

FINANCIAL PERFORMANCE ANALYSIS OF PRIVATE COMMERCIAL BANKS OF ETHIOPIA: CAMEL RATINGS

Mr. MELAKU ALEMU

Lecturer, Dire Dawa University

Mr. MELAKU AWEKE

Lecturer, Dire Dawa University

ABSTRACT

This study sought to analyze the overall performance of private commercial banks in Ethiopia using CAMEL rating approach. In this study, the financial performance of six sampled private banks was measured using the audited financial reports of 10 years period (2007-2016). Novel feature of this study was the inclusion of more explanatory variables, which were not used by the average researchers i.e. fixed asset to total assets, net profit per employee, total deposit per no. branches, total loan per no. of branches, measurements. The collected data were analyzed using both descriptive and inferential statistical tools. The descriptive statistics tools used to rate the overall performance of the bank, while panel regression model was used to measure the impact of CAMEL elements on bank performance i.e. ROA and ROE. As per the composite rating of CAMEL, the finding of the study revealed that NIB bank stood on the top followed by United bank, while Awash bank and Bank of Abyssinia stood the least. On both panel model estimations, LEVRAGE, NIEGE, NPEP, TDBRA, TLBRA, NIITA, and LATD explanatory variables were significant in determining the profitability indicators-ROA and ROE. No asset quality indicators were significant in determining the profitability ratios.

Key words: CAMEL, ROA, ROE, Private Commercial Banks, and Ethiopia

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Financial sectors play crucial role in economic growth and industrialization via channeling funds from surplus units- the depositors, to the deficit units, the borrowers, in the process gaining from the spread of the different interest charged. Their intermediation role can be said to be a catalyst for economic growth (Funso, Kolade and Ojo, 2012). The role and importance of banks of modern economy is enormous (Bikker, 2010; Rashid, 2010; Altan , Beduk and Yusufazari, 2014) and its products/services which it provides growing in terms of depth, the number of institutions and the amount of money that managed by such institutions. The roles of such Banks are paramount in developing countries like Ethiopia where the financial market is underdeveloped and none existed.

The sector is the backbone of economy in the country (Jain and Jaiswal, 2016). As the banks are interconnected with each other for the payment and other functions, the a failure of a single bank not only affects its shareholders and depositors rather it affects all over the bank (Kumbirai and Webb , 2010) and it creates an economic turmoil situation which is regarded as a disaster for the economy that was viewed in recent global recession that occurred as the result of bank failure at the inception (Al Karim and Alam, 2013).

So, banks are exposed to many types of risk that has caused in different situations which result in different level of risks. Such risks include liquidity risk related to inability to meet current demand; credit risk is a default occurs when a borrower does not make the obligated interest and principal payments in a timely manner, interest rate risk (the possibility that the bank will become unprofitable, if rising interest rates force it to pay relatively more on its deposits than it receives on its loans). Zawadi (2013), Mohiuddin (2014) stated that Sound financial health of a bank is the guarantee not only to its depositors but is equally important for the shareholders, employees and whole economy as well. The subject of financial performance and research into its measurement is well advanced within finance and management fields (Alkhatib, 2012). As Searle (2008) stated the government of all nations should have maximum concern on performance of all banks which are operating in the territory of the country. In consideration of such outcome and concern , the financial health of each bank should have been measured from time to time and managed efficiently and effectively (Sangmi & Nazir, 2010).

There are different stakeholders that have interest in evaluations of the performance of banks including depositors, investors, bank managers and regulators (Ibrahim, 2014). For instance central banks and bank regulators may need to identify and call attention to banks that are experiencing chronic financial problems in order that they may fix them before they get out of control. On the other hand, Shareholders need to assess which banks they can deem suitable for financially invest in. The banks evaluate their own performance over a given period so that they may determine the efficacy and long term viability of management decisions or goals so that they can alter the course and make changes whenever it is appropriate.

The stage of development of the banking industry is a good reflection of the development of the economy (Misra & Aspal, 2013). To sustain the development of the economy, the performance and health of banks has to be checked and evaluated periodically. There are different approaches used by different regulatory bodies. Among those approaches, most preferred parameters used by the regulators and different scholars are CAMEL (capital adequacy, asset quality, management quality, earnings and liquidity) rating criterion to assess and evaluate the performance and financial soundness of the activities of the bank. The CAMEL supervisory criterion in banking sector is a significant and considerable improvement over the earlier criteria in terms of frequency, check, spread over and concentration (Misra & Aspal, 2013; Basel, 2011). Hence, this study intends to analyze the performance of private commercial banks in Ethiopia by using CAMEL approach.

1.2 STATEMENT OF PROBLEM

The banking sector's performance is perceived as the replica of economic activities of the economy. The stage of development of the banking industry is a good reflection of the development of the economy (Misra & Aspal, 2013). Evaluation of financial performance of the banking sector is an effective measure and indicator to check the soundness of economic activities of a nation.

The pioneer researches work by Anteneh, Arega and Yonas, (2011), evaluated the performance of selected commercial banks of Ethiopia using a framework of CAMEL for the period of 2000-2010. They found that independent variables in CAMEL framework have highly explained the performance variables i.e., return on assets and return on equity. The private banks were in a better position than the public banks in terms of asset quality, management quality, and earning

ability, while public banks were better in capital adequacy. However, liquidity position was high for both private and public commercial banks.

Mulualem (2015) on his evaluation of fourteen commercial banks using panel data and multiple regression for the period of 2010-2014 reveals that Capital adequacy, Asset Quality and Management efficiency have negative relation whereas earning and liquidity shows positive relationship with both profitability measures. The ranking result based Buna international bank ranked first by capital adequacy, asset quality and liquidity ratio while commercial bank ranked first by Management efficiency and Earning ratios respectively and finally Wegagen Bank was the first by the composite rate. However, the study conducted by Dakito (2015) using CAMEL approaches for the period 2000-2013 found that NIB's overall performance was good.

