to be in place for the protection of both parties (Cornett et al, 2009). According to the study conducted by Fernandez and Gonzalez (2015) on how accounting and auditing systems can counteract risk-shifting of safety nets in banking, banks tries as much as they could to contain the risks exposed to which is only attainable through great banks regulations. The above was in contrary with Barth et al. (2013) who associated great banks regulations with high chances of inefficiency operation which may lead to banking crisis on his study of whether bank regulations and ownership affect performance and stability of the bank.

2. Statement of the Problem

Globally, some different studies have been done in this area of banking regulations and its effect on financial performance. Those studies include (Samad, 2009); study on relationship between performance and regulation of banks in

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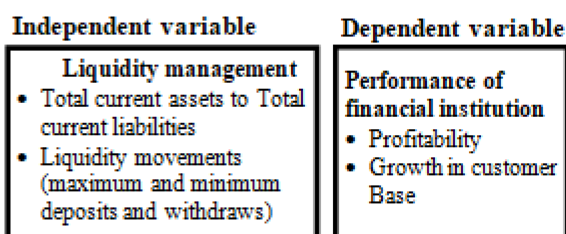
Washington which found out that, regulations has positive effect financial performance of commercial on performance. This result was supported by Howels and Bain (2014) study. However, Barth et al (2013) stated that, increase in financial restriction leads to increase in financial crisis. Vianney (2013) studied on the relationship between regulations and financial performance of Rwanda commercial Banks and concluded that, capital adequacy ratio, liquidity ratio and management efficiency ratio has no evidence to explain banks in Rwanda. Omondi (2014) did a study on the effect of Central Bank of Kenya prudential guidelines and regulations on financial performance of commercial banks in Kenya using six (6) variables ; Gross Domestic product, Average Annual Inflation rate, Management efficiency, corporate governance ,capital requirement and liquidity management. He found a strong and positive relationship between CBK prudential Guidelines and banks performance.

The implementation of the Central Bank regulations in Rwanda has been a major challenge to the performance of commercial banks, but in the long run it contributes to the strengthening of the banking systems. Some aspects of the regulations are oriented towards achieving the development objectives of the country without having to sacrifice prudent regulations and financial sector stability considerations. Typically, one would expect regulations to improve efficiency and lower any risk of a financial problems. Many critics have argued that regulations interfere with the efficiency of the market while those advocating for regulations thinks otherwise. Commercial Banks in Rwanda especially in search of modern management apparatuses to improve performance. Despite the rapid expansion of banking services in Rwanda, Commercial banks still faces obstacles with respect to the handling of the risks that the bank is exposed to. Various studies show that there is lack of clarity on what the true effect of central bank regulations on the financial performance of commercial banks is, hence the inspiration for the current study

3. Objectives of the Study

The study purpose was assess the effect of central bank regulations on financial performance of commercial banks in Rwanda. Its second specific objective was to determine the effect of liquidity Management regulation on financial performance of commercial banks in Rwanda.

4. Conceptual Framework



5. Research Methodology

- **Research Design**: The researcher used descriptive research design
- **Target Population:** The target population was eleven licensed commercial banks in Rwanda because they are recognized as public- owned company (Bank) where people can buy or sell their shares of the company (BNR, 2015).
- **Data collection:** This study used secondary data from eleven licensed commercial banks. Secondary data is the use of information which is readily available from the previous study findings and can be accessed from different publications or sites. The use of Secondary data is faster and also cost effective since it uses someone's information to achieve present objectives. Data were obtained from bank's annual audited reports from the central bank of Rwanda for the period between 2012 and 2016 which is equivalent to 5 years.
- **Data Analysis:** This study will used panel data which ensured enough data is available to the researcher because it contained both time series and cross-sectional dimensions thus, minimal biases in parameter estimators (Baltagi, 2015). Data were collected for a period of six (6) years from eleven (11) listed commercial banks in Rwanda. Multiple regression was used to analyze data collected from the sample which helped the researcher to gain more knowledge on the relationship between several independent variables (predictor) and dependent variable, thus being a good method of data analysis in this study which has three (3) predictors (capital adequacy, liquidity management and credit risk management) and one dependent variable (financial performance).

Regression results were generated using STATA software which gave more detailed results. The main aim of regression analysis in this study was to summarize data thus, being able to explain the relationship between the study variables. After regression, results are presented in form of tables and graphs for ease understanding. The following regression equation was developed to explain the effect of Central Bank of Rwanda regulations on financial performance of commercial banks in Rwanda.

