THE INFLUENCE OF ECONOMIC FACTORS ON PROFITABILITY OF COMMERCIAL BANKS

YVES CLAUDE NSHIMIYIMANA, MIZEROYABADEGE ALYDA ZUBEDA

UNILAK University of Lay Adventists of Kigali
E-mail: dryvesslaude@gmail.com, alydazuzu@gmail.com

Abstract- Abstract: Bank failure is a problem in many countries, worldwide the years, 2007-2013, marked a new wave of bank failure, this period was characterized by high unpredictability and serious consequences due to lack of the effective of analysis of economic factors. The general objective of this study was to analyze the effect of economic factors on profitability of commercial banks in Rwanda. The researcher used the descriptive and analytical design, the target population in this study was 112 including four executives, 12 head of departments, 26 Managers, 70 branch managers. The sample size of population under study was composed by three executives, nine heads of department, 20 managers of main branch and 70 branch managers, sample size was 88 respondents. In collecting secondary data, annual reports were used. Researcher used financial reports of 2010 – 2015 for secondary data. Qualitative and quantitative techniques to get primary data for the research was used, where questionnaire and interview were used. The Statistical Package for Social Sciences (SPSS) and Excel were used in this study. The study revealed that capital adequacy correlate negatively to return on assets, return on equity, net interest margin, where r = -0.655; -258 respectively -0.699. Assets quality correlate negatively to return on assets, return on equity, net interest margin, where r = -0.598; -488 respectively -0.527. Efficiency management correlates positively to return on assets, return on equity, net interest margin, where r = 0.12; 0.609 respectively 0.143. Liquidity correlates positively to return on assets, negatively to return on equity, and positively to net interest margin, where r = 0.432; 0.005 respectively 0.269. Real GDP growth rate correlates negatively to return on assets, return on equity, net interest margin, where r = -0.295; 0.598 respectively 0.533. Average annual inflation rate correlates negatively to return on assets, return on equity, net interest margin, where r = -0. 0000940 (this figure indicated that correlation between average annual inflation rate and return on equity was around zero); -0. 644 respectively 0. 669. The study recommended that commercial banks should comply with banking rules and regulations related to economic factors to optimize the influences of external factors to their profitability.

Key words- Banks, commercial banks, Economic, Economic factors, internal factors, external factors, profitability.

I. INTRODUCTION

The main role of a financial system all-over the world is to lubricate the gears facilitating the economic operations. The banking system plays a major role in transferring funds from the saving units to the investing units. If a financial system is efficient, it should show improvements in profitability, increasing the volume of funds flowing from saver to borrowers, and better quality services for consumers (Levine & Loayza, 2000).

The overarching vision of the Government of Rwanda is to develop a stable and sound financial sector that is sufficiently deep and broad, capable of efficiently mobilizing and allocating resources to address the development needs of the economy and reduce poverty (Ministry of Finance and Economic Planning [MINECOFIN], 2015). Compared to Bank of Kigali, in 2013 the Bank of Kigali earned net income of RwF 14.8 bn (USD22 mln), a 26% increase, or RwF 22.2 per ordinary share. Bank of Kigali improved profitability metrics, achieving in 2013 ROAA and ROAE of 4.0% and 22.1%. Bank of Kigali also closed the year 2014 on a high note, with Net Income of FRw 18.3 billion, a 23.5% increase from the previous year. BK profitability remained intact, with ROAA and ROAE of 4.0% and 22.9%, respectively (Bank of Kigali [BK], 2014). The above of background is confirmed by the consistence development of BK due to its profit from 18.3 to 20.5 in 2015. Hence, from the above background, the researcher carried out a study by analyzing how economic factors contribute to the profitability of commercial in Rwanda.

Due to limited or little time and resources, the study focused on the best performer commercial bank in Rwanda and particularly on Bank of Kigali. The study was for the period of five years (2011-2015, as in this period, BK was the leading bank in market share, profitability, capital and deposits and even in giving loans. This study focused on effect of economic factors on profitability of commercial banks, because foreigner studies, elsewhere, indicated that economic factors are among best determinants of commercial banks profitability.