On similar study by Ermias (2016) has also investigated the effects of internal determinants of profitability of six senior private Ethiopian commercial banks of the period 2000-2014 and thereby ranked the overall financial performance of the respective banks based on CAMEL model. He noted that bank specific factors incorporated into the CAMEL model affect to the extent of 67.5% of the changes in profitability of the private commercial banks of Ethiopia. On another study, Tesfaye (2014) examined the determinants of Ethiopian banks performance considering bank specific and external variables on selected banks' profitability for the 1990-2012 periods. He found that bank specific variables by large explained the variation in profitability.

Gudata (2015) who measures the financial performance of five commercial banks of the period 2007-2011 using ratio analysis was found that Commercial Bank of Ethiopia stands first in assets management where as Awash International Bank took the first rank in terms of profitability performance. The Cooperative Bank pertains to stand last in terms of liquidity management and United Bank stood at the first rank in terms of solvency and risk management among all sample banks under study.

Although various studies were made to explain bank performance using CAMEL parameters, there are few studies were done in private commercial banks of Ethiopia. Besides, these studies were not exhaustive in applying the required explanatory variables to observe the bank performance. Similarly, most of the studies were conducted at different periods of time, used different methodology, and findings were varied: study between (Dakito (2015); Mulualem,

2015). Hence, the novel feature of this study was the inclusion of more explanatory variables, which were not used by the above posited researchers i.e. fixed asset to total assets, net profit per employee, total deposit per no. branches, total loan per no. of branches, measurements.

1.3 OBJECTIVES OF THE STUDY

1.3.1. GENERAL OBJECTIVE

The main objective of this study was to analyze the overall performance of private commercial banks of Ethiopian using CAMEL rating approaches

1.3.2 SPECIFIC OBJECTIVES

1. To check the capital adequacy level of private commercial banks
2. To evaluate the liquidity positions of private commercial banks
3. To measure the management capability of private commercial banks
4. To examine the earning quality of private commercial banks
5. To examine the asset quality of private commercial banks

1.4 LITERATURE DRIVEN HYPOTHESIS

H1: All else equal, there is no significant difference between capital adequacy ratios and performance of the banks

- H1_a: The effect of TCTA on profitability is insignificant
- H1_b: Leverage impacts bank profitability insignificantly

H2: All else equal, there is no significant difference between asset quality ratios and performance of banks

- H2_a: The effect of FATA on profitability is insignificant
- H2_b: Loan loss provision impacts bank profitability insignificantly

H3: All else equal, there is no significant difference between management quality ratios and performance of banks

- H3_a: The effect of NIEGE on profitability is insignificant.
- H3_b: NPEP impacts bank profitability insignificantly
- H3_c: TDBRA impacts bank profitability insignificantly
- H3_d: TLBRA impacts bank profitability insignificantly

H4: All else equal, there is no significant difference between earning quality ratios and performance of banks

- H4_a: The effect of NIITA on profitability is insignificant.
- H4_b: The effect of IITI on profitability is insignificant.

H5: All else equal, there is no significant difference between liquidity ratios and performance of banks

1.5 SCOPE OF THE STUDY

The scope of the study mainly delimited to six private commercial banks which includes Awash bank, Dashen bank, Wegagaen bank, NIB, Bank of Abyssinia, United bank. The time period for the study was bounded between 2007 and 2016.

The financial performance of the banks was measured using five elements of CAMEL, which were capital adequacy, Asset quality, management ability, earning quality and liquidity.

1.6 SIGNIFICANCE OF THE STUDY

The finding of study provides relevant information to private commercial banks on the area of financial performance (weakness and strength) which needs improvement. Furthermore, it gives insight about the current situations and performance of banks to the regulatory body, shareholders, investors and managers. Besides, it will be used as a reference to researchers that want further investigation into the area of study

2. REVIEW OF LITERATURE

2.1 THEORETICAL LITERATURE REVIEW

The CAMEL approach of measuring financial performance was traced back its origin to 1979, when the Uniform Financial Institutions Rating System (UFIRS) was implemented in US banking institutions to introduce ratings for on-site examinations of banking institutions. Under this system, each banking institutions subject to on-site examination is evaluated on the basis of five critical dimensions relating to the bank's operations & performance (Sahajwala & Van den Bergh, 2000). These are Capital, Asset Quality, Management, Earnings and Liquidity and are seen to reflect the financial performance, financial condition, operating soundness and regulatory compliance of the banking institution (Mululem, 2015). Each of the component factors is rated on a scale of 1 (best) to 5 (worst). A composite rating is assigned as an abridgement of the component ratings and is taken as the prime indicator of a bank's current financial condition. The composite rating ranges between 1 (best) and 5(worst), and also involves a certain amount of subjectivity based on the examiners' overall assessment of the institution in view of the individual component assessments (Sahajwala & Van den Bergh,2000).

Components of CAMEL Model

CAMEL which stands for capital adequacy, asset quality, management efficiency, earning and Liquidity. Those individual components used to measure the operational performance and soundness of banks.

Capital Adequacy

Capital adequacy measures the adequacy of the amount of capital to meet any unfortunate shocks that the bank may experience (Kosmidou, 2009), (Baral, 2005). As Ermias (2016) noted in his study, it reflects the overall financial condition of the banks and also the ability of management to meet the need for additional capital requirements. It is the capital expected to maintain balance with the risks exposure of the financial institution such as credit risk, market risk and operational risk, in order to absorb the potential losses and protect the financial institution's (i.e banks) debt holder(Mululem,2015), (Ahsan, 2016). Different scholars used different parameters to measure capital adequacy, Dang (2011), Hamdu et al, (2015),Mululem,(2015) used capital to risk weighted asset and leverage ratio to measure the capital adequacy of the bank. On the other hand, Misra & Aspal (2013) examined the capital adequacy by dividing Capital to Risk Weighted Assets, Debt to Equity Ratio, Advances to Assets, and Government Securities to Total

Investments. Dakito(2015),Tefaye(2014), Hamdu et al(2015),Minyahil (2015), Mulualem(2015), Ermias(2016), Anteneh et al.(2013), Aspal & Dhawan (2014), used the measurement of Capital Adequacy Ratio (CAR), Debt-Equity Ratio, Advances to Assets Ratio to examine the capital adequacy level of the bank.

