EUROPEAN ACADEMIC RESEARCH
Vol. IV, Issue 9/ December 2016

Impact Factor: 3.4546 (UIF)
DRJI Value: 5.9 (B+)

ISSN 2286-4822
www.euacademic.org

Application of the CAMEL Rating Model to evaluate Banks' Performance: A Study of Banks listed on the Ghana Stock Exchange

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Abstract:

Financial institutions play a significant role in the steady development of both businesses and national economy. The rapid growth of this sector has a ripple effect on all sectors of the economy through capital investment and saving mobilization. There is the need to sustain this sector in order to maintain the rapid development of all sectors. Despite the impact of financial institutions on the performance of businesses and national economy, the growth of this sector is dwindling in recent times. Several factors influence the shrinking of this sector especially after the financial crisis of 2008. In view of this it is critical to examine the performance of banks to enable policy makers and firms to identify the factors that contributes towards attaining higher performance. In doing so, the study examines the performance of banks using the CAMEL rating model. Furthermore, to gain a true insight into the performance of banks, the study used data from six (6) banks in Ghana. The rational for selecting these banks is due to the fact that they are listed on Ghana stock exchange. The findings suggested that banks are highly geared. Therefore, firms need to develop new strategies that will enable them source enough equity funds. On asset quality, the overall performance of firms is significant but

there is the need to improve credit assessment and monitoring and loan recovery. This will enable the banks to deal with bad loans whiles improving its service quality.

Key words: CAMEL Model, Bank Performance, Ghana, Performance Evaluation

1. INTRODUCTION

Financial services institutions are very important in an economy and play an essential role in its growth. Waqabaca (2004) highlighted the relationship between financial development and economic growth and opined that there is direct link between financial development and economic growth. A well-developed and sound operating financial institution can add to economic growth through two different but supplementary ways as underlined by growth theory. It aids economic growth through capital accumulation and through the process of total factor productivity (Ang, 2008).

The banking sector does not only serve as storehouses of the country's wealth, but the sector also mobilizes idle resources for production purposes and trade promotion. To be able to channel savings into productive investments, financial institutions should attract savings. The process of channeling those savings into investments are done by financial markets and financial service intermediaries. By mobilizing savings, the banks direct these savings into other productive areas of the economy thus supporting the capital formation of a country. In order to ensure efficient allocation of resources and monitoring of investments in projects, there must be improvement in the financial systems. The roles of the financial system are classified into five functions. They are savings mobilization, resource allocation, facilitating transaction, exercising corporate control and management of risk (Ang 2008; Demirgurc-Kunt & Lavine 2008). Likewise, Ntow and Laryea

(2012) assert that banks are the main actor in the financial services sector particularly in less developed economies where financial markets are not robust enough. They opined that businesses source for funds from banks to undertake their various projects and operations therefore making banks important sources of funds for businesses. Therefore the survival and performance of banks is critical to investors, business community and entire economy as a whole (Ntow and Laryea, 2012).

The banking sector in Ghana has seen numerous structural changes over the past decades. The sector, under the Financial Sector Adjustment Program, liberalized interest rate in 1988 to improve credit allocation efficiency and savings mobilization through competition by liberalizing interest on loans. It further enhances the performance of the banking sector by enhancing administrative and regulatory framework that aids in the development of financial markets. (Amamoo et al., 2003). In addition, there is an institution of standardized reporting and accounting processes, and the solidification of supervisory and regulatory capacities of the Bank of Ghana. According to Adu and Agbemade (2012), this has caused the number of banks operating in the country to increase in the last 20 years.

Banks are major economic participants in the economy and so evaluating their financial performance is an effective and prudent means to check their operational efficiency and financial health. Misra & Aspal (2013) are of the opinion that banks' significant role in economy in relation to capital formation is inherent in nature meaning more attention should be given to that sector. Several studies have explored this topic in many different countries. For example, Baral (2005) in Nepal, Al-Tamimi (2010) in the United Arab Emirates, Oladele & Sulaimon (2012) in Nigeria, Said & Tumin, (2011) in Malaysia and China. In Ghana, however, studies on using the CAMEL approach to assess banks' performance are limited

with the exception of a study conducted by Ntow & Laryea, (2012). In their study, they compared the performance of 25 foreign and local banks. Their findings suggest that foreign banks performed much better as compared to their local counterparts for the period analyzed from 2005-2010. This study attempts to fill the gap in literature in the Ghanaian context, and also adds to the body of literature on the topic by evaluating the Capital adequacy, Asset quality, Management efficiency, Earnings, and Liquidity (CAMEL) banks listed on the Ghana Stock Exchange. The central bank of Ghana uses this approach to measure the soundness, asset quality, efficiency, solvency, profitability and liquidity of Banks operating in Ghana so applying it to evaluate the performance of listed banks is in order. This paper investigates the differences in performance of Ghanaian quoted banks by employing data from 2007 to 2014 and what that means to bank's management and policy makers. The rest of the study is arranged as follows. The next section presents the review of relevant literature, the third section explains the research methodology used for the study and the fourth section presents the analysis and findings. The discussions are presented in section five. Section six discusses conclusion and further research.

