Scope
Volume 14 Number 02 June 2024

Evaluating the Soundness of Commercial Banks in Ethiopia: Rating and Ranking the Performance by Using CAMEL Framework

Parneet Kaur
Assistant Professor, Punjabi University, Patiala School of Management Studies, Box 147002
&
Kebrysfaw Getahun
Ph.D. Scholar, Punjabi University, Patiala, School of Management Studies, Box 147002

Abstract: This research tries to critically evaluate the soundness of Ethiopian commercial banks by using CAMEL framework, the most compressive method suggested by bank supervisory institutions. Audited Financial report from 2012-2023 and Guidelines from the central bank of Ethiopia and the Basel committee were used to determine and rate banks based on the five important parameters of the framework. Accordingly,17 commercial banks which are established before 2013 were rated and compared by using each parameter separately and by applying composite rating. The industry average rating of 1 in capital adequacy ratio shows that Ethiopian commercial banks are sound in having strong capital foundation which can enables them to withstand any shocks and fluctuations in the economy. The result also reveals that they possess quality asset which is an indication of strong loan administration practice. The industry average of 3 in management efficiency, earning quality and liquidity performance of the banks is an indication of the need for improvement and moderate supervisory intervention in these parameters. Apart form 7 banks, the average composite rating of the remaining banks shows satisfactory level of performances during these sample periods.

Key words: Bank performance, Capital adequacy, Asset quality, Management efficiency, Earning quality, Liquidity performance, composite rating

1. Introduction

1.1 Background of the study

Banks plays pivotal role in economic development every economy. Especially in developing countries without well-developed capital market like Ethiopia, these Financial institutions are the back bone of every economic activity and indorsed with the responsibility of serving as the main channel to capital flow (J et al., 2023). Since there are multiple interested parties in banking business, financial well-being of a bank is an assurance not only for shareholders, but also of extreme importance to savers, employees, government and the whole economy of the country. To evaluate the soundness of banks, it's important to use most comprehensive performance measurement techniques rather than just focusing on profitability. By exposing their strengths and weaknesses across different areas, the CAMEL model assists management in making informed decisions and enables them to prioritize resources and develop strategies accordingly. This model helps to ensure that all critical areas are systematically assessed and reduces the likelihood of overlooking important factors. The model also helps in identifying potential risks faced by the bank across different dimensions, such as credit risk, operational risk, and liquidity risk.

1.2. Statement of the problem

Commercial banks in Ethiopia serves as a hub for economies capital movement, as a platform to implement different monetary policy, as channel to transfer funds from savers to investors, as a source of liquidity and overall plays a crucial role in the economic development of the country. Shareholders, depositors and other interested highly relies on national bank of Ethiopia, which serves as a central bank in the country, to monitor the well-being of these banks. Even if National bank measures the CAMEL parameters of all commercial banks on quarterly bases, the information is kept as confidential and used for internal consumption purpose while shareholders and depositors kept in dark and they are unable to make informed decision. Even if banks report staggering profit, there was banks yet to fulfil the capital requirement set by the central bank. Similarly, there are some banks which faces serious liquidity problem and depositors were un abled to withdraw their money. Due to their importance to the economy and the aforementioned problems, evaluating the soundness of commercial banks using comprehensive method like CAMEL has a paramount importance and provides important information to shareholders, depositors & regulators so than thy can make informed decision. Accordingly, this paper evaluates the performance of 17 commercial banks form 2011/12-2022/23 using CAME model and will develop a composite rating of the sample banks and compare it with benchmarks.

1.3. Objective of the study

The objective of the study is to evaluate the soundness of Ethiopian commercial banks through CAMEL framework. Specifically, the research tries to evaluate and rate the sample banks' capital adequacy, Asset quality, management efficiency, earning quality and liquidity position of these banks.

2. Literature review

2.1 overview of CAMEL rating framework

As a supervisory rating system, CAMELS Rating Scheme was originally developed in the United States to evaluate a bank's general state. As stated by Kabir & Dey (2012), CAMEL, the popular and the most comprehensive performance evaluation system was originated in the United States as a supervisory evaluation mechanism to measure a bank's complete performance in 1980's and implemented by North America Bank regulators to see the financial and managerial trust worthiness of financial intermediary institutions (Raj, 2022). The CAMEL rating system is constructed upon an evaluation of six important components of banking operations: Capital adequacy, Asset quality, Management soundness, Earning quality and Liquidity. CAMEL rating is a brief and vital instrument for assessors and regulatory bodies. This rating safeguards a bank's health by incorporating different features of a bank based on diversified source of information. Various studies Recommends CAMEL as the finest and comprehensive measure of bank performances (Salhuteru & Wattimena, 2015), (Lavanya & Srinivas, 2018), (Raja et al., 2023) & (Hyginus Iheanyi & Sotonye, 2017).