Asset quality

The asset quality of the bank is another bank specific variable that affects the Performance of a bank. The quality of Asset held by the individual bank affects the health of the bank. The dimension of asset quality is an important factor that helps the bank in understanding the extent of credit risk (Olweny, 2011; Baral, 2005). Chen et al, (2009) define credit risk as the risk of loss due to a debtor's failure to make repayment of loan i.e principal and interest. Default occurs when a debtor unable to fulfill legal obligations according to the contract, or has violated a loan condition of the debt contract, which might occur with all debt obligations including bonds, mortgages, loans, and promissory notes(Kongri,2015).As stated by Grier (2007), poor asset quality is the major cause of the most bank failures. The asset quality indicators highlight the use of nonperforming loans ratios (NPLs) which are the proxy of asset quality, and the allowance or provision to loan losses reserve (Frost , 2004 as cited by Mulalem).

Hamdu et al (2015) used the ratio of loan loss provision to total loan and loan loss provision to total asset to evaluate asset quality of commercial banks. On the other hand, Mulualem (2015) NPLs to total loans, NPLs to total equity, Allowance for loan loss ratio. Altan et al.(2014) Used the ratio of Fixed asset to total asset to examine the Asset quality of the bank.

Non- Performing loans to Gross Loans, Allowance for Doubtful loans to Loans outstanding, Gross NPAs to Net Advances ratio, Net NPAs to Net Advances ratio, Total Investments to Total Assets ratio, Net NPAs to Total Assets ratio, and Percentage Change in Net NPAs are some of the ratios considered to assess asset quality according to literatures by (Ermias, 2016; Tesfaye 2014; Mulualem2015; Anteneh et al., 2013; Minyahil ,2015)

Management quality

Management quality is basically the capability of the board of directors and management, to identify, measure, and control the risks of an institution's activities and to ensure the safe, sound, and efficient operation in compliance with applicable laws and regulations (Uniform Financial Institutions Rating System 1997, as cited by Mulalem, 2014).

Earnings Quality

Earning quality mainly measures the profitability and productivity of the bank, explains the growth and sustainability of future earnings capacity (Ahsan, 2016). In the same way, bank depends on its earning to perform the activities like funding dividends, maintaining adequate capital levels, providing for opportunities for investment for bank to grow, strategies for engaging in new activities and maintaining the competitive outlook mainly derived from its earnings.

Different scholars try to use different financial ratios as a proxy to measure for management efficiency. Rahman et al (2009); Sangmi and Nazir, (2010) used the ratio of operating profit to income while Nassreddine et al (2013) used the ratio of costs to total assets. Golin (2001) used the ratio of operating costs to net operating income and operating expenses to assets ratio while Olweny (2011) adopted the ratio of operating costs to net operating income.

Liquidity Performance

Liquidity ratio measures the bank's ability to meet its current obligation. Banks make money by mobilizing deposit and providing fund for creditors, so the bank needs to be conscious to meet the payment when depositors demands for. The inability of the bank to meet the demand of depositor leads to the liquidity risk. Therefore, the fund management practices should ensure an institution is able to maintain a level of liquidity sufficient to meet its financial obligations in a timely manner; and capable of quickly liquidating assets with minimal loss (Mulalem, 2015).Banks makes money by mobilizing short-term deposits at lower interest rate, and lending or investing these funds in long-term at higher rates, so it is hazardous for banks mismatching their lending interest rate.

2.2 Review of Empirical Evidences in Ethiopia

Mulalem(2015) has studied the financial performance of 14 commercial banks using CAMEL approach for the period 2010 -2014. The finding of his study showed that Wegagen bank stood at first position followed by Bunna International Bank and Lion International Bank while Construction and Business Bank secured the least position. In addition to descriptive he has used fixed effect regression model to investigate the impact of CAMELS factors on financial performance i.e ROA and ROE, were the result shows that capital adequacy, Asset Quality and Management efficiency have negative relation whereas earning and liquidity shows positive

relationship with both profitability measures with strong statically significance except Capital Adequacy which is insignificant for ROA whereas Asset quality for ROE.

Hamdu et al (2015) assessed the soundness of selected commercial banks by referring audited annual reports from the year 2003-2013. The study result shows CAMEL framework is the best fit measurement for Ethiopian Banks and it give a comprehensive result which is very helpful for the governor to set a well determined policy and procedure.

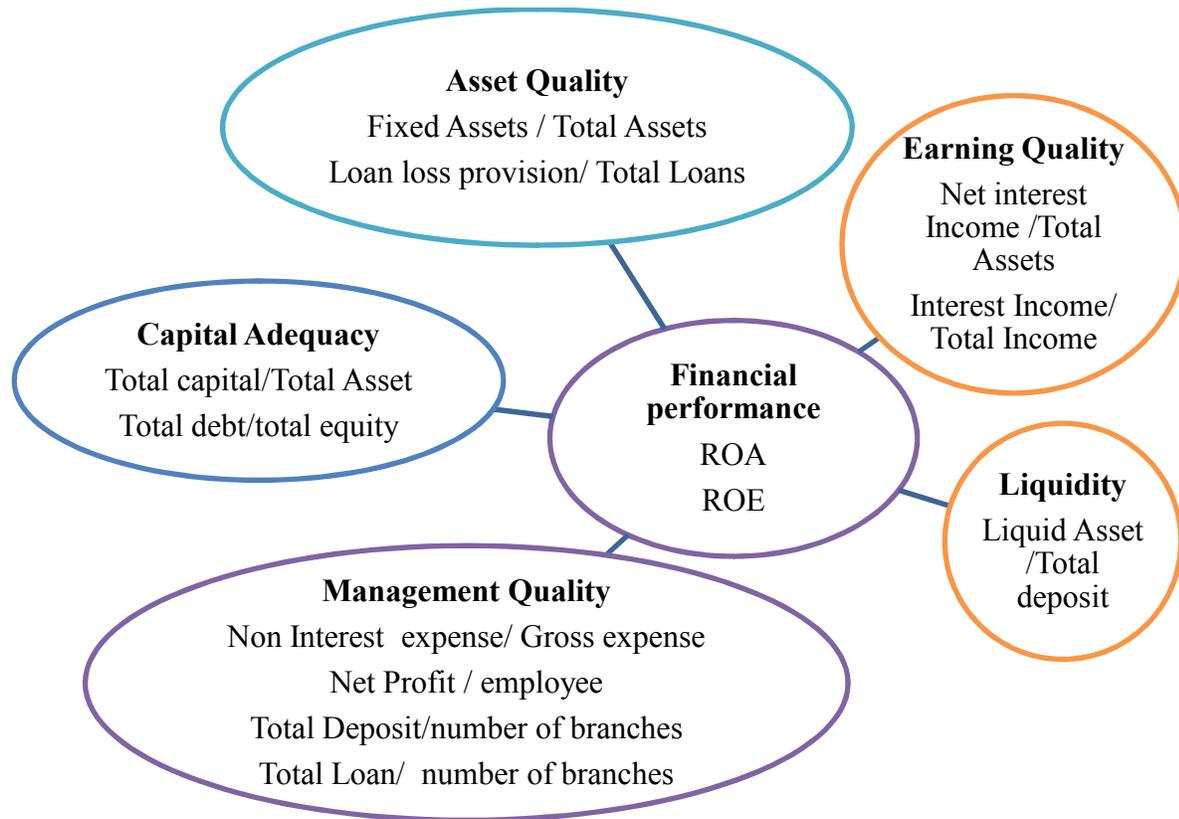
Dakito (2015) investigated the performance of 8 commercial banks for the period of 2000-13 using CAMEL approach by descriptive and econometric analyses. The finding showed that NIB's overall performance was good. Furthermore, he has measured the relationship between capital adequacy and financial performance using GLS regression model. The regression results exhibited the existence of positive relationship between capital adequacy and bank performance.

