The Use of CAMELS Model to Evaluate Banks, a Case Study of Seven Banks in Ghana

1Dr. William Tawiah Baidoo, 2Samuel Amankwah and 3Stephen Tobazza,
Box KS 3590, Kumasi, Ghana, williambaidoo@gmail.com
2Ghana Post, Box KS 3590, Kumasi, Ghana, samuelamankwah29@yahoo.com
3Bolgatanga Polytechnic, Post Office Box 767, Sumbrungu, Bolgatanga
stobazaad@yahoo.com

Abstract
This study is to evaluate selected banks’ financial statements and profiles for Christ the Teacher College of Education to create a consortium of banks that could assist the College in creating wealth to manage the School. The report collated data from Zenith Bank, Cal Bank, Fidelity Bank, National Investment Bank, Uni Bank, Prudential Bank, and Capital Bank for the study. This study is to analyze the selected banks to determine their suitability for Christ the Teacher College of Education. The evaluation is based on the CAMELS model, that is, Capital Adequacy, Assets, Management, Earnings, Liquidity, and Sensitivity. These arears would give an in-depth understanding of the financial strength, rate of development, interest rates and loan recollection, project funding, and etc.

Keywords: CAMELS Model, Evaluating Banks, Banking, Revenue Efficiency, Profit Efficiency, Ranking, Bank Financing, Financial Investment.

Introduction
The financial market in Ghana has been filled with many financial institutions which have made it difficult in matching the appropriate financial institution to a particular need of an individual or firm. The proliferation of financial intermediaries in the financial market including banking and non-banking institutions has for the past few years created a lot of challenges as some would not have the proper staffing, capital adequacy, license or management capability that lead to the bankruptcy of these institutions as they operates.

Christ the Teacher College of Education was incorporated in 2014 as an educational institution providing tertiary education with affiliation to the University of Cape Coast to award a Diploma in Basic Education (DBE) to graduating students. The College as a Catholic Archdioceses of Kumasi owned can pride itself with the provision of quality education as the first semester examination the students had a little above seventy percent (70%) pass.

[Revise the English construction and is high-lighted] The college is fast developing with the intension of expanding into other programs. Like any other institution, the college faces financial challenges as to identifying the appropriate bank that would provide the services that would best suit the needs of the school. The admission statistics of forty-six
(46) students in the first intake increased to eighty-five (85) in the second intake. There is an anticipation of an increase in the student intake, hence, the need for expansion and development. The College to effectively undertake the expansion projects, the college needs to partner with banks and financial institutions to help finance and management some of the facilities of the college.

This study is to evaluate seven (7) banks considering their suitability to assist the College. These banks include: Zenith Bank, Prudential Bank, National Investment Bank, Capital Bank, Uni bank, Fidelity bank and Cal bank.

**Purpose of the Study**

Christ the Teacher College of Education wants to undertake project to help in stabilizing and improving on the financial needs of the College. The study would evaluate the banks in terms of their quantitative and qualitative strengths and weakness. An extensive analysis would be used in the recommendation of the suitable banks to assist the College. The specific purposes of the study includes:

i) To identify financial institution with adequate capital to assist in funding the college's projects.

ii) Selecting financial institution that would yield a better interest for investment with the least risk.

iii) Identifying a financial institution that would provide cost effective management and affordable services to the college.

**Scope of the Study**

This study is to analyze the selected banks to determine their suitability for Christ the Teacher College of Education. The evaluation is based on the CAMELS model, that is, Capital Adequacy, Assets, Management, Earnings, Liquidity, and Sensitivity. The scope would specifically include:

i) Which financial institutions have adequate capital to fund the college's projects?

ii) If a financial institution could provide higher interest rates at the least risk levels?

iii) Which financial institution has the affordable and effective management services for the college?

**Limitations**

The following were the limitations on the result of the study:

- The ratios used in analyzing the data could not absolutely prove that the relations were only or mainly caused by the occurrence of the other variable.