CAMEL uses the following five parameters (proxies) to measure bank's performance:

1. Capital adequacy ratio (C). The capital adequacy dimension is used to assess the ability of the bank to absorb tremors during the occurrence of different risks. Adequate capital performance enables banks to meet unexpected shocks due to Forex risk, credit risk, market risk, interest rate risk and risk related to off-balance sheet activities (Ahsan, 2016). Rahman et al., (2020), Capital adequacy ratio echoes the internal capacity of banks to resist losses in cases of economic crises.

2. Asset quality (A). As an intermediary, substantial activity of commercial banks involves provision of loans and advances to their customer. Since loan takes the vast proportion of their assets and serves as the major source of their income, the quality of the loan portfolio has a significant consequence on their profitability. The most important risk faced by commercial bank is losses from unsettled debts (Alemu Melaku, 2017)

3. Management quality. In banking industry, in which the sustainability and quality of earnings is more important than its quantity, the capability of management and board of directors to seizure, measure, and control the risk linked with banking business is fundamental. Wide-ranging management capability is manifested through minimization of cost, maximization of wealth and prevention of likely bank failures. According to Abdul Amir Shamir et al., (2022), sound management practice should show a high standard of integrity, professional competency and quality necessary of service. Since operating cost has a negative effect on the profitability of banks, Efficient management focuses on reducing non-productive operating costs and that can result in high profits.

4. Earning quality. Earnings quality designates the way that banks produce their profit and enlighten future growth in earning and sustainability. Bank's earnings performance epitomizes an important measure that determines source of its income and its ability to earn it consistently. Earning performance is an indication to the capability of a bank to gain capital and refund assets for future expansion (Badrul Munir & Ahmad Bustamam, 2017). The improvement of earning performance both in amount and quality inspires all stakeholders like depositors, other creditors, investors and the public as a whole (Abdul Amir Shamir et al., 2022).

5. Liquidity. Since Banks' management needs to be always ready to satisfy the withdrawal demand of Depositors and the loan request of borrowers, According to Hyginus Iheanyi & Sotonye (2017), liquidity is an indication of banks' capacity to hold optimum amount of cash and cash equivalent to satisfy the demand of borrowers and depositors as well as to enhance public trust towards to the bank. Therefore, banks' is expected to reconcile the maturity mismatch between its asset and liability by designing and implementing an efficient and effective assets and liability management strategy.

2.2. Empirical review

Different previous researchers also measure the performance of banks by using CAMEL model. Ab-Rahim et al., (2018), tries to analyze and compare the performance of ASEAN pubic listed banks. By using 63 public listed banks across selected Asia countries (Singapore, Malaysia, Philippines, and Thailand) and 15 years data (1997 to 2011), the research computed the capital adequacy, Asset quality, Management performance, earning quality and liquidity performance of sample banks and compare the performance across countries. Accordingly, banks from Singapore out performed their counter parts. And the research also identified and ranked top performing banks from each sample countries based on each of the CAMEL parameters

By using CAMEL framework, Singhal (2020), attempted to evaluate and analyze the financial position and performance of 21 Indian public sector banks form 2008/2009-2018/2019. As per the finding in terms of Capital adequacy, Bank of Baroda, Canara Bank and Andhra Bank ranked 1st- 3rd respectively whereas Central Bank of India, Allahabad Bank and Dena Bank positioned in the last three ranking. In respect to holding a quality asset; Vijaya Bank, Indian Bank and Syndicate Bank occupies the first three ranks respectively. Using the third parameter, Management efficiency, Bank of Baroda, Corporation Bank & Indian Bank outperforms the other sample banks during the study period. Indian Bank, Andhra Bank & State Bank of India are banks with a better quality of earning and Syndicate Bank, Andhra Bank and Bank of Maharashtra are banks which are highly rated in having a better liquidity position. The study also reveals that using the overall performance, composite rating, Indian Bank, Andhra Bank and Bank of Baroda are ranked in the first three positions and Dena Bank, United Bank of India and Central Bank of India exhibited the worst performance measured by CAMEL framework.