Ermias (2016) evaluated the financial Performance of six senior Private Commercial Banks over the period 2000-2014 using CAMEL model. The study found out that UNB, NIB, and BOA have held from 1st to 3rd rank based on the CAMEL model composite rating system. The findings also indicated that bank specific factors incorporated in the CAMEL model affect to the extent of 67.5% of the changes in profitability of the private commercial banks in Ethiopia.

Anteneh et al (2013), on their study entitled health Check-up of Commercial Banks in Ethiopia, assessed the health of 8 private and public commercial banks using the 10 years annual report of each commercial banks (2000-2010) which were selected based on three criteria i.e., capital size of the banks, year of establishment and rank of banks in 2010 African banks rating. The study finding showed that the independent variables in CAMEL framework have highly explained the performance variables i.e., return on assets and return on equity. The private banks were in a better position than the public banks in terms of asset quality, management quality, and earning ability, while public banks were better in capital adequacy. However, liquidity position was high for both private and public commercial banks.

Minyahil (2013) measured the Performance of seven Commercial Banks of Ethiopia over the period 2004/5-2010/11. The result of the study showed that, during the study period, the performance of Commercial banks in Ethiopia mainly changes in accordance with NBE directives.

2.3 Conceptual Frame work of the study



3. RESEARCH METHODS

3.1 Research design

In this study, a sort of explanatory research design was used to explain the relationship between bank's performance and components of CAMEL by deriving quantitative data from the annual report of banks.

3.2 Target Population and Sample Design

The Target population of the study were 16 private commercial banks which was registered by NBE and operating banking businesses in Ethiopia. The researcher used purposive sampling to select 6 banks based on the years of the establishment (i.e. banks started the operation before 2007) and easily accessibility to annual report. The banks which were established after the year 2007 were excluded from the study because of the study covered a 10 years data, and those banks that does not fulfill the needed requirement for the number of annual report. This indicates that reasonable time is necessary to look the dynamics of banking business.

3.3 Data Sources

Since the study was conducted to measure the performance of private commercial banks using the CAMEL approach, which is highly depend on the data from audited financial reports. The study has relied on secondary source. Those data have been collected from the published and audited annual report of the selected private commercial banks. In addition to annual report, different documents and literatures records has been reviewed in order to realize the objective of the study.

3.4 Method of data analysis

The collected data were analyzed using both descriptive and inferential statistics tools. The researchers have been used descriptive statistical tools like mean, percentage, and ratios. Besides, panel regressions have been estimated to look the relationship among dependent and independent variables.

3.5 Model Specification

This study has used a sort of panel data regression model to analyze the collected data. Panel data is a bunch of cross section and time series observations. The following equations indicates the random effect model of the study with respect to two profitability indicators-ROA and ROE.

$$ROA_{it} = \beta_{1i} + \beta_2 TCTA_{it} + \beta_3 LEVERAGE_{it} + \beta_4 FATA_{it} + \beta_5 LLPTL_{it} + \beta_6 NIEGE_{it} + \beta_7 NPEP_{it} + \beta_8 TDBRA_{it} + \beta_9 TLBRA_{it} + \beta_{11} NIITA_{it} + \beta_{12} IITI_{it} + \beta_{13} LATD_{it} + w_{it}$$

$$ROE_{it} = \beta_{1i} + \beta_2 TCTA_{it} + \beta_3 LEVERAGE_{it} + \beta_4 FATA_{it} + \beta_5 LLPTL_{it} + \beta_6 NIEGE_{it} + \beta_7 NPEP_{it} + \beta_8 TDBRA_{it} + \beta_9 TLBRA_{it} + \beta_{11} NIITA_{it} + \beta_{12} IITI_{it} + \beta_{13} LATD_{it} + w_{it}$$

Where, β_{1i} indicates the random variable; $\beta_2 \dots \beta_{13}$ are coefficients of the explanatory variables; i shows the cross sectional units or sampled private banks and t indicates the time periods from 2007-2016; $w_{it} = \epsilon_i + \mu_i$, consists of two components, ϵ_i , which is the cross-section, and μ_i which is the combined time series and cross section error component. The following table shows variables, notation and measures used in the study.

Table 1: Definition and Measurement of Study Variables

	Variables	Measure	Indications
Dependent	ROA	Net income / Total assets	It reflects the ability of a bank's management to generate profits from the bank's assets
	ROE	Net income / Total capital	It measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.
Capital Adequacy	TCTA	Total capital / Total asset	The ratio reflects the ability of a bank to withstand the unanticipated losses.
	LEVERAGE	Debt / Equity	It indicates how much debt a company is using to finance its assets relative to the amount of value represented in shareholders' equity.