2. LITERATURE REVIEW

Since the introduction of the CAMEL-rating model in the 1980s by the U.S. supervisory authorities as a system of rating for on-site examination of banking institutions, several researchers, academicians and institutions have studied and investigated banks performance using this model. The model has been applied to both private and public banks. Barr et al. (2002) see this model as concise and essential tool for examiners, administrative and regulatory authorities. This model reviews the activities of a bank on five critical parameters based on

information from financial statements, funding sources, macroeconomic data, budget and cash flow to assess its financial health. However, Hirtle & Lopez (1999) emphasizes that the bank's CAMEL rating is only exposed to top management executives who use this information to formulate the business's strategies, and to appropriate supervisory staff because its confidential nature. The parameters of the model are Capital Adequacy, Asset Quality, Management, Earnings and Liquidity. They reveal financial conditions, operating soundness and compliance to regulatory guidelines required of the banking institutions.

Romana & Sargu (2013) analyzed comparatively the Financial Soundness of Commercial Banks operating in Romania. To achieve this purpose, they applied the CAMEL framework in the study. Fifteen 15 commercial banks operating in Romania were sampled and used for the study. These fifteen banks were used because they together own over 78.10% of the industry's assets. Data set from of 2004 to 2011 were used for the study. The strengths and the weaknesses of the analyzed banks were heighted by the study. The study emphasized the importance of strengthening the capacities of decision makers and addresses their concerns to improve and increase banks' soundness.

Misra & Aspal (2013) studied State Bank Group in India using CAMEL approach. The research covered data from published annual reports of the sampled banks from 2009 to 2011. Twenty financial ratios were computed and employed in the analysis of the banks' performance by the authors. Three-year average was calculated with the help of simple arithmetic mean and one-way ANOVA was also used to check if there are somewhat significant variations the means of CAMEL ratios. The study revealed differences in rankings of ratios among the State Bank group, but statistically no substantial difference in the CAMEL ratios was found. They attributed the similarities in the overall performance of the group to adoption and use of

modern technology, recovery mechanism and reforms in the sector.

Sangmi & Nazir (2010) assessed the financial performance of two major commercial banks in the Northern India by applying CAMEL model. These two key banks were used because of the crucial role they play in mobilizing deposits for capital formation, advances, employment, branch network, among others, in shaping trade and industry in the Northern part of India. Secondary data from the financial statements of the selected banks were used covering a period of five years from 2001 to 2005. The outcome of the work showed that the position the banks were sound and satisfactory in relation to capital adequacy, asset quality management capability. They noted that liquidity management is a key function in a banking setup and that improper use of funds by banks or firms can cause losses.

Similar studies have also taken place in Africa to examine and investigate banks performance with the CAMEL approach. For academic purposes, Ntow and Laryea (2012) conducted a study to compare the performances of foreign and local banks operating in Ghana along the following dimensions; Return on assets, Return on equity, Asset quality, Capital adequacy, Management efficiency, Earning ability, Liquidity and Bank size. Using data from 2005 to 2010, they found various differences in ratios for the two categories of banks operating in Ghana. The study after the comparisons made the following conclusions; Local banks earn higher returns on both assets and equity than foreign banks. Foreign banks maintained higher capital adequacy ratio and as well as have higher quality assets (loans) compared to local banks in Ghana. However, local banks are more efficient than foreign banks in Ghana. Also, foreign banks are more liquid than the local banks. On the size front, the authors conclude that foreign banks are generally bigger than their local counterparts in Ghana.

Ifeacho (2014) utilized CAMEL model to investigate the effect of bank-specific variables and selected macroeconomic variables on the South African banking sector with data covering 1994 to 2011. The study employed data in annual frequency from South Africa's four leading banks, namely, ABSA, First National Bank, Nedbank, and Standard Bank. These banks combined have over 70% of South Africa's banking industry's operating assets. Ifeacho (2014), reports that bank-specific variables are all statistically significant contributing factors of bank performance. The study, specifically, showed that quality of assets, management efficiency, and liquidity have a positive effect on return on asset and return of equity of a bank, which validates prior theoretical expectations. However, Capital adequacy exhibited a significant negative relationship with ROA surprisingly, while it showed a significant and positive relationship with ROE as expected. Apart from interest rates and unemployment rate (in the ROA model), and inflation rate (in the ROE model), all the macroeconomic factors were statistically insignificant. The study disclosed that bank performance is directly related to interest rates and inversely related to unemployment rates.

Similarly, Ongore and Kusa (2013) concludes that Kenyan commercial banks performances are driven generally by management and board decisions, while macroeconomic variables have insignificant impact. Bank's profitability rests on its competence to predict, avoid and monitor risks, possibly to cover losses caused by risks that happens. Whereas it is imperative for banks to be liquid to escape being cash trapped according to Aburime (2008), Kamau (2009) maintains that being highly liquid comes with opportunity cost at the expense of some profitable investments, which could be put to work elsewhere to earn high yields by banks.