In similar fashion, Kulshrestha & Srivastava (2022), conducts a comparative performance analysis of selected private and public banks. To do so, they used CAMEL framework & 8 years (2011-2018) data of 14 selected banks which are operating in India. The output of the research shows that in all parameters private banks are performing better than public banks. The overall performance of the banks, using composite rating, shows that all the private sample banks are ranked better than public banks on all parameters of CAMEL rating. Furthermore, the research founds that there is a significant difference amongst overall parameters among public sector banks and also among private banks.

Ebrahimi et al.(2021), conducts a performance assessment of 14 listed banks on Tehran stock exchange, covering the period of 2010-2015, using CAMEL framework. In addition, the research tests the impact of CAMEL parameters on the profitability of banks. The findings of this research show that the profitability of these sample banks is positively and significantly affected by capital adequacy and assets quality parameters whereas its significantly and negatively affected by liquidity. The other two variables, management quality and earning quality, does not exhibit significant influence on banks' financial performance.

Raja et al. (2023), Using these five crucial dimensions (CAMEL), tries to analyze commercial banks' performance in Guyana. The research uses 6 sample banks and 5-year data and applies simultaneously CAMEL and Linear Discriminant Analysis to evaluate the performance of these banks. Even if there is no significant difference in their overall performance no bank gets the same ranking across all parameters of CAMEL model.

Among 30 best banks selected by the global finance magazine by selecting 7 banks, Desta (2016), analyzed and compared the performance of African commercial banks. It used 3 years (2012-2014) of consolidated financial statements of selected banks and used CAMEL component and composite rating to measure and compare their performance. According to its findings, even though standard bank of south Africa is ranked 1st by the magazine during 2015, it scored the lowest composite rating among the selected banks. The research also founds that these selected banks scored strong rating only in terms of capital adequacy parameter and satisfactory, less satisfactory, deficient & critically deficient in terms of Earning ability, Asset quality, management quality and liquidity respectively. The composite rating of these 7 banks were 3 (less satisfactory) even though they are among the best ranked banks as per the magazine.

Magoma et al. (2022), used CAMEL to analyze the performance of seven listed banks of Tanzania from 2016-2020 and tested the impact of these CAMEL parameters on the profitability of the selected banks. The research findings show that only capital adequacy and management quality has positive and significant effect on the profitability of Tanzanian banks. liquidity and asset quality found to have a negative but insignificant effect on bank profitability. The earning ability of the sample Banks has a positive but insignificant effect on the ROA measure of profitability.

In Ethiopia, Shibru et al.(2015), tries to examine the soundness of Ethiopian commercial banks using CAMEL and tested its impact on profitability of banks. The study reveals that the sample banks performed strongly in terms of capital adequacy performance parameter and private banks outperformed public banks in terms of Asset quality. The study also discloses that capital adequacy, earning quality and liquidity has a positive effect on the profitability of the bank (ROA) where as their profitability (ROA) is negatively affected by asset quality and management quality. The research also tries to check the effect of CAMEL parameters on profitability of banks measured in terms ROE. Accordingly, only Capital adequacy has a negative impact on ROE measure of profitability and the remaining four parameters of the framework has a negatively effect. Birhanie, (2020), makes a comparative performance analysis of private commercial banks located in Ethiopia. The research used 3 years (2017-2019) data of five private banks were used as a sample and CAMEL framework to measure their performance. As per the result of the study, the average capital adequacy ratio of selected bank was 17% and is by far is higher than what the Basel committee and the national bank of Ethiopia put as a minimum capital adequacy ratio of 8%. Furthermore, comparative speaking, Addis international bank internes of capital adequacy, Awash bank in terms of asset quality, Addis bank in terms of Management efficiency, Awash bank in terms of earing quality and Abay bank in terms of liquidity outperforms the other banks involved in this study during the sample period.