Asset Quality	FATA	Fixed asset / Total assets	It indicates how much fixed assets are hold by a company in comparison to total assets
	LLPTL	Loan loss provision / Total loan	It measures the strength of banks
Management Quality	NIEGE	Non-interest expense /Gross expense	It shows out of the gross expenses how much is the non-interest expense
	NPEP	Net profit / No. of employees	It shows the surplus earned per employee
	TDBRA	Total deposit / Branch	It shows average deposit mobilization per branch of a bank
	TLBRA	Total loan / Branch	It shows average loan disbursement per branch of a bank
Earning Quality	NIITA	Net interest income / Total asset	It shows how much net interest income generated for each birr total assets
	IITI	Interest income / Total income	It indicates how much interest income is gained in comparison to total revenue (income)
Liquidity	LATD	Liquid asset / Total deposit	It shows the ability of a bank to meet its financial obligations

4. DATA ANALYSIS AND INTERPRETATION

The study was analyzed based on descriptive and inferential analysis. Accordingly, these analyses are explained as follows;

4.1 DESCRIPTIVE ANALYSIS

Table 2: Capital Adequacy

Name of the bank	TCTA		Leverage		Group	
	Average	Rank	Average	Rank	Average	Rank
DB	10.25%	6	8.87	6	6	6
AIB	11.70%	4	7.60	4	4	4
BOA	10.97%	5	8.31	5	5	5
WEGAGEN	16.79%	1	5.08	2	1.5	1
NIB	16.70%	2	5.02	1	1.5	1
UB	12.61%	3	7.25	3	3	3

(Source: Banks Annual report 2007-16)

As above table shows regarding the total capital to total asset ratios, WEGAGEN bank was at the top position with an average of 16.79% followed by NIB with an average ratio of 16.70, while Dashen bank was achieved the lowest position on an average of total capital to total asset ratio of 10.25%. Concerning the leverage ratio, NIB achieved top position on an average of 5.02 times followed by WEGAGEN (average 7.6), whereas, Dashen bank scored the least position.

Table 3: Asset Quality

Name of the bank	FATA		LLPTL		Group	
	Average	Rank	Average	Rank	Average	rank
DB	1.80%	3	0.20%	1	2	2
AIB	2.69%	5	0.51%	3	4	4
BOA	2.56%	4	0.54%	5	4.5	5
WEGAGEN	2.80%	6	0.80%	6	6	6
NIB	1.56%	2	0.53%	4	3	3
UB	1.44%	1	0.45%	2	1.5	1

(Source: Banks Annual report 2007-16)

As above table shows regarding fixed asset to total asset ratio, united bank was at the peak of the rest banks with an average ratio of 1.44% and WEGAGEN bank at the bottom of the bank with an average percentage of 2.8. In case of loan loss provision to total loan ratio, Dashen bank ranked first with least average ratio of 0.20% which was followed by united bank (with an average 0.45%), while WEGAGEN bank ranked at the bottom with 0.8% .

Table 4: Management Quality

Name of bank	NIEGE		NPEP		NPBRA		TDBRA		TLBRA		Group	
	Average	Rank	Average	Bank	Average	Rank	Average	Rank	Average	Rank	Average	Rank
DB	60.43%	3	147,549.02	1	5,527,813.77	1	147,159,903.46	1	84,270,073.95	1	1.75	1
AIB	60.99%	4	106,392.96	5	3,664,468.37	4	93,401,893.77	4	55,427,326.93	5	4.4	6
BOA	57.06%	2	78,733.64	6	2,476,119.64	6	95,523,636.51	3	56,567,602.73	4	4.2	5
WEGAGEN	39.73%	1	120,852.60	2	3,853,896.54	2	83,952,141.83	6	50,170,185.12	6	3.4	2
NIB	61.52%	5	119,613.79	3	3,735,860.61	3	88,105,083.31	5	58,419,948.91	2	3.6	3
UB	64.41%	6	108,973.46	4	3,225,142.63	5	95,850,322.67	2	56,789,299.31	3	4	4

(Source: Banks Annual report 2007-16)

AS above table shows concerning the ratio of non-interest expense to gross expense ratio, WEGAGEN bank ranked at the top with the least average percentage of 39.73 followed by BOA(with an average of 57.06%) while United bank ranked at the bottom position with an average percentage of 64.41%.

Regarding net profit per employee, Dashen banks employees generated more average profit per employee than the rest banks with an average net profit of Birr 147,549.02 which was followed by WEGAGEN bank (with an average net profit of Birr 120,852.60), on the other hand, the employee of bank of Abyssinia generated the least net profit per employee with an average net profit of Birr 78,733.64.

Concerning net profit per branch, Dashen Bank was at the top position with an average net profit per branch of Birr 5,527,813.77, however Bank of Abyssinia at the lowest position with an average profit of Birr 2,476,119.64 per branch.

Regarding total deposit per branch, Dashen Bank was at the first place with an average deposit of Birr 147,159,903.46 per branch followed by united bank (with average deposit of birr 95,850,322.67 per branch). Conversely, WEGAGEN bank was at last place with an average deposit of Birr 83,952,141.83 per branch.

In contest of loan per branch, Dashen bank stood first by providing the loan of Birr 84,270,073.95 per branch while WEGAGEN bank was at last position by providing an average of Birr 50,170,185.12 loan per branch.

Table 5: Earning Quality

Name of banks	NPM		NIITA		NIITII		IITI		Group	
	Average	Rank								
DB	33.63%	2	2.71%	6	54.15%	6	55.67%	6	5	6
AIB	32.47%	4	2.89%	5	56.70%	5	58.27%	5	4.75	5
BOA	24.73%	6	3.32%	4	58.59%	4	67.91%	1	3.75	4
WEGAGEN	34.20%	1	3.55%	2	67.07%	2	58.32%	4	2.25	2
NIB	33.63%	2	3.88%	1	67.37%	1	63.91%	2	1.5	1
UB	29.91%	5	3.36%	3	60.30%	3	63.04%	3	3.5	3

(Source: Banks Annual report 2007-16)

As the above table shows, WEGAGEN bank ranked first with an average net profit margin of 34.2% followed by NIB and Dashen bank (were both achieved the net profit margin of 33.63% each), on the other hand Bank of Abyssinia achieved the least level with an average net profit of 24.73. With regard to net interest income to total asset ratio, NIB bank was at first position with an average ratio of 3.88% followed by WEGAGEN bank (average 3.55%) ,whereas, Dashen bank was at last place with an average of 2.71%.