3. RESEARCH DESIGN AND METHODOLOGY

The study is a quantitative study based on analytical research design. This paper tries to evaluate and find out the differences in performance of banks listed on the Ghana Stock Exchange with data from 2007 to 2014. To achieve this objective, the study adopted the CAMEL framework that has widely been used in this type of research by previous researchers such as: (Baral 2005; Sangmi & Nazir 2010; Hassan et al. 2011; Ntow and Laryea 2012; Misra & Aspal 2013).

3.1 Data collection

The data for the current study is gathered from secondary sources and is mainly drawn from the annual published financial statements of the sampled banks from 2007 to 2014. The study uses the entire population of banks listed on the Ghana Stock Exchange. Nevertheless, seven out of the eight commercial banks quoted on the Ghana Stock Exchange (GSE) with complete data covering the period under study are employed. The seven banks included in the study are CAL, EBG, GCB, HFC, SH-GH, SCB, and UTB. The choice of listed banks is based on complete availability accessibility of data for the purpose of the study.

3.2 Data analysis tools

The study employs two ratios under each of the five parameters. In total, ten ratios were calculated using Microsoft Excel version 2010. For accurate interpretation of the data, the banks are ranked on the various parameters of performance adopted in the study and the averages for the various ratios of each bank are computed and ranked as well. Composite rankings are also done in the analysis.

3.3 The CAMEL Framework

The CAMEL framework is an abbreviation for five parameters used for assessing the financial health and soundness of banks. They are capital adequacy, asset quality, management efficiency, earnings ability and liquidity. Each component of the framework is represented by two ratios in this study.

3.3.1 Capital Adequacy

There has been increased awareness toward capital adequacy of financial institutions lately because of Basel Committee's recent decisions to raise capital adequacy ratios. This has become imperative because investors, shareholders and stakeholders interests and confidence has to be preserved and safeguarded as well as to protect the bank from going bankrupt. It shows whether the banks has sufficient amount of capital to withstand any unforeseen future losses that may occur. It examines the percentage of total assets of the bank that is financed by owners' resources. A higher ratio is desirable for the banks. For this study, capital adequacy is measured using two ratios namely; debt to equity and equity to total assets. They are computed as follows:

$$\text{Ratio 1} \quad \text{Debt to Equity} = \frac{\text{Total Liabilities}}{\text{Equity}}$$

$$\text{Ratio 2} \quad \text{Equity to Total Assets} = \frac{\text{Equity}}{\text{Total Assets}}$$

3.3.2 Asset Quality

Asset quality is a relevant area in evaluating the overall state of a bank. The key element influencing overall asset quality is the quality of the customer loan portfolio and the credit risk management policy. This analyses the quality of the banks customer portfolio, the quantity of bad and doubtful loans. Asset quality, for the purpose of this study is measure by impairment to gross loans and advances, and loans & advances to total assets.

Ratio 3 Impairment to Total Assets = $\frac{\text{Impairment allowance}}{\text{Gross Loans \&Advances}}$

Ratio 4 Loans & Advances to Total Assets = $\frac{\text{Loans \& Advances}}{\text{Total Assets}}$

3.3.3 Management Efficiency

The efficiency of management of financial institutions is very crucial when it comes to utilization of the company's resources. Efficiency ratios measure the institution's ability to use its resources generates revenues. These ratios give owners and other stakeholders a clear understanding of how efficiently management is running the affairs of the institution. Efficiency ratios examine whether the institution is able to generate sufficient margins to operate its activities. The two ratios used in this study under this parameter are interest income to total assets and cost to income ratio.

Ratio 5 Interest Income to Total Assets = $\frac{\text{Interest Income}}{\text{Total Assets}}$

Ratio 6 Cost to Income = $\frac{\text{Cost}}{\text{Interest income}}$

3.3.4 Earnings Ability

The earning quality shows not only the magnitude and trend in a firm's earnings, but also the firm's ability to produce consistent and sustainable earnings. It reveals the quality of a company's profitability and explains the firm's capacity to grow and sustain future earnings or profits. Higher quality earnings reveal more information about the financial performance of the firm and enables management and investors to make specific relevant decisions. Return on assets and Return on equity are the two main ratios used under this metric for the study.

Ratio 7 Return on Assets = $\frac{\text{Net Profit}}{\text{Total Assets}}$

Ratio 8 Return on Equity = $\frac{\text{Net Profit}}{\text{Equity}}$

3.3.5 Liquidity

Liquidity refers to a firm's ability to convert its assets quickly into cash at a reasonable cost to pay its creditors and other liabilities. In other words, liquidity ratio expresses how well a firm is able of meet or covers its financial obligations as and when they fall due. The two ratios employed under this metric in this study are liquid assets to total deposit and liquid assets to total assets

Ratio 9 Liquid Assets to Total Deposits = $\frac{\text{Liquid Assets}}{\text{Total Deposit}}$

Ratio 10 Liquid Assets to Total Assets = $\frac{\text{Liquid Assets}}{\text{Total Assets}}$

4. ANALYSIS AND FINDINGS

The results of the study are analyzed under the five components of CAMEL framework explained in section 3.3 above and are shown below;

4.1 Capital Adequacy

4.1.1 Debt to Equity

The debt to equity ratio measures the proportion of firm's capital that is contributed by creditors and shareholders. It also indicates the extent to which shareholders' equity can fulfill a company's obligations to creditors in case of a bankruptcy. The debt to equity ratio is computed by dividing total liabilities by total equity. While a high debt to equity ratio shows that a business may not be able to generate enough cash to pay its debt obligations, a low ratio may be an indication that a firm is financially stable.