3. Methodology

The study is based on secondary data, financial report, of 17 Ethiopian commercial banks which are selected based on availability of data for 10 years or more. Audited Financial report (2012-2023) is collected from the sample banks and cross cheeked with central banks report. In order to examine the soundness of the banks, CAMEL ratios are calculated, each parameters rating is developed and composite rating index is established for each of the sample banks using guidelines from national bank of Ethiopia (NBE) and

Basel committee. Accordingly, both trend comparison, cross sectional comparison and comparison with standards set by central bank of the country were made. To measure the internal capacity of banks to resist losses in cases of economic crises, capital adequacy ratio is used, the asset quality parameter is used to examine quality of the loan portfolio the bank holds and the efficiency of the management is applied to measure the management quality parameter. Further Banks earning quality and their capacity to meet the loan and withdrawal demand of their customer is also analyzed. The following formulas were used to calculate each parameter.

Table 3.1: CAMEL parameters measurement criteria

Parameters	**Measurement Criteria**	**Formula**	Weight
Capital adequacy	Capital adequacy ratio	Total Capital/ Risk weighted asset*1	100%
Asset quality	Non-performing loan ratio (NPL)	NPLs / Gross Loans	100%
Management efficiency	Ability of management to convert deposit to loan	Total advances/ total deposit	50%
	Management Efficiency	Non- interest income /total non-interest expense	50%
Earning quality	Return on average asset	Earning after interest & tax /Average asset	50%
	Return on average capital	Earning after interest & tax /Average capital	30%
	Income diversification	Non-interest income / total income	10%
	Net Interest Income to Average Earning Assets	Net Interest Income/ to Average Earning Assets	10%
Liquidity	Ability of liquid asset to serve the withdrawal demand of depositor	Liquid Assets / total Deposits	80%
	Amount of deposit tied up in long-term loan	Gross Loans /Total Deposits	20%

Source: adopted form NBE, Basel committee and previous researches

4. Presentation and discussion

4.1. Capital Adequacy

The capital adequacy rating is determined as per the Guideline set by the central bank of Ethiopia, NBE.

Table 4.1: Capital Adequacy Rating Criteria

Ratings	Total Capital to RWA in (%)	
1	Above 18	Strong
2	14-18	Satisfactory
3	8-14	Fair
4	6 -8	Deficient
5	Below 6	Critically deficient

Source: Adopted from national bank of Ethiopia.

As per the criteria if the commercial bank scores a capital adequacy ratio of above 18% they get a rating of 1. During the sample period, on average, most banks gets rating of 1 by achieving a capital adequacy ratio of 18% and above. Which is an indication of the performance of these bank's capital to absorb and withstand unexpected shock in different economic variable is strong and by far higher than the minimum CAR rate set by Basel I. At the same time industry average CAR rating of 1 by Ethiopian commercial banks is an indication of good performance in this parameter which Signposts a strong capital level relative to the bank's risk profile of its on-balance sheet and off-balance sheet assets. This puts Ethiopian commercial banks in a good a position to meet unexpected shocks due to Forex risk, credit risk, market risk, interest rate risk and risk related to off-balance sheet activities (Ahsan, 2016).

Table 4.2: Capital adequacy rating of Ethiopian commercial banks

Banks	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*Aver.*	*Rank*
AB	1	1	1	1	1	1	1	1	1	2	2	2	**1**	10
ADIS	1	1	1	1	1	1	2	1	1	1	1	1	**1**	6
AWAS	1	1	1	1	1	1	1	3	2	2	2	2	**1**	11
BIRH	1	1	1	1	1	1	1	2	1	1	1	2	**1**	3
BOA	2	3	2	1	2	3	2	2	3	3	3	3	**2**	16
CBE	3	3	3	3	3	1	1	1	2	1	1	2	**1**	8
CBO	2	2	2	2	2	3	3	3	3	3	3	3	**3**	17
DAS	1	1	1	1	1	1	1	2	2	3	3	2	**2**	13
ENT			1	1	1	1	1	1	1	1	2	2	**1**	5
GLB		1	1	1	1	1	1	1	1	1	1	1	**1**	2
BAO	2	1	1	2	2	2	3	3	2	2	2	2	**2**	15
LIB	1	1	1	1	1	1	1	1	2	2	2	2	**1**	12
NIB	1	1	1	1	1	2	2	2	2	2	2	2	**1**	9
UB	1	1	1	1	2	2	1	2	2	2	3	3	**2**	14
WB	1	1	1	1	1	1	1	1	1	2	2	2	**1**	4
ZEM	3	1	1	1	1	1	1	1	1	1	1	1	**1**	1
BUIB	1	1	1	1	2	2	1	1	1	1	1	1	**1**	7
Industry Average	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	

Source: computed and developed based on audited financial report and NBE'S guideline.