Concerning the ratio of net interest income to total interest, WEGAGEN bank attained the highest compared to the rest competing banks with an average percentage of 67.37 while Dashen bank achieved the least with an average score of 54.15%.

Table 6: Liquidity

Name of banks	LATD		TLTD		LATA		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank
DB	41.99%	4	58.13%	1	33.81%	2	2.33	1
AIB	42.06%	3	59.88%	3	29.93%	5	3.67	4
BOA	38.90%	5	59.63%	2	31.49%	4	3.67	4
WEGAGEN	26.05%	6	60.83%	5	18.88%	6	5.67	6
NIB	45.83%	1	67.84%	6	32.33%	3	3.33	3
UB	44.70%	2	60.79%	4	35.00%	1	2.33	1

(Source: Banks Annual report 2007-16)

As above table exhibited the, liquid asset to total deposit ratio, NIB bank was at first place with highest average percentage of 45.83 which was followed by united bank (with an average percentage of 44.7), while Bank of Abyssinia was at last place with least average of 26.05%.Concerning total loan to total deposit ratio, Dashen bank ranked first followed by Bank of Abyssinia while NIB bank ranked to the least place. With reference to liquid asset to total asset ratio, united bank was ranked at the top with highest average percentage of 35 , followed by Dashen bank with an average of 33.81%,on the other hand, WEGAGEN bank was ranked at last place with an average percentage of 18.88.

Table 7: Composite Rating

Name of the bank	C	A	M	E	L	Average	Rank
DB	6	2	1	6	1	3.2	3
AIB	4	4	6	5	4	4.6	5
BOA	5	5	5	4	4	4.6	5
WEGAGEN	1	6	2	2	6	3.4	4
NIB	1	3	3	1	3	2.2	1
UB	3	1	4	3	1	2.4	2

(Source: Banks Annual report 2007-16)

In order to assess the overall ranking of private commercial banks in Ethiopia, the composite rating has been calculated from the individual ranking of the banks for the period of 2007-16. As per the CAMEL model analysis, NIB bank ranked first, which was followed by United bank, and BOA and AIB stood at least position.

4.2 ECONOMETRIC ANALYSIS

At the outset the econometrics analysis, the required tests of classical liner regression model (CLRM) assumptions have been made. These tests were consists of multi collinearity, hetroskedasticity, model specification, normality of the data set etc. Accordingly, the data set consistent with the CLRM assumptions.

4.3 Panel Model Regressions

The term “panel data” refers to the pooling of observations on a cross-section of households, countries, firms, etc. over several time periods. Hence, this particular study has two dependent variables i.e. ROA and ROE. Two model regression estimations have been made.

To choose fixed or random effect of panel model, Hausman test has been estimated. Therefore, in both profitability estimation, random effect model were selected. Besides, robust estimation has been run to eliminate the effect of hetroskedasticity. The following tables show the regression result of both bank performance indicators;

Table 8: Model one -Random effect GLS regression using ROA as dependent variable

Variable Type	ROA	Coef.	Robust		
			Std. Err.	t	P>t
Capital Adequacy	TCTA	.0022347	.0113115	0.20	0.843
	LEVERAGE#	-.0005111	.0003436	-1.49	0.137
Asset Quality	FATA	-.0485084	.0406766	-1.19	0.233
	LLPTL	.0043679	.0034857	1.25	0.210
Management Quality	NIEGE	-.0272247	.0048438	-5.62	0.000 *
	NPEP	1.90e-07	2.37e-08	8.02	0.000 *
	TDBRA	-2.64e-10	5.11e-11	-5.17	0.000 *
	TLBRA	2.94e-10	6.34e-11	4.64	0.000 *

Earning Quality	NIITA	-.3921225	.1030651	-3.80	0.000 *
	IITI	.0054385	.0068643	0.79	0.428
Liquidity	LATD	.0133259	.0043633	3.05	0.002 *
	_cons	.0394266	.0035856	11.00	0.000

*, and ** = significant at 1 %, and 5% confidence level
 No. of observations = 60
 No. groups =10
 Over all R² = 84.74%
 corr(u_i, X) = 0 (assumed)
 # indicates the variable is not measured in percentages

Source: (STATA result, 2017)

Table 9: Model Two-Random effect GLS regression using ROE as dependent variables

Variable Type	ROE	Coef.	Robust		
			Std. Err.	t	P>t
Capital	TCTA	-.0940717	.1072618	-0.88	0.380
Adequacy	LEVERAGE#	.0224827	.0024189	9.29	0.000 *
Asset Quality	FATA	-.1183003	.371222	-0.32	0.750
	LLPTL	.0155652	.0434492	0.36	0.720
Management Quality	NIEGE	-.1898971	.047033	-4.04	0.000 *
	NPEP	1.63e-06	3.48e-07	4.67	0.000 *
	TDBRA	-2.12e-09	6.57e-10	-3.24	0.001 *
	TLBRA	2.49e-09	6.58e-10	3.79	0.000 *
Earning Quality	NIITA	-2.649397	.792589	-3.34	0.001 *
	IITI	.0131033	.0544532	0.24	0.810
Liquidity	LATD	.118805	.04880992	0.43	0.015 **
	_cons	.0971755	.0429405	2.26	0.024

*, and ** = significant at 1 %, and 5% confidence level
 No. of observations = 60
 No. groups =10
 Over all R² = 83.11%
 corr(u_i, X) = 0 (assumed)
 # indicates the variable is not measured in percentages

Source: (STATA result, 2017)

Table 8 and 9 presents the regression result of panel data using random effect models. The model was established based on the conventional methods of panel data model which is known as Static panel model.