II. PROBLEM STATEMENT

The study of Manuel (2014) indicated that bank failure is a problem in many countries, he found that worldwide the years, 2007-2013, marked a new wave of bank failure, this period was characterized by high unpredictability and serious consequences due to lack of the effective of analysis of economic factors. While the study of Onuonga (2014) revealed that bank size, capital strength, ownership, operations expenses, diversification do significantly influence...
profitability of commercial banks. The study of Ayanda et al. (2013) also indicated that only broad money supply growth rate was found to be a significant driver both in the long run and in short run. Conflictingly, Kiganda (2014) found that macroeconomic factors (real GDP, inflation and exchange rate) do not affect bank profitability, implying that internal factors which relate to bank management significantly determine bank profitability.

Moreover, from the above disagreements with different scholars, the researcher became in unbalanced academic position neither concluded that economic factors affect profitability of commercial banks or not. The above problem also supported by National Bank of Rwanda [BNR] annual report (2014), where Lerner index (average) was 0.48 in 2006, 0.42 in 2007, 0.45 in 2009, 0.38 in 2011, 0.32 in 2012 and 0.29 in 2013. In relation to Lerner index theory, the result clearly indicates a good progress in banking sector competition Rwanda since 2008, unfortunately the level of performance of commercial banks are significantly different.

Hence, in Rwanda commercial banks sector, considerable research effort has been devoted to and much debate has been evoked about the cause of bank failure. These have generated considerable insight into and understanding of the bank failure problem. However, the problem still remains large and keeps recurring, suggesting the need for more examination of the problem. This paper examined this problem with particular reference to how both internal and external factors influencing bank profitability in Rwanda.

III. OBJECTIVES OF THE STUDY

The general objective of this study was to analyze the effect of economic factors on profitability of commercial banks in Rwanda. Specific objectives were:

i. To determine the influence of commercial bank external factors on the profitability of bank of Kigali;

ii. To analyze the influence of commercial bank internal factors on the profitability of bank of Kigali;

iii. To establish relationship between economic factors and profitability of bank of Kigali;

IV. RESEARCH QUESTIONS

i. Is there any influence of commercial bank external factors on the profitability of bank of Kigali?

ii. Is there any influence of commercial bank internal factors on the profitability of bank of Kigali?

iii. Is there any relationship between economic factors prediction and profitability of bank of Kigali?

V. RELATED STUDIES

Most literatures are used banks specific, industry specific, and macro-economic factors as a determinant of banks profitability. Pooran (2014) carried out a study on factors affecting U.S. banking performance. He found that capitalization management strategies had a positive effect, while credit risk had a negative effect on profitability. His study contributed to academic and policymakers, but they did not both primary and secondary sources of data for to support his study findings. Waqas, Muhammad, Haseeb, Imam and Imran (2014) analyzed determinants of commercial banks profitability in Pakistan. The study also found that inflation affects the bank’s profitability inversely as increase inflation affects banks cost that increased and its earning main source is its fee that it charge on its services but free services without any charges decrease in gross income that lead a reduction in profit. Their study did not focus on both external and internal determinants that affect commercial banks profitability Ong and Teh (2013) analyzed factors affecting the profitability of Malaysian commercial banks. Although the the study investigated the impact of bank-specific characteristics and macroeconomic conditions on commercial banks financial performance, the study did not indicate how these factors affect the profitability of commercial banks using both descriptive and inferential statistics. Brunilda and Elvana (2015) analyzed factors influencing the bank profitability in Albania. The primary objective was to investigate the determinants of the profitability and to present all the debates through the literature review on the profitability. The results showed that almost all the factors were significant, whereas the sign of the relationship between the dependent and the independent variable was explained. But, they did not use both primary and secondary sources of data. Kiganda (2014) suggested that macroeconomic factors (real GDP, inflation and exchange rate) have insignificant effect on bank profitability in Kenya. The study of Kiganda (2014) did not focus on the internal factors of bank profitability that should affect commercial banks profitability. From the above critics, this study found a gap, whereby the reviewed studies did not analyse the economic factors related to profitability of commercial banks using both quantitative and qualitative approaches through both primary and secondary sources of data on the basis of both internal and external factors.

VI. RESEARCH METHODOLOGY

The researcher used the descriptive and analytical design. In order to achieve the researcher’s
objectives, the researcher applied descriptive and analytical design as it was helpful to collect data with a view of assessing and analyzing the economic profitability and its determinants in BK.

The target population in the study was comprised of the group categories under study. Thus the target population in this study was 112 including four executives, 12 head of departments, 26 Managers, 70 branch managers. Therefore, this target population referred to an entire group of persons that have information related to the research objectives. The study considered a sample size that is within the cost constraint but should provide the ability to detect variables effect.