- Some banks would not totally disclose information concerning their finances and management, hence, limited the study in terms of the access of information.

- Finally the sample size comes with its own limitations. With the sample of seven (7) banks in Ghana, when looking at the sample size often becomes rather small.
Literature Review

The main challenge of CAMELS model is to identify out problems which are faced by the banks and financial institution and the comparative analysis of the performance of numerous banks. In Bodla and Verma (2006) recommended that evaluation and rating of banks and financial institutions would assist the Reserve Bank of India to categorize the banks and financial institutions whose performance requires special regulatory consideration. Hirtle and Lopez (1999) emphasized that the bank's CAMELS rating is exceedingly confidential and only revealed to the senior management of the bank for the purpose of planning the business strategies and to appropriate supervisory staff. CAMEL is an acronym for five components of bank safety and soundness: capital adequacy, asset quality, management quality, earning ability, liquidity, and sensitivity. A study by Lace and Stephen (2001) revealed that there is absolutely a correlation between bank efficiency scores and financial ratios used to proxy a bank's CAMELS rating.

In Satish, Jutur and Surender (2005) resolved that the Indian banking system looks comprehensive and Information Technology will assist the banking system develop in strength in future. Instead, Singh and Kohli (2006) undertook SWOT analysis of 20 old and 10 new private sector banks which have also been ranked on the basis of financial data for the years 2003-2005 and the performance was evaluated by using CAMEL model, Gupta and Kaur (2008) conducted the study with the objective to evaluate the performance of Indian Private Sector Banks on the basis of Camels Model and gave rating to top five and bottom five banks. The study adopted CAMELS model to evaluate the overall performance of Andhra PragathiGrameena Bank and SapthagiriGrameena Bank. Likewise a study on State Bank Group by Siva and Natarajan (2011) empirically tested the applicability of CAMELS norms and its consequential impact on the performance of SBI Groups. The study established that annual CAMELSevaluationassist the commercial bank to analyze its financial strength and weakness and prepare the bank to take precautionary steps for its sustainability.

What is the ‘CAMELS RATING SYSTEM’

The CAMELS rating system is a recognized international rating system that bank supervisory authorities use in order to rate financial institutions according to six factors represented by the acronym “CAMELS.” Supervisory authorities assign each bank a score on a scale, and a rating of one is considered the best and the rating of five is considered the worst for each factor. (http://www.investopedia.com/terms/c/camelrating.asp#ixzz4GJHWy2Jg)

Capital Adequacy

In determining the adequacy of a bank or financial institution begins with a qualitative evaluation of critical variables that directly bear on the institution's overall financial condition. Included in the assessment of capital is the examiners opinion of the strength of the credit union’s capital position over the next year or several years based on the credit union’s plan and underlying assumptions. Capital is a critical element in the credit union’s risk management programme. The examiner assesses the degree to which credit, interest rate, liquidity, transaction, compliance, strategic, and reputation risks may impact on the credit union’s current and future capital position.
**Asset Quality**

Asset quality covers an institutional loan’s quality which reflects the earnings of the institution. Assessing asset quality involves rating investment risk factors that the company may face and comparing them to the company’s capital earnings. This shows the stability of the company when faced with particular risks. Examiners also check how companies are affected by fair market value of investments when mirrored with the company’s book value of investments. Lastly, asset quality is reflected by the efficiency of an institution’s investment policies and practices.

**Management**

Management assessment determines whether an institution is able to properly react to financial stress. This component rating is reflected by the management’s capability to point out, measure, look after, and control risks of the institution’s daily activities. It covers the management’s ability to ensure the safe operation of the institution as they comply with the necessary and applicable internal and external regulations.

**Earnings**

An institution’s ability to create appropriate returns to be able to expand, retain competitiveness, and add capital is a key factor in rating its continued viability. Examiners determine this by assessing the company’s growth, stability, valuation allowances, net interest margin, net worth level and the quality of the company’s existing assets.