$Yit = \beta0 + \beta1\ X\ it + \ldots.. + \beta nX\ it + \varepsilon$

The econometrics model extracted from the above equation as follows:

$Yit = \beta0 + \beta1\ CA\ it + \beta2\ LM\ it + \beta3\ CRM\ it + \varepsilon\ it$

Yit = Financial Performance

β0 = level of financial performance in the absence of the bank

β1, β2, β3= Regression coefficients

CA it = Capital Adequacy Regulation

LM it = Liquidity Management Regulation

CRM it = Credit risk management Regulation

ε it = Error

i= Name of Bank (1….11)

t= Time (2012—2016)

Different methods was used in determining the value of both independent and dependent variable as shown below.

ROE= Net Income to Shareholder's Equity

CA= CAR (capital adequacy ratio) = Total Equity to Total Assets

LM= Liquidity ratio= Total Current Assets to Total Current Liabilities

CRM= Asset Quality= Non-Performing loan to Total Assets

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6. Summary of Research Findings

6.1 Effect of liquidity Management regulation on financial performance of commercial banks in Rwanda

The figure below presents graphically the results of liquidity ratios in six years considered in this study from 2010 to 2015. The findings indicate that there has been increasing steadily between 2010 and 2012.

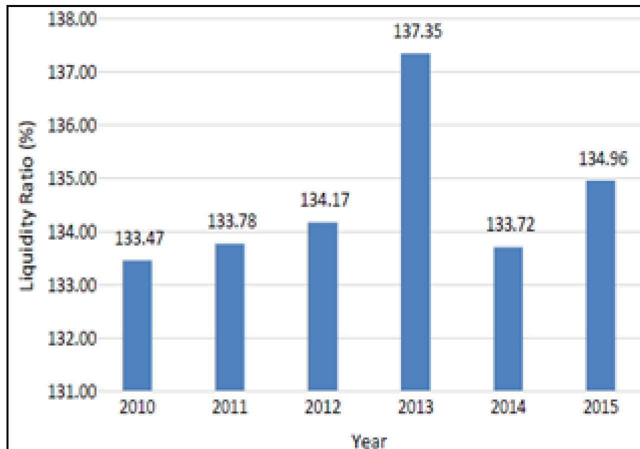

Figure 1: Interest Coverage Ratio

The liquidity ratio indicate thatthe liquidity ratio was at the level of 133.37% in 2010, 133.47 in 2011, 134.17 in 2012, 137.35% in 2013, 133.72% in 2014 and 134.96 in 2015. It is clear that there has been increasing steadily between 2010 and 2012 and a sharp increase in 2013 followed by a sharp decline in 2014.

Table1: Liquidity ratio
Liquidity risk ratio yielded a P value of 0.9999

Year	Observed Values	Expected Values
2010	133.47	134.57
2011	133.78	134.57
2012	134.17	134.57
2013	137.35	134.57
2014	133.72	134.57
2015	134.96	134.57
Total	807.45	
Expected Values	134.57	
P Value formulae	{=CHISQ.TEST(B2:B7,C2:C7)}	
P Value =	0.999910371	

7. Conclusions and Recommendations

7.1 Conclusions

The researcher made the following conclusions:

- Regulations of central bank of Rwanda highly affect financial performance of commercial banks operating in Rwanda
- Capital adequacy has a positive and significant effect on profitability and growth in customer base of commercial banks in Rwanda
- Liquidity management practices prove a positive on profitability and growth in customer base of commercial banks in Rwanda
- Credit risk Management also have a significant effect on profitability and growth in customer base of commercial banks in Rwanda
- The study findings confirmed that 100 % of the banks in 2011, 2012 and 2015 fully complied with the minimum capital requirement which affect their daily operations positively

7.2 Recommendations

The researcher come up with the following recommendations:

- Generally; the researcher recommended that banks comply fully with the stipulated regulations and the Central Bank must ensure that all banks comply with set regulations.
- The commercial banks should be equipped with adequate capital so that they may meet their mandates
- The commercial banks should adopt appropriate risk management measures that help them to manage the credit appropriately so that the number of non-performing loans may be reduced,
- Central bank of Rwanda should effectively monitor the commercial banks how they manage their liquidity so that a stable banking environment is established.

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