Table 1.1: Debt to Equity (times)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	7.05	8.48	6.90	5.53	7.46	4.68	4.54	5.90	6.32	2
EBG	12.77	9.85	5.76	5.68	7.48	6.40	7.30	6.23	7.68	5
GCB	5.63	7.07	8.64	7.59	13.48	9.52	6.58	5.41	7.99	6
HFC	11.37	12.69	7.06	4.30	4.82	3.62	4.94	4.61	6.68	3
SG-GH	6.15	5.27	4.31	4.90	4.58	5.41	5.28	6.55	5.31	1
SCB	8.15	10.01	7.80	7.51	7.47	6.68	5.14	5.63	7.30	4
UTB	8.39	6.57	8.51	9.11	10.64	6.68	9.39	10.76	8.76	7

Source: Author's computation based on annual reports from 2007-2014

The results from table 1.1 above shows that SG-GH took the top spot by showing the least average debt to equity (times) of 5.31, followed by CAL in second position with an average of 6.32. HFC took the third spot with an average of 6.68. SCB and EBG came fourth and fifth with 7.30 and 7.68 averages respectively. The highest average was recorded by UTB making it the lowest ranked bank in terms of debt to equity. A lower debt to equity ratio is preferable to a higher ratio.

4.1.2 Equity to Total Assets

The equity to assets ratio determines how much of the business' assets are financed by the shareholders. This shows the stake of the investors in the business. It is calculated as total equity divided by total assets. A higher ratio is normally satisfactory for firms and indicates to potential suppliers of credit that the business is less risky and sustainable to lend money to in the future.

Table 1.2: Equity to Total Assets (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	12.40	10.50	12.70	15.30	11.80	17.60	18.00	14.50	14.10	3
EBG	7.20	9.20	14.80	15.00	11.80	13.50	12.00	13.80	12.16	5
GCB	15.10	12.40	10.40	11.60	6.90	9.50	13.20	15.60	11.84	6
HFC	8.10	7.30	12.40	18.80	17.20	21.70	16.80	17.80	15.01	2
SG-GH	14.00	16.00	18.80	16.90	17.90	15.60	15.90	13.20	16.04	1
SCB	10.90	9.10	11.40	11.80	11.80	13.00	16.30	15.10	12.43	4
UTB	10.60	13.20	10.50	9.90	8.60	13.00	9.60	8.50	10.49	7

Source: Author's computation based on annual reports from 2007-2014

Figures from the above table show a higher average equity to total assets (%) of 16.04 for SG-GH. SG-GH therefore secured the top position, followed by HFC with an average of 15.01. CAL ranked third with an average equity to assets (%) of 14.10. SCB secured the fourth position with an average of 12.43. Again, UTB secured the lowest average therefore ranked seventh.

4.1.3 Composite Rating

Based on the two ratios used as capital adequacy measures, the group averages and rankings are shown in table 1.3 below; SG-GH came on top having ranked first in both ratios. CAL and HFC are tied at second position with group average of 2.5. UTB was the least ranked bank because it performed poorly in both debt to equity (times) and equity to total assets.

Table 1.3: Capital adequacy composite ranking

Bank	Debit to Equity Rankings	Equity to Total Assets Rankings	Group	
			Average	Rank
CAL	2	3	2.50	2
EBG	5	5	5.00	5
GCB	6	6	6.00	6
HFC	3	2	2.50	2
SG-GH	1	1	1.00	1
SCB	4	4	4.00	4
UTB	7	7	7.00	7

Source: Author's computation based on annual reports from 2007-2014

4.2 Assets Quality

4.2.1 Impairment Allowance to Gross Loans and Advances

This ratio measures the percentage of impairment allowance to total assets of the bank. In order words, it analyses the bank's expenses for impaired loans to gross loans and advances. A lower ratio is preferable to a higher ratio.

Table 2.1: Impairment Allowance to Gross Loans and Advances (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	4.90	4.10	4.90	5.40	6.00	4.30	3.30	1.60	4.31	2
EBG	1.50	2.30	4.00	4.70	1.60	4.10	4.20	2.40	3.10	1
GCB	1.30	1.50	4.00	11.00	22.10	14.70	10.70	8.70	9.25	6
HFC	3.20	3.80	4.60	4.90	5.20	4.90	5.00	5.80	4.68	4
SG-GH	6.20	5.00	5.00	7.20	7.00	5.00	5.50	9.40	6.29	5
SCB	3.50	2.60	6.00	5.40	5.00	3.80	4.00	6.60	4.61	3
UTB	30.20	20.50	8.10	8.50	4.80	4.70	5.90	5.60	11.04	7

Source: Author's computation based on annual reports from 2007-2014

EBG ranked first with an average of 3.10% from the computation above, followed by CAL in second position with 4.31% on the basis of impairment allowance to gross loans and advances. The third and fourth ranked banks were SCB and HFC with averages of 4.61% and 4.68% respectively. UTB recorded the highest average in terms of asset quality measured by impairment allowance to gross loans and advances of 11.04% and therefore ranked last in the rating. The lower the ratio or percentage the better it is for the bank.