On the above models, 84.74% and 83.11% of the variation in the dependent variables were explained by explanatory variables. The rest 15.26% and 16.89% were not explained by the above explanatory variables.

LEVRAGE, NIEGE, NPEP, TDBRA, TLBRA, NIITA, and LATD variables were significant in determining the profitability indicators-ROA and ROE.

As one of the capital adequacy proxy, leverage was positive and significant in determining the profitability indicator particularly-ROE. *Ceteris paribus*, a 1% change in this variable, it increases profitability measure by around 2.25 times.

All the management quality proxies were significant in affecting the profitability measurements in the above models. For instance, the impact of net interest expense over gross expense (NIEGE) revealed that, it had a negative magnitude and significant difference with both profitability measurements. Holding other variables constant, a 1% increases in NIEGE; it reduces profitability of sampled private banks by 2.72% and 18.99% on ROA and ROE, respectively. Although the slope of the rest management qualities variables-NPEP, TDBRA, and TLBRA are positive, their explaining power were very small.

Out of earning quality proxies, net interest income over total asset (NIITA) ratio had negative and significant relationship on both profitability models. *Ceteris paribus*, a 1% change in this ratio, it reduces profitability measures of ROA and ROE of sampled private commercial banks by 39.21% and 264.94% on the above models, respectively.

On the other hand, liquidity variable has captured by liquid asset by total deposit (LATD), showed that, it had positive and significant relation with profitability measurements-ROA and ROE. Holding other variables constant, a 1% change in this ratio, it increases the performance indicators of ROA and ROE of sampled private banks by 1.33% and 11.88 %, respectively. Although, this ratio had positive coefficient, its parameter was not that much highly significant. Now a day, private banks are required to purchase government bonds while sanctioning loans to

their customers. Hence, they generate interest income from their investment. That why this variable had positive slope.

In conclusion, no asset quality proxies were significant in determining the performance indicators of both models.

4.3 HYPOTHESIS TESTING

The study had five general hypotheses along with sub- hypothesis in each general hypothesis. Indeed, these hypotheses are driven from previous empirical research works.

H1: All else equal, there is no significant difference between capital adequacy ratios and performance of the banks

The impact of leverage on bank profitability has showed negative parameter and significant at 1% level of significance, particularly, at ROE indicator. This negative association of leverage and bank profitability is in line with previous research works of (Anteneh et al., 2013). Therefore, the null hypothesis is rejected. On the other hand, the effect of TCTA on performance of banks was insignificant on both profitability indicators. Hence, the null hypothesis is accepted.

H2: All else equal, there is no significant difference between asset quality ratios and performance of banks

Both asset quality ratios used in this study were insignificant to explain the profitability measures. Therefore, the general null-hypotheses are accepted.

H3: All else equal, there is no significant difference between management quality ratios and performance of banks

All management quality ratios used in this study were significant in explaining both profitability indicators at 1% level of significance. For instance, the effect of NIEGE was negative and significant at 1% level of significance. The finding is consistent with previous research undertakings (Ermias, 2016). On the other hand, the rest management quality ratios-NPEP, TDBRA, and TLBRA were positive and significant at 1% level of significance. The finding is coincided with previous undertaking by (Rostami, 2015; Atlan et al., 2014). Therefore, the general null-hypotheses are rejected.

H4: All else equal, there is no significant difference between earning quality ratios and performance of banks

Out of earning quality ratios, only NIITA was negative and significant with respect to both bank performance measures. The negative association of NIITA and profitability measures is in line with prior research works in area (Atlan et al., 2014). Hence, the null hypothesis of the above specific variable is rejected.

H5: All else equal, there is no significant difference between liquidity ratio and performance of banks

As shown on the above random effect estimations, liquidity ratio was positive and significant with respect to both profitability measures. The positive association of liquidity and bank profitability is consistent with previous research works (Muluaem, 2015).

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study sought to examine the performance of private commercial banks of Ethiopia with the CAMEL ratings for the period 2007-2016. To conduct the study, secondary data particularly audited financial statements were collected from six sampled private banks. Besides, both descriptive and inferential analyses were used to analyze the data. The major findings of the study were as follows;

- In terms of capital adequacy indicators, WEGAGEN and NIB bank was rated first and followed by UB. DB had maintained the last position.
- With regard to asset quality measures UB bank placed first and followed by DB. WEGAGEN scored the last position.
- DB was rated first as per Management quality measures. Followed by WEGAGEN bank, while AIB scored the last position
- In earning ability, NIB achieved the first position followed by WEGAGEN, whereas Dashen bank ranked least from the sampled banks.
- In terms of liquidity DB and UB have scored first, Followed by NIB, while WEGAGEN bank maintained the last position.
- According to the overall composite rating of CAMEL, NIB stood on the top followed by UB, whereas AIB and BOA banks stood the least.
- Banks with a composite rating of 4.0 or higher are considered to be problem banks (Madura, 2010). They are closely monitored, because their risk level is perceived to be very high. Accordingly, WEGAGEN, AIB, and BOA banks scored 4 and above rating on composite CAMEL ratings.
- On both panel model estimations, LEVRAGE, NIEGE, NPEP, TDBRA, TLBRA, NIITA, and LATD explanatory variables were significant in determining the profitability indicators-ROA and ROE. No asset quality indicators were significant in determining the profitability ratios.

5.2 Recommendation

Based on the findings of the study the following recommendations are forwarded.

- The study revealed that asset quality ratios, Management efficiency, Earning ability and Liquidity were the key drivers on profitability of private commercial banks in Ethiopia. Therefore, Bank managers are advised to give due attention to those variables to improve profitability.
- Those banks that achieved 4 or higher as per the composite CAMEL rating were considered as “weak”. Therefore, the National Bank of Ethiopia (NBE) has to give due attention in controlling these banks and in pursuing the CAMEL standard.
- Besides, AIB and BOA have achieved above 4 at composite rating, hence, these banks have to work hard in order to fulfill the CAMEL requirements and to secure their financial healthiness.