The exceptional Case in this regard is a CAR performance of cooperative bank of Oromia (CBO) With a rating of 3. Even if the bank's capital adequacy ratio is above the minimum regulatory and statutory requirement of Basel I and NBE of 8%, its capital does not support the bank's risk profile and needs improvement. Bank of Abyssinia (BOA), Dashen bank (DAS), Bank of Oromia (BAO) and United bank (UB) gets a rating of 2, a satisfactory level of capital to their risk profile. Trend wise, though still its satisfactory, the industry average CAR performance of Ethiopian commercial banks shows a little blip in the last three years compared to the previous period. Comparative speaking, on average, Zemen bank, Global bank and Birhan banks are the top 3 performers in this parameter and in a better position to withstand unexpected risk whereas Bank of Abyssinia, Oromia bank and cooperative banks are the bottom three ranked banks during the sample period

4.2. Asset Quality

In banking institution loan is the most important asset mainly due to two reason: Because most proportion of their asset is tied up in loan and it is the major source of their income. In addition, as an intermediary, the loan extended to borrowers by the bank is mainly sourced from the liability obtained through depositors. So, holding quality asset (loan) is a prerequisite for banks to survive and sustain. For these reasons, in banking institutions the quality of loan is used to measure the quality of their Asset. National bank of Ethiopia also recommends to use the ratio of Nonperforming loan (NPLs) to total loan as a major indicator of asset quality

Table 4.3: Assets Quality Rating Criteria

Ratings	NPL To Gross Loans (%)	Performance
1	Below	Strong
2	2-5	Satisfactory
3	5-10	Fair
4	10-15	Deficient
5	Above 15	Critically deficient

Source: Adopted from national bank of Ethiopia

Banks which scores a rating of 1, which is the case in most of Ethiopian commercial banks, Designates strong asset quality and credit management practices. In this scenario Recognized weaknesses are inconsequential in nature and minor risk exposure and requires nominal supervisory worry, Ahsan (2016). The industry average rating of 1 is also an indication that Ethiopian commercial banks possess a quality loan and has a good credit management practice. On average, cooperative banks of Oromia, Lion bank, Wegagen Bank and Zemen bank has a rating below the industry average. Their average rating is 2, indicating NPLs to gross loan ratio between 2%-5%. Which indicates satisfactory level of asset quality and credit administration practice. When we see the trend, the quality of the asset held by banks shows a little decline in the last two years. The decline in the asset quality performance may indicate the effect of the War which affects the country in the last three years. Enat bank, Addis bank and Global banks are the top three ranked banks respectively whereas Cooperative banks of Oromia, Lion bank and Zemen banks are the bottom three ranked banks in this parameter of CAMEL rating.

Table 4.4: Asset quality Rating of Ethiopian commercial banks

Banks	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*Aver.*	*Rank*
AB	1	1	1	1	1	1	1	1	1	1	1	1	**1**	4
ADIS	1	1	1	1	1	1	1	1	1	1	1	1	**1**	2
AWAS	2	2	2	1	1	1	1	1	1	1	1	1	**1**	10
BIRH	1	1	1	1	1	1	1	1	1	2	3	3	**1**	13
BOA	2	1	1	1	1	1	1	1	1	1	1	1	**1**	9
CBE	2	2	2	2	2	2	2	2	3	2	4	3	**2**	12
CBO	1	1	1	2	3	2	2	2	2	1	1	2	**2**	15
DAS	2	2	1	1	1	2	1	1	1	1	1	1	**1**	5
ENT			1	1	1	1	1	1	1	1	1	1	**1**	1
GLB		1	1	1	1	1	1	2	1	1	1	1	**1**	3
BAO	1	1	1	1	1	1	1	1	1	2	2	2	**1**	11
LIB	1	1	1	1	1	2	2	1	2	2	3	3	**2**	16
NIB	2	2	2	1	1	1	1	1	1	1	1	1	**1**	8
UB	2	1	1	1	1	1	1	1	1	1	1	1	**1**	6
WB	2	2	1	1	1	1	1	2	1	2	2	2	**2**	14
ZEM	1	3	3	3	2	2	2	2	1	1	1	1	**2**	17
BUIB	1	1	1	1	1	1	1	1	1	1	1	1	**1**	7
Industry Average	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**1**	

Source: computed and developed based on audited financial report and NBE'S guideline.