**Liquidity**

To assess a company’s liquidity, examiners look at interest rate risk sensitivity, availability of assets which can easily be converted to cash, dependence on short-term volatile financial resources and ALM technical competence.

**Sensitivity**

Sensitivity covers how particular risk exposures can affect institutions. Examiners assess an institution’s sensitivity to market risk by monitoring the management of credit concentrations. In this way, examiners are able to see how lending to specific industries affect an institution. These loans include agricultural lending, medical lending, credit card lending, and energy sector lending. Exposure to foreign exchange, commodities, equities and derivatives are also included in rating the sensitivity of a company to market risk.

**Methodology**

CAMELS is, basically, a ratio-based model to evaluate the performance of banks under various criteria. It is an instrument to rate/rank banks. The present study is a descriptive research study based on analytical research design. For the purpose of the study, the research instrument used is the CAMELS Model, a current model in the field of financial performance evaluation of banks. The data of the sample banks for a period of 2009-2011 have been collected from the annual reports published by the banks. A sample of 7 universal
banks, that is, Zenith Bank, Prudential Bank, National Investment Bank, Capital Bank, Uni bank, Fidelity bank and Cal bank is used for the study. Ratios related to CAMELS model are calculated in the study.

**Data Collected and Analysis**

This section of the report looks at the data collected from the various banks and how it is analyzed for the purpose of decision making. The data is analyzed using Microsoft Excel which is presented in the form of tables in percentage.

**Selected Banks Ratios**

The study selected seven (7) universal banks in the country, namely, Zenith Bank, Cal bank, Fidelity bank, National Investment Bank, Uni bank, Prudential Bank, and Capital Bank as the case study.

**Bank Base Rates**

<table>
<thead>
<tr>
<th>Bank</th>
<th>9/11/2011 Rate</th>
<th>31/12/2012 Rate</th>
<th>31/12/2013 Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barclays Bank</td>
<td>-</td>
<td>18.00%</td>
<td>17.95%</td>
</tr>
<tr>
<td>Cal Bank</td>
<td>-</td>
<td>24.00%</td>
<td>18.00%</td>
</tr>
<tr>
<td>Eco Bank</td>
<td>-</td>
<td>22.25%</td>
<td>25.00%</td>
</tr>
<tr>
<td>Fidelity Bank</td>
<td>-</td>
<td>25.90%</td>
<td>23.00%</td>
</tr>
<tr>
<td>National Investment Bank (NIB)</td>
<td>-</td>
<td>21.00%</td>
<td>21.00%</td>
</tr>
<tr>
<td>Prudential Bank</td>
<td>-</td>
<td>24.00%</td>
<td>24.00%</td>
</tr>
<tr>
<td>Standard Chartered Bank</td>
<td>-</td>
<td>16.95%</td>
<td>22.00%</td>
</tr>
<tr>
<td>Uni Bank</td>
<td>-</td>
<td>24.95%</td>
<td>24.95%</td>
</tr>
</tbody>
</table>

The table above shows the rates at which the banks were lending to its customers at the specific time and year.
Chat 1: Bar chart of capital adequacy of the banks

The chat 1 above looks at the capital adequacy of the banks for the duration of the study basing on variable in the equity elements of their financial statements, that is, ratios of: Total liability/ shareholders fund; Loans & advances/ shareholders fund; Customer deposits/ cash balance at BOG; Customer deposit/shareholders fund.

In 2011 Fidelity bank had the highest total liability to shareholders fund, loans & advances to shareholders fund, and customer deposit to shareholders fund as 1730%, 727% and 1592% respectively, National Investment Bank with 1745% of customer deposits to cash balance at the Bank of Ghana. On the other hand, Zenith Bank had the least ratios of total liability/ shareholders fund; Loans & advances/ shareholders fund; Customer deposits/ cash balance at BOG; Customer deposit/shareholders fund as 536%, 182%, 187% and 524% respectively.