4.2.2 Loan and Advances to Total Assets

This ratio shows the association between loans and advances to customers and total assets. A higher ratio indicates that the bank has advanced more loans to its customers that ultimately generate more profits. Higher ratio is preferred to a lower one but a higher ratio can also increase defaults.

Table 2.2: Loan and Advances to Total Assets (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	49.00	57.00	48.00	51.00	52.00	64.00	63.00	49.00	54.13	2
EBG	43.00	44.00	33.00	33.00	40.00	41.00	46.00	48.00	41.00	6
GCB	65.00	66.00	66.00	48.00	19.00	29.00	28.00	29.00	43.75	5
HFC	64.00	38.00	60.00	50.00	49.00	57.00	53.00	50.00	52.63	3
SG-GH	51.00	66.00	51.00	44.00	41.00	48.00	61.00	53.00	51.88	4
SCB	35.00	47.00	29.00	28.00	30.00	40.00	38.00	36.00	35.38	7
UTB	71.00	77.00	65.00	61.00	67.00	69.00	69.00	74.00	69.13	1

Source: Author's computation based on annual reports from 2007-2014

From the table 2.2 above, UTB obtained the highest average of 69.13% and therefore ranked first. CAL took the second position with an average of 54.13% followed by HFC with an average of 52.63%. SCB got the lowest rank with an average of 35.38%.

4.2.3 Composite Rating

The group averages shown below based on the two measures of assets quality adopted in the study, CAL sealed the top position with an average of 2.00. The second position was shared between EBG and HFC. The fourth position was occupied by UTB having performed well in loans and advances to total assets ratio. GCB secured the lowest group ranking and therefore placed seventh.

Table 2.3: Asset quality composite ranking

Bank	Impairment Allowance to Gross Loans & Advances Rankings	Loans & Advances to Total Assets Rankings	Group	
			Average	Rank
CAL	2	2	2.00	1
EBG	1	6	3.50	2
GCB	6	5	5.50	7
HFC	4	3	3.50	2
SG-GH	5	4	4.50	5
SCB	3	7	5.00	6
UTB	7	1	4.00	4

Source: Author's computation based on annual reports from 2007-2014.

4.3. Management Efficiency

4.3.1 Interest Income to Total Assets

This ratio reflects management's efficiency in generating interest income using the assets at their disposal. It shows how much interest income is earned on every dollar invested in assets of the business. An efficient use of assets will generate higher interest income for the company. A higher ratio indicates good performance in terms of interest income generation that is better for the business' operations.

Table 3.1: Interest Income to Total Assets (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	10.30	11.30	14.30	13.90	9.60	12.60	17.00	13.00	12.75	4
EBG	8.20	7.90	9.50	9.30	8.00	10.20	9.90	11.70	9.34	7
GCB	9.80	11.00	13.90	18.40	10.50	12.70	16.30	16.30	13.61	2
HFC	14.30	9.10	18.40	14.70	12.90	11.20	11.90	13.90	13.30	3
SG-GH	10.10	10.90	10.80	11.00	9.70	8.40	10.80	11.90	10.45	6
SCB	11.70	11.20	11.10	12.80	9.90	9.30	12.60	12.00	11.33	5
UTB	38.40	34.10	31.90	14.50	14.00	13.60	14.10	13.90	21.81	1

Source: Author's computation based on annual reports from 2007-2014

In case of Interest income to total assets, UTB ranked first with the highest average of 21.81% followed by GCB with an average of 13.61%. HFC followed closely in third position with an average of 13.30%. The lowest average of 9.34% was recorded by EBG making it the lowest ranked bank in terms of interest income to total assets.

4.3.2 Cost to Income ratio

Cost to income ratio is calculated as a company's operating expenses divided by its operating income. It shows management's efficiency in reducing operating costs whereas increasing profits. The lower the cost to income ratio, the better it is for the company and the more efficient the firm is being operated by its management. A higher ratio, on the other hand, signifies the inefficiency of management in reducing operational costs and increasing profits.

Table 3.2: Cost to Income (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	60.00	60.00	60.00	50.00	48.00	37.00	34.00	35.00	48.00	2
EBG	50.00	50.00	50.00	50.00	53.00	49.00	46.00	47.00	49.38	3
GCB	70.00	60.00	70.00	50.00	85.00	53.00	47.00	51.00	60.75	4
HFC	70.00	60.00	70.00	60.00	69.00	66.00	49.00	55.00	62.38	6
SG-GH	60.00	60.00	60.00	70.00	68.00	64.00	60.00	55.00	62.13	5
SCB	50.00	60.00	50.00	50.00	43.00	37.00	31.00	41.00	45.25	1
UTB	90.00	90.00	120.00	60.00	60.00	62.00	70.00	70.00	77.75	7

Source: Author's computation based on annual reports from 2007-2014

The cost to income analysis of the banks from table 3.2 shown above indicates that SCB had the lowest average of 45.25%

hence securing the top spot as the best bank in reducing operating costs. CAL occupied the second position with cost to income average of 48%, followed closely by EBG in third position with an average of 49.38%. UTB is the lowest ranked bank on the table having recorded the highest average of 77.75%.