4.3. Management efficiency performance

The management performance is measured by considering the ability of management to convert its deposit into loan and its efficiency in managing the bank's non-interest expense and matching it with its non-interest income (Gupta,2014). The ratio and rating show that, on average, Ethiopian commercial banks scored management rating of 3. From this ratio we can infer that the ability of the management to convert deposit to loan and its efficiency in managing expense is Fair but less than satisfactory. This indicates the need for improvement of management and board performance in managing the bank's expense and converting deposit to loan. Awash, Enat, Global and Zemen are banks beats the industry average and obtained average rating of 2 which shows that they exhibit a satisfactory management quality level. Management efficiency rating of 4 by commercial bank of Ethiopia (CBE) shows a deficiency in this parameter. The three top ranked banks are Enat bank, Zemen bank and Awash bank respectively. Whereas United bank, Oromia bank and commercial bank of Ethiopia are the three banks which exhibit a worst performance in converting their deposit to income generating loan and managing their expense efficiently.

Table 4.5: Management quality Rating of Ethiopian commercial banks

Banks	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***Aver.***	***Rank***
AB	3	3	3	2	3	3	3	2	3	3	4	3	**3**	5th
ADIS	4	4	4	3	3	3	3	3	2	3	2	2	**3**	9th
AWAS	3	2	2	2	3	3	3	2	3	2	2	3	**2**	3rd
BIRH	3	2	3	2	2	2	3	3	3	4	3	3	**3**	6th
BOA	3	3	3	3	3	3	4	4	4	3	3	3	**3**	13th
CBE	3	3	3	3	4	5	5	5	5	5	4	4	**4**	17th
CBO	3	3	2	2	4	4	4	4	4	3	2	3	**3**	12th
DAS	3	3	3	3	3	3	3	4	4	3	3	3	**3**	10th
ENT			3	2	2	2	2	3	3	2	2	2	**2**	1st
GLB		4	3	3	2	3	2	2	1	2	3	2	**2**	4th
BAO	3	3	3	3	5	3	3	4	4	4	4	4	**3**	16th
LIB	3	2	3	2	3	3	4	4	4	3	3	3	**3**	11th
NIB	2	2	2	3	4	3	4	4	4	4	4	3	**3**	14th
UB	2	3	3	4	3	4	4	4	4	4	3	3	**3**	15th
EB	2	2	3	3	3	3	3	4	3	3	3	3	**3**	8th
ZEM	3	3	3	3	2	3	3	2	2	2	2	1	**2**	2nd
BUIB	2	2.5	2.5	2.5	2.5	2.5	3	2	3.5	3	3	3	**3**	7th
Industry Average	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	

Source: computed and developed based on audited financial report and NBE'S guideline.

4.4. Earning quality

Four ratios are combined to measure the earning quality rating of the banks by adopting NBE guideline.

Table 4.6: Earning Quality Rating Criteria

Rating	Return on Average Assets (%)		Return on Average Capital (%)		Net Interest Income to Average Earning Assets (%)		Non-Interest Expenses to Gross Income %	
	Ranges	Weight	Ranges	Weight	Ranges	Weight	Ranges	Weight
1	Above	0.5	Above 60	0.3	Above 11	0.1	Below 0.23	0.1
2	3-6	0.5	40-60	0.3	10-11	0.1	0.23-0.40	0.1
3	3-1.5	0.5	20-40	0.3	9-9.9	0.1	0.41-0.60	0.1
4	1-1.5	0.5	10-20	0.3	7-8.9	0.1	0.61-80	0.1
5	Below 1	0.5	Below 10	0.3	Below 7	0.1	Above 80	0.1

Source: Adopted from national bank of Ethiopia.

The industry average earning quality rating of Ethiopian commercial banks during the sample period is approximately 3, showing Fair but below satisfactory level of earnings quality which necessities an improvement. This level of Earnings might not Fully back the operational requirement and provide for the buildup of capital and stipend levels in relation to the bank's inclusive state, growth, and other variables affecting the quality, quantity, and trend of earnings.

