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Kenyan Efficiency in Financial Sector after the Financial Crisis

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ABSTRACT **Received April 2016** **Accepted May 2016**

This study aims to find the efficiency of selected Kenyan sample commercial banks. As the banking industry is the main sector that contributes significantly to the development of the national economy and hence the efficiency of commercial banks gains significantly. The analysis of the study, using intermediation approach, reveals the efficiency of Kenyan commercial banks. However, the efficiency of sample banks showed inefficiency in some areas during the study period. But small banks showed better efficiency scores during the study period.

Keywords: Banking, Data Envelopment Analysis, Kenyan Commercial Banks.

INTRODUCTION

Banking industry is the major contributor to the economy of any country and hence the efficiency of banks gains significantly. After the Financial Crisis in 1997 and 2008, the efficiency of Kenya's commercial banks to the Total Factor Productivity (TFP) growth was sharply declining due to enormous Non-Performing Loans (NPLs), stemming from inappropriate lending to real estate sector (borrowing short but lending long) and the heavier repayment burden with foreign currency liabilities (Central Bank of Kenya-Bank Supervision Annual Report 2011).

However, after the Crisis, Kenya's commercial banks made profits and regained peoples' trust. Due to the importance of commercial banks to the Government, households and investors, the profitability of banks is one of the most important issues for research. Moreover, people particularly the investors; expect better performance and efficiency of commercial banks under any circumstances.

Statement of the Problem

Banking efficiency is an important study for policy makers and many others who rely on the banking sector. Therefore, the present study investigates the efficiency of Kenyan banking sector. Many firms in the service industry face the problem of not producing better results in terms of efficiency. In particular, the last decade witnessed continuous changes in regulation, technology up gradation and competition in the global financial services industry are no exception to this. The efficiency in the operation of banks has become an important issue in Kenya. It is therefore crucial to benchmark the performance of banks operating in Kenya and hence this study.

Literature Review

An attempt has been made in this section to review the selected research work already undertaken in the area of this study, in order to understand the methodology employed and the gaps in the research.

The efficiency of banking sector is one of the most interesting economic issues for economists all over the world. This is evident from several attempts to investigate the efficiency of commercial banks by a number of economists, both in Kenya and abroad. Charnes, Cooper and Rhodes (1978) applied a nonlinear programming model to measure the relative efficiency of Decision Making Units (DMUs). A study by Haslem *et al*., (1999) used Data Envelopment Analysis to analyze the efficiency of U.S. Banks operating internationally. It was found that the management should focus on overall efficiency but with particular attention to inputs, especially cash and real capital and to foreign loans among the outputs. Saha and Ravisankar (2000) found that Public Sector Banks (PSB) accounted for about 85 percent of the Indian commercial banking business and supported the DEA Methodology to be useful and suitable for rating the efficiency of Indian Banks. Casu and Molyneux (2000) employed DEA to investigate the efficiency in European banking systems. The study examined whether the productive efficiency of European banking systems has been improved and converged towards a common European frontier.

Miencha and Selvam (2011) found that private banks in Kenya performed well, with better liquidity assets, compared to public banks and foreign banks for the growth of the economy. The study found that banks have still a long way to go to sustain their competitive success. According to Joshi and Bhalerao (2011), there was efficiency of major commercial banks in India and most of the banks were satisfactorily efficient. The average performance of the banking sector ranges above 80 percent, which indicates the appropriate conversion of inputs into outputs. The public and private sector are equally efficient but the private sector has an edge over the public sector.

Miencha *et al.*, (2013) employed DEA to investigate the efficiency in Kenyan commercial banks. The study examined the productive efficiency of Kenyan banking systems has been improved and converged towards a common the region frontier.

Miencha and Selvam (2013), in their study, the managerial efficiency, off balance sheet activities (non-traditional activities) and profitability were the most influential determinants of Technical Efficiency.

The literature review reveals that with the exception of a few, no comprehensive effort has been made recently towards a critical analysis of the efficiency level of the Kenyan commercial banks. In this context, the present study would be a significant venture at analyzing the efficiency of Kenyan Commercial Banks.

Objective of the Study

The present study examines the financial efficiency of banks in Kenya using Data Envelopment Analysis (DEA).

Hypotheses of the Study

The following two null hypotheses were framed and tested for this study

NH1. There is no significant difference in efficiency measurement among Kenyan banking sector during the study period

Methodology and Measurement

Sample Selection

As on March 31st 2008, there were totally 45 (5 Public Sector Banks, 28 Private Sector Banks and 12 Foreign Sector Banks) in Kenya. The present study covered only 10 Kenyan Commercial Banks, based on their top performance i.e. three large banks, four medium size banks, and three small banks.