4.2.4 Composite Rating

The group averages in the table 3.3 below indicate CAL, GCB, and SCB are tied at the first position with same averages of 3.0, followed by UTB with 4.00. HFC had a group average of 4.50 and so ranked fifth. SG-GH secured the lowest ranking of 5.50 having performed quite poorly in both measures of management efficiency used in the study.

Table 3.3: Management efficiency composite ranking

Bank	Interest Income to Total Assets Rankings	Cost to Income Rankings	Group	
			Average	Rank
CAL	4	2	3.00	1
EBG	7	3	5.00	6
GCB	2	4	3.00	1
HFC	3	6	4.50	5
SG-GH	6	5	5.50	7
SCB	5	1	3.00	1
UTB	1	7	4.00	4

Source: Author's computation based on annual reports from 2007-2014

4.4 Earnings Ability

4.4.1 Return on Assets (%)

This is a profitability ratio that determines the net profit made by total assets and it is calculated by dividing net profit by total assets. Return on assets ratio, in other words, measures how well a company can use its assets or resources to generate profits during a period.

Table 4.1: Return on Assets (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	2.60	2.40	2.00	1.80	2.30	4.30	5.90	5.20	3.31	3
EBG	2.90	3.70	3.90	4.00	3.30	4.20	4.00	5.50	3.94	2
GCB	2.80	2.20	0.90	2.60	0.70	4.70	6.60	6.40	3.36	5
HFC	2.00	1.50	2.10	2.10	2.30	2.20	3.70	4.10	2.50	7
SG-GH	2.80	3.60	3.30	2.80	2.70	2.80	3.00	3.00	3.00	4
SCB	4.10	3.40	4.10	4.30	3.90	5.70	7.00	5.90	4.80	1
UTB	6.00	4.10	3.50	1.90	1.80	2.10	0.70	0.70	2.60	6

Source: Author's computation based on annual reports from 2007-2014

It can be seen from table 4.1 above that SCB obtained the highest average of 4.8% making it the highest ranked bank on the basis of return on assets. Following in second place is EBG with an average of 3.94%. CAL and SG-GH occupied the third and the fourth positions respectively. The lowest ranked bank in terms of return on assets was HFC with an average of 2.5%.

4.4.2 Return on Equity

Return on equity is a profitability ratio that determines the capacity of a firm to make profits from capital invested in the firm by its owners. It measures how much profit each cedi of capital invested by shareholders produces. In short, return on equity is a measure of how efficient and effective management uses the amount contributed by owners to run the firm's activities and operations and as grow the business in order to increase shareholder value.

Table 4.2: Return on Equity (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	20.80	22.50	15.60	11.50	19.70	24.20	32.70	35.80	22.85	5
EBG	40.40	39.60	26.20	26.40	27.90	31.40	33.40	39.50	33.10	2
GCB	18.60	18.20	9.10	22.60	9.80	49.10	50.00	40.90	27.29	3
HFC	24.70	20.80	17.20	11.20	13.40	10.20	22.20	23.00	17.84	7
SG-GH	19.80	22.30	17.80	16.70	15.20	17.80	18.80	22.40	18.85	6
SCB	37.40	37.10	36.00	36.80	33.40	43.80	42.70	39.40	38.33	1
UTB	56.10	31.40	33.80	19.40	21.30	16.30	7.60	7.90	24.23	4

Source: Author's computation based on annual reports from 2007-2014

In terms of return on equity, SCB secured the highest average of 38.33% thereby placing it in first position on this particular

metric. EBG followed in second position having accumulated an average return on equity of 33.10%. GCB took the third position with 27.29%. HFC was the lowest ranked bank on this metric with an average of 17.84%.

4.4.3 Composite Rating

The group averages shown below based on the two ratios calculated under earnings quality indicate that SCB performed creditably well in both ratios (return on assets and return on equity) and so ranked first, followed by EBG in second position with a group average of 2.00. HFC recorded the lowest ranking as a result of its weak performance in return on assets and return on equity. It scored a group average of 7.00.

Table 4.3: Earning Ability composite ranking

Bank	Return on Assets Ranking	Return on Equity Ranking	Group	
			Average	Rank
CAL	3	5	4.00	3
EBG	2	2	2.00	2
GCB	5	3	4.00	3
HFC	7	7	7.00	7
SG-GH	4	6	5.00	5
SCB	1	1	1.00	1
UTB	6	4	5.00	5

Source: Author's computation based on annual reports from 2007-2014

4.5 Liquidity

4.5.1 Liquid Assets to Total Deposits

This ratio measures how well liquid assets can cover total deposits of the bank. It is determined by dividing liquid assets by total deposits. A higher ratio indicates that depositors are well covered in the sense that the bank has the capacity to meet the cash demands of its depositors