In 2012 Cal Bank had the lowest ratios of 461% and 341% in total liability to shareholders fund and customer deposit to shareholders fund, respectively, and Zenith Bank also had the lowest ratios of 232% and 201% in loans & advances to shareholders fund and customer deposits to cash balance at Bank of Ghana, respectively. On the other hand the banks with the highest ratios were Capital bank with 1047% and 907% in the total liability to shareholders fund and customer deposit to shareholders fund, respectively, Cal bank with 812% in customer deposits to cash at Bank of Ghana, and Uni bank with 571% in loans & advances to shareholders fund.

In 2013 National Investment Bank had the lowest of 320%, 183%, and 270% in total liability to shareholders fund, loans & advances to shareholders fund, and customer deposit to cash balance at Bank of Ghana as 268%. The banks with the highest ratios were Uni bank with 762%, and 548% in total liability to shareholders fund, and loans & advances to shareholders fund, respectively, Capital bank with 1481% in customer deposit to cash balance at Bank of Ghana, and Prudential bank with 692% in customer deposit to shareholders fund.

The lower percentage points of each bank indicates that the bank rely less on the numerator of the variable making the bank have a greater capital adequacy.
The chat 2 above is to identify various liquidity levels of the banks. It looks at the percentage of assets (Total assets, Total assets less loans & advances, Loans & advances, Cash balance at BOG) to establish how liquid the banks are in meeting their liabilities (total liabilities, total liabilities, customer deposits, total liabilities).

In 2011 Fidelity bank with 106%, Uni bank with 41%, zenith bank with 35%, and National Investment bank with 5% had the least ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively. Whiles Zenith bank with 119%, Zenith bank with 85%, Uni bank with 80%, and Zenith bank with 52% had the highest ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively.

Likewise in 2012 Fidelity bank with 110%, Cal bank and Prudential bank with 43% each, Zenith bank with 42%, and Cal bank with 9% were the lowest ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively, whiles Cal bank with 122%, Zenith bank with 77%, Cal bank with 106%, and Zenith bank with 48% were the highest ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively.

Furthermore, 2013 saw Uni bank with 113%, Uni bank 41%, Zenith bank with 63%, and Capital bank with 5% as the least ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively, and National Investment bank with 131%, Zenith bank with 74%, Cal bank with 102%, and Zenith bank with 24% had the highest ratio of total assets to total liabilities, total assets less loans & advances to total liability, loans & advances to customer deposits, and cash balance at BOG to total liabilities, respectively.
In this analysis the greater the percentage point of the bank means a greater liquidity rate, representing the banks’ ability to meet its obligations on time.

Chat 3: Bar chat of Management efficiency

The chat 3 above is to explain the relations of management efficiency in utilizing the banks resources in generation of wealth. A critical look at every variable gives an idea of how management can manage to control the various cost center at the different income levels, such as, how reduce direct expenses made on net interest income (Net interest income/interest expense) and others.

Analyzing the ratio of profit before tax to interest income indicated that National Investment bank with 9%, and 11% for 2011 and 2012, respectively were the least and Capital bank with 8% had the least in 2013, whiles Zenith bank with 41%, 50%, and 59% in 2011, 2012, and 2013, respectively, had the highest.

The ratio of net interest income to interest expense revealed that Zenith bank with 72%, Uni bank with 63%, and Uni bank with 37% in 2011, 2012, and 2013, respectively had the least, and Capital bank with 198%, Zenith bank with 216%, and Zenith bank with 271% in 2011, 2012, and 2013, respectively had the highest.

Zenith bank with 159% and 220% in 2012 and 2013, respectively, and Capital bank with 85% in 2011 had the highest ratio of profit before tax to interest expense, whiles National Investment bank with 16% and 24% in 2011 and 2012, respectively, and Capital bank with 12% in 2013 had the least ratio of profit before tax to interest expense.