REFERENCES

- Ahsan, M. K.(2013). Measuring Financial Performance Based on CAMEL: A Study on Selected Islamic Banks in Bangladesh. *Asian Buisness Review* 6(1), 2305-8730.
- Al Karim, R., & Alam, T. (2013). An Evaluation of Financial Performance of Private Commercial Banks in Bangladesh : Ratio Analysis. *Journal of Business Studies Quarterly*, 5(2), 2152-1034.
- Alkhatib, A.(2012). Financial Performance of Palestinian Commercial Banks. *International Journal of Business and Social Science*, 3(3), 175–184.
- Altan, M., Beduk, A., & Yusufazari, H.(2014). Performance Analysis of Banks in Turkey Using Camel Approach. 14th International Academic Conference, Malta.
- Anteneh, G., Arega, S., & Yonas, M. (2011). Health check-up of Commercial Banks in Ethipia. Proceedings of the National Conference on ‘Loan and Saving: the Role in Ethiopian Socioeconomic Development’, 15-16 February 2013, Haramaya, Ethiopia.
- Aspal, P. K., & Dhawan, S. (2014). Financial performance assessment of banking sector in India : A case study of old private sector banks, *The Business and Management Review* 5(3).
- Baral, K. J. (2005). Health Check-Up of Commercial Banks in the Framework of CAMEL: A Case Study of Joint Venture Banks in Nepal. *Journal of Nepalese Business Studies*, 2(1).
- Basel Committee on Banking Supervision (2011). Basel III: A global regulatory framework for more resilient banks and banking systems, Bank for International Settlements.
- Bikker, J. A.(2010). Measuring Performance of banks: an assessment. Retrived from https://www.dnb.nl/binaries/JABE%20Measuring%20performance%20of%20banks_tcm46-237545.pdf
- Chen, Y., Guo, R. J., & Haung, R. L.(2009). Two Stages Credit Evaluation in Bank Loan Appraisal. *Journal of Economic Modeling*, 26(1), 63-70.
- Dakito, A. (2015). Assessment of Banking Performance Using Capital Adequacy in Ethiopia.

- Economics*, 4(6), 106–111. Retrived from <http://www.sciencepublishinggroup.com/j/economics>
- Dang, U.(2011). The Camel Rating System in Banking Supervision: a case study. Arcada University of Applied Sciences international business.
- Ermias, M. (2016). Financial Performance of Private Commercial Banks in Ethiopia : CAMEL Approach. (Master thesis). Addis Abeba University.
- Funso, T. K., Kolasde, A.R., & Ojo, O.M. (2012). Credit Risk And Commercial Banks' Performance in Nigeria: A Panel Model Approach. *Australian Journal of Business and Management Research*, 2(2), 31-38.
- Grier, W. A. (2007). Credit Analysis of Financial Institutions, Euromoney Institution Investor PLC, United Kingdom.
- Golin, J.L. (2001). The Bank Credit Analysis hand book: A guide for analysts, bankers and investors. Singapore: J.Wiley
- Gudata, A.(2015). Financial Performance Analysis In Banking Sector : in Selected Commercial Banks in Ethiopia. *International Journal of Current Research*, 7(10), 21883-21886. Retrieved from : <http://www.journalcra.com>
- Hamdu, K., W/Michael, S., & Yonas, M. (2015). Soundness of Ethiopian Banks. *International Journal of Finance and Banking Studies*, 4(2), 2147-4486.
- Ibrahim, M. (2014). A Comparative Performance of Two Banks in United Arab Emirates, *Research Journal of Finance and Accounting*, 5(21), 2222–2847.
- Jaiswal, A., & Jain, C. (2016). A Comparative Study of Financial Performance of SBI and ICICI Banks in India. *International Journal of Scientific Research in Computer Science and Engineering*, 4(3),2320-7639.
- Kosmidou, K. (2008). The determinants of banks profits in Greece during the period of EU Financial integration. *Journal of Managerial Finance*, 34(3).
- Kumbirai, M. and Webb, R. (2010). A Financial Ratio Analysis of Commercial Bank Performance in South Africa. *African Review of Economics and Finance*, 2(1).

- Minyahil, A. (2013). Performance of Commercial Banks of Ethiopia and Global Financial Crisis. (Master thesis). Addis Abeba University.
- Misra, S. K., & Aspal, P. K. (2013). A Camel Model Analysis of State Bank Group Misra & Aspal, *World Journal of Social Sciences*, 3(4), 36–55.
- Mohiuddin, G. (2014). Use of CAMEL Model : A Study on Financial Performance of Selected Commercial Banks in Bangladesh. *Universal Journal of Accounting and Finance*, 2(5), 151–160.
- Mulualem, M. (2015). Analyzing Financial Performance of Commercial Banks in Ethiopia : CAMEL Approach. (Master thesis). Addis Abeba University.
- Nassreddine, G., Fatama, S., & Anis, J.(2013). Determinants of Banks Performance: Viewing Test by Cognitive Mapping Technique, *International review of management and Business research*, 2(1).
- Olweny, T., & Shiphoo, T.M. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Journal of Economic and Finance*, 1(5), 01-30.
- Rashid, M. (2010). Banking Sector Challenges in Bangladesh. *The Daily Star*, September 19
- Rostami, M. (2015).CAMELS' Analysis in Banking Industry. *Global Journal of Engineering Science and Research Management*, 2(11), 2349-4506.
- Sahajwala, R., & Van den Bergh, P. (2000). Supervisory risk assessment and early warning systems. *Basle Committee on Banking Supervision Working Papers*, No. 4, Bank of International Settlements.
- Sangmi, M., & Nazir, T.(2010). Analyzing Financial Performance of Commercial Banks in India : Application of CAMEL Model. *Pakistan Journal Commerce and Social Science*, 4(1), 40–55.
- Searle, P. (2008). *What is the role of finance? And what exactly is decision support? Finance director Europe*, Cornhill Publication Limited.

Tesfaye, B. (2014). The Determinants of Ethiopian Commercial Banks Performance. *European Journal of Business and Management*, 6(14), 2222-1905.

Uniform Financial Institutions Rating System (1997). Statements of Policy. The United States: Federal Deposit Insurance Corporation (FDIC)

Zawadi, A.(2013). Comparative analysis of financial performance of commerical banks Tanzania. *Research Journal of Finance and Accounting*, 4(19).