Table 5.1: Liquid Assets to Total Deposits

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	84.00	70.00	77.00	71.00	57.00	45.00	62.00	90.00	69.50	3
EBG	62.00	58.00	82.00	79.00	68.00	67.00	62.00	62.00	67.50	4
GCB	38.00	43.00	44.00	64.00	90.00	82.00	78.00	89.00	66.00	5
HFC	57.00	200.10	52.00	83.00	70.00	60.00	80.00	76.00	84.76	1
SG-GH	63.00	41.00	57.00	68.00	66.00	55.00	38.00	50.00	54.75	6
SCB	75.00	55.00	100.60	99.00	86.00	75.00	76.00	76.00	80.33	2
UTB	68.00	41.00	61.00	64.00	37.00	27.00	30.00	26.00	44.25	7

Source: Author's computation based on annual reports from 2007-2014

On the liquid assets to total deposits metric shown in table 5.1 above, HFC is the best ranked bank with the highest average of 84.76%. It is followed by SCB as the second best ranked bank with 80.33%. CAL came in third place with an average of 69.50%. UTB placed seventh with the lowest average of 44.25%.

4.5.2 Liquid Assets to Total Assets

This is an essential liquidity management ratio used to evaluate on continuous basis the degree to which liquid assets can support the asset base of the firm.

Table 5.2: Liquid Assets to Total Assets (%)

Bank	2007	2008	2009	2010	2011	2012	2013	2014	Average	Rank
CAL	44.00	36.00	48.00	41.00	42.00	31.00	33.00	46.00	40.13	4
EBG	47.00	44.00	60.00	62.00	55.00	53.00	49.00	48.00	52.25	2
GCB	29.00	30.00	29.00	48.00	75.00	64.00	61.00	64.00	50.00	3
HFC	29.00	57.00	28.00	42.00	44.00	37.00	41.00	41.00	39.88	6
SG-GH	42.00	28.00	38.00	49.00	49.00	44.00	30.00	41.00	40.13	4
SCB	56.00	42.00	64.00	65.00	65.00	53.00	55.00	56.00	57.00	1
UTB	52.00	26.00	48.00	23.00	18.00	22.00	23.00	19.00	28.88	7

Source: Author's computation based on annual reports from 2007-2014

A higher liquidity is favorable for the banks as it indicates there are adequate liquid assets to meet financial obligations as well as to run the daily operations of the business. From table 5.2 above, SCB had an average liquid to total assets of 57.00% placing it at the top position of the seven banks analyzed. EBG ranked second with an average of 52.25%, followed by GCB in third position with an average of 50.00%. SG-GH and HFC ranked fourth and fifth respectively. UTB obtained the lowest

liquid asset to total assets with an average of 28.88% and therefore ranked seventh in the table above.

4.5.3 Composite Rating

On the basis of the two ratios calculated under liquidity as indicated in table 5.3, SCB secured the top spot with a group average of 1.50, followed by EBG in second position with an average of 3.00. CAL and HFC shared the third position with securing an average of 3.50. UTB came last with an average of 7.00 and was ranked seventh in the group. This is because UTB's performances in both liquid assets to total deposits and liquid assets to total assets were weak.

Table 5.3: Liquidity composite ranking

Bank	Liquid Assets to Total Deposits Ranking	Liquid Assets to Total Assets Ranking	Group	
			Average	Rank
CAL	3	4	3.50	3
EBG	4	2	3.00	2
GCB	5	3	4.00	5
HFC	1	6	3.50	3
SG-GH	6	4	5.00	6
SCB	2	1	1.50	1
UTB	7	7	7.00	7

Source: Author's computation based on annual reports from 2007-2014

4.6 Overall Performance (Composite Rating) of the Banks

To be able to evaluate the general performance of the banks studied, a composite ranking is calculated and the outcomes are shown in the table below.

Table 6: Overall Ranking of Banks

Bank	C	A	M	E	L	Average	Rank
CAL	2.50	2.00	3.00	4.00	3.50	3.00	2
EBG	5.00	3.50	5.00	2.00	3.00	3.70	3
GCB	6.00	5.50	3.00	4.00	4.00	4.50	6
HFC	2.50	3.50	4.50	7.00	3.50	4.20	4
SG-GH	1.00	4.50	5.50	5.00	5.00	4.20	4
SCB	4.00	5.00	3.00	1.00	1.50	2.90	1
UTB	7.00	4.00	4.00	5.00	7.00	5.40	7

Source: Author's computation based on annual reports from 2007-2014

The above table shows the overall performance of the seven banks analyzed using the CAMEL model covering a period of eight years from 2007 to 2014. It is seen from the above table that SG-GH came first in terms of the capital adequacy ratio metric with CAL and HFC following in second place. The lowest ranked bank under this parameter was UTB as indicated in table 6 above. On the basis of assets quality, CAL emerged as the highest ranked bank whereas both EBG and HFC shared the second position. UTB place fourth under this metric and GCB secured the lowest rank having performed poorly especially in impairment allowance to gross loans and advances ratio. The top position in terms of management efficiency is shared among CAL, GCB and SCB. SG-GH, however, was the least ranked bank under this metric. On the basis of earnings quality, SCB got the highest position followed by EBG. CAL and GCB were tied in third position with HFC taking the last spot. Finally, under the liquidity metric, SCB again emerged first, followed by EBG. The third position is shared between CAL and HFC whilst UTB sat the bottom as the least ranked bank under this parameter based on the figures displayed in the table 6 above. This is so because it performed poorly in both liquid assets to total deposits and liquid assets to total assets calculated under the liquidity parameter.