Banks	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***Aver***	***Rank***
AB	3.3	3.4	3.4	2.5	3.4	3.3	2.6	2.5	3.4	2.5	3.3	2.3	**2.99**	6
ADIS	3.1	2.8	2.8	2.8	2.8	2.9	3.3	2.8	2.8	2.8	2.8	3.6	**2.94**	4
AWAS	2.2	2.2	2.2	2.7	2.8	2.8	2.3	2	2.3	2.3	2.3	2.3	**2.37**	1
BIRH	2.9	3.4	3.8	3.4	2.5	2.5	3.3	3.3	3.2	4.5	3.2	3.7	**3.31**	16
BOA	3.2	3.2	3.2	3.4	3.3	3	3.2	3.2	3.1	3.1	2.7	2.7	**3.11**	10
CBE	2	2.1	2.1	2.1	2.6	3.3	4.2	3.3	4.1	3.8	3.2	3.3	**3.01**	7
CBO	2.6	2.5	2.4	2.6	4.8	3.5	3.2	3.2	3.2	3.2	3.2	3.5	**3.16**	13
DAS	2.3	2.6	2.6	2.6	3.1	3.1	3.4	3.5	3.1	3.4	3.1	2.9	**2.98**	5
ENT			2.8	3.4	3.4	3.3	3.4	3.3	3.2	3.2	3.2	3.1	**3.23**	14
GLB		4.6	3.3	3.6	2.8	2.8	2.8	2.4	2.7	3	3.2	2.3	**3.05**	8
BAO	3.4	3.4	2.6	3.1	3.4	3.4	2.6	3.1	3.1	3.3	3.3	2.8	**3.13**	11
LIB	2.9	2.6	2.9	2.5	3	3.1	2.5	2.5	3	4.1	4.6	3.8	**3.13**	12
NIB	2.6	3	3.5	3.4	3.4	3.4	3.5	3.4	3	3.3	3.3	3.2	**3.25**	15

UB	2.6	2.7	3.1	3.4	3.4	3.4	3	3	3.2	3.3	3.2	2.4	**3.06**	9
WB	2.6	2.9	3.4	3.4	3.5	3.3	2.6	3.4	3.3	4.5	3.9	3.1	**3.33**	17
ZEM	2.5	2.5	2.5	2.6	2.6	3	3.4	2.5	2.6	2.5	2.5	2.5	**2.64**	2
BUIB	1	4	3	3	3	3	3	3	3	3	4	3	**2.90**	3
Industry Average	**2.64**	**2.97**	**2.92**	**2.98**	**3.16**	**3.12**	**3.06**	**2.94**	**3.07**	**3.30**	**3.21**	**2.96**	**3.03**	

Table 4.7: Earning quality Rating of Ethiopian commercial banks

Source: computed and developed based on audited financial report and NBE'S guideline.

Almost all banks, 16 banks, have a rating of approximately 3 which shows limitation by the banks to earn a proper return on their investment in asset, on funds provided by equity holders and on earning income from diversified sources. The industry average rating of 3 also shows that the quality of earning achieved by Commercial banks is fair but not satisfactory as per National bank of Ethiopia (NBE) benchmark. The only bank which nearly gets Earning quality of 2 is Awash bank, indicating a satisfactory level of earning quality in all of the sample period except 2015-217. Relatively, Awash bank, Zemen bank, and Buna bank are the top three performers in earning a quality earning whereas NIB bank, Birhan bank and Wegagen bank are the bottom three ranked banks.

4.5. Liquidity

Commercial banks should always be ready to satisfy the withdrawing demand of its depositor and the loan request of its borrowers. The maturity mismatch between the asset and its liability compels banks to hold enough liquidity. The liquidity parameter of CAMEL measures the ability of the firm to satisfy the withdrawing and loan demands of depositor and borrowers respectively. In order to determine the liquidity rating of the banks the research uses two ratios; liquid asset to total deposit to measure the ability of available liquid asset to meet the withdrawal demand of depositor and Gross loan to total deposit to check how much of total deposit is tied up in non-liquid asset, i. e loan

Table 4.8: Liquidity Rating Criteria

Ratings	Liquid Assets to Deposits (%)		Gross Loans to Total Deposits (%)	
	Ranges	Weight	Ranges	Weight
1	Above 60	0.8	Below 60	20
2	40-60	0.8	60-70	20
3	20-40	0.8	71-80	20
4	10-20	0.8	81-90	20
5	Below 10	0.8	Above 90	20