This study determined sample size, because the researcher has limited time and cost, therefore the researcher used Yamane formula as follows;

$$n = \frac{N \cdot \frac{e^2}{n^2}}{1 + \frac{N}{n^2}} = \frac{112 \cdot \frac{0.05^2}{n^2}}{1 + \frac{112}{n^2}} = 88$$

N: Target Population, n: Sample size, and e: error of precision

3.3.2 Sampling Technique

The sample size of population under study was composed by three executives, nine heads of department, 20 managers of main branch and 70 branch managers. Therefore, sample size was 88 respondents.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Target Population</th>
<th>Percentage</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executives</td>
<td>4</td>
<td>3.57</td>
<td>3</td>
</tr>
<tr>
<td>Head of Departments</td>
<td>12</td>
<td>10.71</td>
<td>9</td>
</tr>
<tr>
<td>Managers of main branch</td>
<td>26</td>
<td>23.21</td>
<td>20</td>
</tr>
<tr>
<td>Branch Managers</td>
<td>70</td>
<td>62.50</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>100</td>
<td>88</td>
</tr>
</tbody>
</table>

Source: Bank of Kigali, 2016

The researcher first classified population into four strata according to their characteristics such as, executives, head of departments, managers of main branch and Branch Managers. As it is represented in Table 1, after grouping respondents into group, the researcher selected respondents, where everyone had the probability of being selected to be in the sample. The sampling technique that was used in this study was stratified random sampling method. Stratified random sampling was used because population was not homogeneous and combining both stratified and simple random sampling methods.

The researcher used both primary and secondary data as practical means of obtaining information related to the research topic. The primary data was obtained using questionnaire, from BK employees. Secondary data was sourced from annual reports of BK from 2011 to 2015.

A questionnaire was used to get perceptions and development status of respondents. The questionnaire contained closed ended questions which were addressed to the respondents. The advantages of close-ended questions were that the answers were standard, and can be compared from person to person. In collecting secondary data, annual reports were used. Researcher used financial reports of 2010 – 2015 for secondary data. Qualitative and quantitative techniques to get primary data for the research was used, where questionnaire and interview were used.

In dealing with reliability, the researcher wants to ensure the degree of consistency and stability of the instrument; hence the research examined several times by checking for reliability in relevance, clarity and ambiguity of items in the instrument. For achieving this, a pre-test was carried out. A total number of 20 respondents was used for the pretesting. Validity and reliability of this instrument was done by making pre-tested or pilot study to verify the consistency of the research instruments. Cronbach’s Alpha coefficient was used to measure internal consistency of the research tool. Computed Cronbach’s alpha Coefficient was $\alpha = 0.884$, this confirmed the reliability of research instrument. This was generated after pre-tested research instruments where the pilot research was conducted. The validity of research instrument was also tested through supervisors in terms of language and content.

For this study, both qualitative and quantitative data analysis techniques were applied using descriptive and correlational statistics. This research used Pearson correlation analysis to establish relationship between variables under study. It is therefore from reports that the researcher analyzed the secondary data and made comparisons which helped in the drafting of a conclusion and recommendations. The Statistical Package for Social Sciences (SPSS) and Excel were used in this study. The major dependent performance indicators used were Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM). The major determinants (independent variables) were capital adequacy, asset quality, management efficiency and liquidity.

VII. RESULT AND DISCUSSION

| Table 2: Correlations |
|-----------------------|----------------|----------------|----------------|
| Capital Adequacy      | Pearson Correlation | Return On Assets | Return On Equity | Net Interest Margin |
|                       | Sig. (2-tailed) | -.655 | -.258 | -.699 |
|                       | N | 5 | 5 | 5 |
| Asset Quality         | Pearson Correlation | -.598 | -.488 | -.527 |
|                       | Sig. (2-tailed) | .0287 | .0404 | .0362 |
|                       | N | 5 | 5 | 5 |
The Influence of Economic Factors on Profitability of Commercial Banks