Further, Fidelity bank with 22% in 2011, and Prudential bank with 25% and 33% in 2012 and 2013, respectively, were the least of the ratio of net operation profit to total operation expense, whiles Capital bank with 168% in 2011, and Cal bank with 237% and 272% in
2012 and 2013, respectively, had the highest ratio of net operation profit to total operation expense.

In this analysis the greater the percentage point of the bank means a greater ability of the bank in creating more returns for its shareholders and clients.

Chart 4: Bar chart of earnings ratios

How much shareholder does earn from investing in the bank is reflected in the earnings analysis shown above in the chart 4.

In 2011 National Investment bank with 9%, Capital bank with 7%, and Zenith bank with 56% were the least ratios of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively, whiles Capital bank with 38%, Fidelity and Prudential banks with 33% each, and Fidelity bank with 184% as the highest ratios of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively.

Prudential bank and National Investment bank with 12% each, Cal bank with 12%, and Zenith bank with 57% ratios of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively, in year 2012 whiles in the same year Capital bank with 26%, Fidelity bank with 33%, and Capital bank with 25% ratios as the highest of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively.

In 2013 Capital with 8% and 1%, and National Investment bank with 36% were the least ratios of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively, whiles Cal bank with 33%, Prudential bank with 22%, and Capital bank with 156% had the highest ratios of profit after tax to shareholders fund, net fees & commissions to shareholders fund, and net interest income to shareholders fund, respectively.
The higher the rates indicate the percentage interest of shareholders and potential investors. This makes the banks attractive to both current shareholder prospective ones.

Chart 5: Bar chart of sensitivity ratios

Risk is the potential of losing something of value. The Chinese for risk as the possibility of either losing or gaining something of value, in other words, it considers both the positive and negative aspects of anything. The level of risk the banks are willing to take coupled with the bank of Ghana policy is analyzed in the chart 5 above titled sensitivity. In the field of business and investments the level of risk also influences how lucrative that business venture will be, the higher the risk the higher the returns. Nonetheless, the level of risk should be reasonable to also protect the investor from great losses.

**Recommendation and Summary**

A banks performance is evaluated by the levels of capital adequacy, assets, management, earnings, liquidity, and sensitivity. A bank cannot be one hundred percent but the bank with higher points in most of the criteria show how efficient that bank is and vice versa.

The level of capital adequacy and the assets in most cases influences the levels of loans and advances the bank would give out to its clients and business. A bank with better capital adequacy can afford to invest in other ventures and meet its client’s financial requirements in term of making loans available to them. This also influences the rate of interest the banks charges on their loans and advances. As these banks charged a base rate of: Cal Bank-24.00%, 18.00%, 15.43%; NIB-21.00%, 21.00%, 25.05%; and Prudential Bank-24.00%, 24.00%, 28.86% for a three year period. In all cases it showed that as the dependency on liability decreased the banks base rate also decreased and vice versa. The banks with high capital adequacy and assets can fund the college’s project.

On the other hand, the levels of management efficiency, earnings, liquidity and sensitivity show how attractive a bank can be in relations to investing in the bank’s financial instruments. That is these variable determines how higher the bank can afford to offer as interest rate for customer deposits. Banks with high levels of management efficiency,
earnings, liquidity and sensitivity can provide higher interest rates for the college at the least risk and also provide affordable and effective management services.

In a summary, choosing a bank to invest in may not be as different from a bank's capacity to finance projects. Some factors like the; growth rate, cost of funds, competition, and others can make a bank to increase its investment rate to attract more client deposit, liability, and in turn increase its capital dependency on liabilities which would also increase the bank's base rate.

References

Journal Articles


Sadeghi, Sh.S.J., Kafash, P.Sh.M., (2009), Shareholders effect on productivity, *Review of Accounting and Auditing*, 16, No. 55, P. 51-66

**Reports**


**Books**


**Theses/Dissertation/**

Online Documents