Period of Study

The study period covered four years from January 2007 to December 2010.

Sources of Data

This study was mainly based on secondary data. The required data were collected from Annual Report published by Central Bank of Kenya, various reputed journals and respective bank websites.

Data Envelopment Analysis

The Data Envelopment Analysis (DEA) is a performance measurement technique used for analyzing the relative efficiency of productive units, having multiple inputs and multiple outputs.

$$\text{Efficiency} = \frac{\text{Weighted sum of Outputs}}{\text{Weighted sum of Inputs}}$$

The present study suffers from the following major limitations.

- The study examined the efficiency of sample Kenyan Banks and not their absolute efficiency.
- The study was based on only secondary data.

Analysis of the Efficiency Sample Commercial Kenyan Banks

For the purpose of this study, the analysis of efficiency of sample commercial banks is made below:

Efficiency of Sample Commercial Kenyan Banks -Intermediation Approach.

Efficiency of Sample Commercial Kenyan Banks through Intermediation Approach

Table- 1 shows the analysis of efficiency of commercial Kenyan banks through intermediation approach. According to the above Table, the average efficiency score of sample commercial banks during 2007 – 2010 ranged from 0.6308 to 0.7994, which is fairly high but somewhat volatile and lower than the average efficiency (0.6131 to 0.7508) by operation approach.

It is to be noted that in 2007, the average efficiency for all sample banks was at 0.6308. Only two commercial banks, namely, Development Bank of Kenya and Equatorial Bank of Kenya were considered efficient as these banks' efficiency score was 1.0000, whereas the other eight commercial banks (Cooperative Bank of Kenya, Barclays Bank of Kenya, Equity Bank of Kenya, Diamond Trust Bank of Kenya, National Bank of Kenya, Commercial Bank of Africa-Kenya, Family Bank and Jamii Bora Bank of Kenya) were less efficient under the efficiency frontier. It is to be noted from the analysis of the above Table that the Cooperative Bank had to raise its output by 18.81 percent, Barclays Bank of Kenya by 12.77 percent, National Bank of Kenya by 42.67 percent, Equity Bank by 29.04 percent, Commercial Bank by 22.67 percent, Family Bank of Kenya by 34.83 percent and Jamii Bora Bank by 34.31 percent for reaching efficiency, with the same amount of input. The Diamond Trust Bank was the least efficient bank in 2007, with the efficiency score of 0.2577, indicating that it had to increase its output by 74.23 percent, with the same amount of input.

According to the analysis of data for the year 2008, the average efficiency for all sample commercial banks increased to 0.7341 in 2008 from 0.6308 in 2007. The four commercial banks, namely Barclays Bank of Kenya, Development Bank of Kenya, Equatorial Bank of Kenya and Commercial Bank of Africa-Kenya were considered efficient as their efficiency score was 1.0000. The Equity Bank of Kenya, Family Bank of Kenya and Jamii Bora Bank of Kenya, with an efficiency score of 0.7096, 0.8975, and 0.9693 respectively, had to increase their output by 29.04, 1.25 and 3.07 percent respectively, with the same amount of input. The Cooperative Bank of Kenya and National Bank of Kenya were the least efficient banks in 2008, with the efficiency score of 0.2180 and 0.3283 respectively, indicating that they had to raise their outputs by 78.20 and 67.17 percent respectively, to be regarded efficient banks.

It is understood from the above Table that the average efficiency for all sample Kenyan commercial banks, through intermediation approach, increased from 0.7341 in 2008 to 0.7746 in 2009. However, there were four commercial banks which were considered to be efficient. Those were Development Bank of Kenya, National Bank of Kenya, Commercial Bank of Africa and Family Bank of Kenya whose efficiency scores were exactly 1.0000. It is to be noted that Cooperative Bank of Kenya and Diamond Trust Bank of Kenya were the least efficient in 2009. They had to raise their output by 78.11 and 72.34 percent respectively, to be considered efficient bank. The Barclays Bank of Kenya, Equatorial Bank of Kenya, Equity Bank of Kenya and Jamii Bora Bank of Kenya had also produced their outputs under the efficiency frontier, with the efficiency scores of less than 1.0000, that is, 0.7045, 0.8918, 0.7090 and 0.9452 respectively, indicating that these banks had to increase their output by 29.56, 10.82, 29.10 and 5.48

percent, respectively, with the same amount of input.