5. DISCUSSION

The analyses from the study show that SG-GH has the lowest debt to equity followed by CAL having seen a marginal reduction in the ratio from 4.68 (times) in 2012 to 4.54 (times) in 2013. A lower ratio is more desirable than a higher ratio. UTB has the highest debt to equity among the studied banks. Again, SG-GH has the highest average equity to total assets ratio but in 2014 it recorded the second lowest ratio of 13.2% compared to the least in the period shown by UTB. UTB has the

lowest average equity to total assets even though this ratio was quite good in 2012.

The study also found that EBG has the lowest impairment charge to gross loans and advances on average that puts it in good position compared with the other banks studied. UTB has the highest average but there has been a considerable reduction from 30.20% in 2007 to 5.6% in 2014 that looks quite good and preferable. However, UTB has the best total loans and advances to total assets ratio and this probably explains why it also its impairment allowance to gross loans and advances ratio is the highest among the banks used in the study. The lowest percentage of loans and advances to customers to total assets was recorded by SCB.

Furthermore, the study found that UTB generates more interest income from its assets than the rest of the banks studied from 2007 to 2014. Averagely, it generated 21.81% compared to the 9.34% obtained by EBG that recorded the lowest. In terms of Cost to Income ratio, SCB has the lowest average over the periods studied. The lower this ratio is, the more profitable the bank is likely to be. CAL sits in second position having seen a fall in this ratio from 50.00% in 2010 to 35.00% in 2014. The study also established that SCB has the highest return on its assets and equity among the banks. It recorded an average of 38.33% on its equity compared with 17.84% obtained by HFC that is the lowest. HFC, however, showed the highest liquid assets to total deposit ratio and SCB is the most liquid bank among the seven banks analyzed in terms of liquid assets to total assets.

The strong competition in the industry and unfavorable economic situation submits that banks will need to be innovative and come out with creative strategies to develop products and services to sustain the profitable progress they have attained so far. The study revealed that listed banks are highly geared with huge portion of their debts being short term in nature by way of customer deposits. This shows greater risk

for the reason that a short period profit reduction or unexpected rise in interest rates could cause financial instability. Nonetheless, not all debt is bad debt. Loans with lower interest rates should be used more so that the tax benefits of gearing tops the financial risk associated with it. Equity finance should also be improved by all the banks to reduce the possibility of financial distress especially UTB and GCB. Generally, the banks have performed remarkably well in improving the quality of the loan books. The impairment allowance as a percentage of gross loans and advances remained fairly low and stable. UTB for instance reduced this ratio from 30.20% in 2007 to 4.70% in 2012. It increased slightly to 5.90% in 2013 and then reduced by 0.30% to 5.60% in 2014. Notwithstanding, adequate measures should be put in place to improve and strengthen credit assessment, monitoring and loan recovery processes to further reduce default rates. In terms of management efficiency, operating costs for the banks are high and this has an impact on their cost to income ratios. This can be traced to the sector's encounter with cost upturns from inflationary pressures, exchange rate instability, increment in petroleum prices and increased cost from the power crisis. In spite of these difficulties, the banks ought to adopt efficient strategies to control their operational costs so as to be profitable. High operating costs and impairment charges will decrease net profit and given that total assets and shareholders' equity remaining stable, return on assets and return on equity will both be affected by it. UTB has seen the biggest reduction in return on equity after its merger with UT Financial Services Limited in 2010. The banks should work on improving their net interest income especially HFC. The banks remain quite liquid and this is an indication that they want to be careful in keeping enough liquid funds to meet their obligations as they fall due.

6. CONCLUSION AND FURTHER RESEARCH

The results and the discussions from the study indicate that SG-GH ranks first among the seven banks that were analyzed in terms of capital adequacy and the least ranked bank on this metric was UTB. The most efficient bank in terms of asset quality was CAL. The lowest ranked bank based on this measure was GCB. Three banks made up of CAL, GCB and SCB shared the top position in so far as management efficiency was concerned. The earnings ability parameter puts SCB on top spot, followed by EBG in second place. This is explained by its superior performance in return on assets and equity. HFC's poor performance, on the contrary, makes it the lowest ranked bank on this measure. On the basis of liquidity, SCB took the top position and the lowest position was occupied by UTB. The study found a stable performance for all the banks studied. However, it revealed some differences among the various ratios that were computed for each bank under all the five parameters; capital adequacy, assets quality, management efficiency, earnings ability and liquidity. The study recommends, based on the results from the analyses, that UTB improves its performance in both capital adequacy and liquidity. GCB should also work on improving its asset quality especially on its impairment allowance to gross loans and advances ratio. HFC also needs improvement in its liquidity to increase its overall performance. Future studies could use the CAMEL framework to analyze or evaluate commercial banks that are not listed on the Ghana stock exchange.

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