From Table 2, the study used data from annual reports of Bank of Kigali, the researcher used Pearson correlation coefficient to establish relationship between variables under study, such as economic factors and profitability of commercial banks. The study revealed that capital adequacy correlate negatively to return on assets, return on equity, net interest margin, where \( r = -0.655; -258 \) respectively -0.699. Assets quality correlate negatively to return on assets, return on equity, net interest margin, where \( r = -0.598; -488 \) respectively -0.527. Efficiency management correlates positively to return on assets, return on equity, net interest margin, where \( r = 0.12; 0.609 \) respectively 0.143. Liquidity correlates positively to return on assets, negatively to return on equity, and positively to net interest margin, where \( r = 0.432; 0.005 \) respectively 0.269. Real GDP growth rate correlates negatively to return on assets, return on equity, net interest margin, where \( r = -0.295; 0.598 \) respectively -0.533. Average annual inflation rate correlates negatively to return on assets, return on equity, net interest margin, where \( r = 0.000940; -644 \) respectively -0.669. (this figure indicated that correlation between average annual inflation rate and return on equity was around zero); -0. 644 respectively-- 0. 669. Moreover, both internal and external factors may influence a bank’s ability to maintain equity capital sufficient to pay depositors whenever they demand their money and still have enough funds to increase the bank’s profitability through additional lending.

The relationship between capital adequacy, asset quality and bank profitability was found to be negative and for management efficiency the relationship was positive. This indicates that poor asset quality or high non-performing loans to total asset related to poor bank performance. Thus, it is possible to say that banks with high asset quality and low non-performing loan are more profitable than the others. The other bank specific factor liquidity management represented by liquidity ratio was found to have no significant effect on the profitability of bank of Kigali. This shows that profitability is not as such about keeping high liquid asset; rather it is about asset quality, capital adequacy, efficiency and others. But, this doesn’t mean that liquidity status of banks has no effect at all. Rather it means that liquidity has lesser effect on profitability of bank of Kigali in the study period.

CONCLUSION AND RECOMMENDATIONS

Concerning the external economic factors, the type of relationship between gross domestic product growth rate and bank profitability is mixed. It seems that it is negatively related to ROA and positively related to ROE. However, in both cases the relationship is not significant. However, it is significantly negatively related to NIM. This relationship supports the view that GDP growth is not necessarily positively related with bank performance. The other macroeconomic variable, inflation is significantly negatively related with the profitability of commercial banks. This is probably due to the fact that inflation could affect the value for money, purchasing power of people and the real interest rate that banks charge and receive.

Concerning the bank internal factors, this study found the influence of the identified bank specific factors and bank profitability as expressed by ROA, ROE and NIM. This is in line with the conventional argument that higher capital ratios encourage banks to invest in safer assets, such as lower-risk loans or securities, which may affect bank profitability. Asset quality which is expressed as non-performing loans to total loans is negatively related to all the three bank performance indicators. This indicates that poor asset quality or high nonperforming loans to total asset related to poor bank profitability. The negative correlation coefficient between poor asset quality and return on equity is not very strong. This is due to the fact that loan constitutes the largest share of assets that generate income for the equity. The other explanatory variable, management efficiency is positively related to all the three performance ratios and more related to ROE. Liquidity management is also positively related to ROA, ROE and NIM but the relationship is very weak. This may be due to the fact that liquidity management is more related with fulfilling depositors’ obligation (safeguarding depositors) than investment. Basing on the findings and interpretations as well as the theoretical aspects presented in the literature review this research recommends that, the employees are considered as a very important requirement to the operation and the procedures in the analysis of economic factors in
commercial banks, so bank of Kigali have to keep on the skills of the employees working in this department. Commercial banks should comply with banking rules and regulations to optimize the influences of external factors to their profitability. Incidence of the regulatory authorities should regularly access the lending behavior of the banking industry. The bank lending environment should well be examined before and after credit and the regulatory authorities should put in place monetary and macroeconomic variables that can affect negatively the credit function of the commercial banks. The economic factors analysts of the commercial banks should be integrated with the profitability objectives of the banks and sound credit culture should be introduced.

ACKNOWLEDGMENT

It is my pleasure to thank several people who contributed to the success of this work. We are particularly grateful to our supervisor Theogene for his encouragement, steady, wise guidance and diligent oversight that made this effort possible. He provided a lot of constructive ideas, inspiration and encouragement throughout this paper-writing period. I am grateful to the management and academic staff of UNILAK for their support and their commitment for the education of Rwandans in advancing knowledge and practice in the real world of development.

REFERENCES


The Influence of Economic Factors on Profitability of Commercial Banks

18