It is observed from the above Table that in 2010, the average efficiency score via intermediation approach for all sample Kenyan Commercial Banks increased from 0.7746 in 2009 to 0.7994 in 2010. It is to be noted that out of ten sample commercial banks of Kenya, five of the commercial banks, namely, Development Bank of Kenya, Equatorial Bank of Kenya, National Bank of Kenya, Equity Bank of Kenya and Commercial Bank of Africa- Kenya were at efficient zone, with an efficiency score of exactly 1.0000. But two banks, Family Bank of Kenya and Jamii Bora Bank of Kenya, earned an efficiency score of 0.9622 and 0.9466 respectively, indicating that they should increase their output by 3.78 and 5.34 percent respectively. It is shocking to note that the Cooperative Bank of Kenya, Barclays Bank of Kenya and Diamond Trust Bank of Kenya, as observed from above Table, were considered the least efficient as their efficiency scores were at 0.1951, 0.5799 and 0.3098 respectively, indicating that they should increase their output by 80.49, 42.01 and 79.02 percent, without increasing the amount of the input in 2010.

The performance analysis of individual banks through intermediation approach during the period from 2007 to 2010 clearly indicates that no commercial bank considered efficient in all the years of the study period. However, few sample banks, namely, Barclays Bank of Kenya, Development bank of Kenya, Equatorial Bank of Kenya, Commercial Bank of Africa, Family Bank of Kenya and Jamii Bora Bank of Kenya were efficient in some years, with the average efficiency score of 0.7892, 1.0000, 0.9730, 0.9433, 0.8779 and 0.8795 respectively. It is important to note here that two banks, namely, Cooperative Bank of Kenya and Diamond Trust Bank of Kenya, were considered the least performing banks with an average efficiency score of 0.3610 and 0.2658 respectively from 2007 to 2010.

According to the results in Table - 1, it is clearly understood that Kenyan Commercial Banks taken for the study were less efficient, with a fair efficiency ranging from 0.6308 to 0.7994 under the Intermediation Approach and 0.6132 to 0.7508 under Operation Approach.

The reason for the lower efficiency score earned by sample Kenyan banks taken for this study was probably the impact of Financial Crisis in 1997 and 2008. Besides, it is to be noted that prior to the Crisis, every commercial bank in Kenya had lent inappropriately to real estate business (borrowing for short term but lending for long term), which created enormous amount of Non-Performing Loans (NPLs).

Conclusion

It is to be noted that the efficiency of sample Kenyan Banks should be improved. Few suggestions for improving the efficiency of the sample Kenyan Banks like they need to implement the policy of 'Know Your Customer', which would help the banks to improve the business and the probability of recovering the loans and decreasing the risks in operations. Secondly, instead of setting up permanent branches in remote areas, it is always better to provide banking services through Self Help Groups in such areas, by identifying suitable and committed persons and thus enabling banks to save enormous human and monetary expenses. Lastly, interacting with people for the purpose explaining bank products to them, and convincing them that banks are committed towards development of people rather than mere profits for banks, would lead the people to access banking services to the maximum, particularly in rural areas where people still feel that the banks are just organized moneylenders.

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Table - 1

Efficiency of Sample Commercial Kenyan Banks through Intermediation Approach from 2007 to 2010

	Name of Bank Year	2007	2008	2009	2010	Average Score
	1) Large Banks					
1.1	Co-operative Bank of Kenya	0.8119	0.2180	0.2189	0.1951	0.3610
12	Barclays Bank of Kenya	0.8723	1.0000	0.7045	0.5799	0.7892
13	Equity Bank of Kenya	0.7096	0.7099	0.7090	1.0000	0.7821

	2)Medium Sector Banks					
2.1	Diamond Trust Bank of Kenya	0.2577	0.2191	0.2766	0.3098	0.2658
2.2	National Bank of Kenya	0.5733	0.3283	1.0000	1.0000	0.7254
2.3	Commercial Bank of Africa	0.7733	1.0000	1.0000	1.0000	0.9433
2.4	Family Bank of Kenya	0.6517	0.8975	1.0000	0.9622	0.8779
	3) Small Sector Banks					
3.1	Equatorial Bank of Kenya	1.0000	1.0000	0.8918	1.0000	0.9730
3.2	Jamii Bora Bank of Kenya	0.6569	0.9693	0.9452	0.9466	0.8795
3.3	Development Bank of Kenya	1.0000	1.0000	1.0000	1.0000	1.0000
	Average Score	0.6308	0.7341	0.7746	0.7994	