Source: Adopted from national bank of Ethiopia

The Average industry rating of 3 shows that fair but below satisfactory level of liquidity and the funds management procedures and strategies are not fully corresponding with their size and complexity or the liquidity risks they have taken. Banks rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices. The only exceptional banks in this regard are Addis bank and Zemen bank which have liquidity rating of a little above 2 which shows satisfactory level of liquidity. Trend wise the last three years (2021-2023). The industry average liquidity rating of 4 during these years shows that banks are facing undersupplied liquidity levels or insufficient funds administration practices. This is consistent with what happens in the ground. Due to Liquidity problem, during last three years, the majority of banks were frequently imposing withdrawal limitation and also government through its agent, NBE, imposes a loan restriction. Addis bank, Zemen bank and Global banks are the three top ranked banks by possessing a better liquidity position where as NIB bank, Bank of Abyssinia and United banks exhibits low level of liquidity.

Table 4.9 Liquidity performance Rating of Ethiopian commercial banks

Banks	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***Aver.***	***Rank***
AB	1.8	2.6	2.6	2.8	2.8	2.8	2.8	2.8	3	3.2	3.2	4	**2.9**	6th
ADIS	1.4	1	2	2	2	2	2.8	2.8	3	3	3	3.2	**2.4**	1st
AWAS	2.6	2.8	2.8	2.8	2.8	3	3	3.8	3.2	4	3.2	4	**3.2**	12th
BIRH	1	2	1.8	2	3	3	2.8	2.8	3.8	4	4	4	**2.9**	5th
BOA	2.6	2.6	2.6	1.8	2.6	3.6	3.6	3.8	3.8	4	4.2	4.2	**3.3**	16th
CBE	2.6	2.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	**3.3**	14th
CBO	1.8	1	2.8	3.4	3	3	2.6	2.8	3.6	3.8	4	4	**3.0**	9th
DAS	1.8	2.6	2.6	2.6	2.6	3.6	3.6	3.8	3.8	4	4	4	**3.3**	13th
ENT			1.8	3	2.8	2.8	2.8	3	3	3.2	3.2	3.2	**2.9**	7th

GLB		1.2	1.8	1	2.8	1.8	3	2	3.2	4.2	3.2	4.2	**2.6**	3rd
BAO	1.8	2.6	2.6	2.6	2.6	2.6	2.6	3.6	3.6	3	3	3	**2.8**	4th
LIB	1.8	2	1.8	2.8	2.8	2.8	2.8	3	3	4	4.2	4.2	**2.9**	8th
NIB	2	2.8	2.8	3.8	2.8	3.6	3.6	3.8	3.8	3.8	3	3.4	**3.3**	15th
UB	2	2.6	2.6	2.6	2.8	3.8	3.6	3.8	3.8	4	4	5	**3.4**	17th
WB	2	2.8	2.6	2.8	2.8	3	3.8	3.6	3	4	3.2	3.4	**3.1**	11th
ZEM	1.8	1.8	1.8	2.6	2	1.8	2.6	2.8	2.8	3	3	3.2	**2.4**	2nd
BUIB	3.2	2.2	2.8	2	2.8	2.8	3	2.8	3	3.2	4	5	**3.1**	10th
Industry Average	**2**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**3**	

Source: computed and developed based on audited financial report and NBE'S guideline.

4.6. Composite Rating

The composite CAMEL rating shows the overall soundness of banks by using the weighted average of each the five components rating. During the sample period, the industry average composite rating of Ethiopian commercial banks is 2 and apart six banks, all banks in the sample obtains the rating not far from the industry average. Banks which has a composite rating of 2, which is the case in 11 of 17 Ethiopian commercial banks, are essentially sound. For a bank to receive this rating, generally no component rating should be more severe than 3. Only modest level of weaknesses is identified and they are manageable and can be corrected with in the capability of the management and the board of directors. Accordingly, we can infer that 11 of Ethiopian commercial banks are stable and can resist business instabilities. These banks are in important obedience to different directives and rules set by authorities.

Banks	***2012***	***2013***	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***Aver.***	***Rank***
AB	1.8	1.9	2.0	1.7	1.9	1.9	1.8	1.7	2.1	2.0	3.0	3.0	2.1	4th
ADIS	3.0	3.0	3.0	1.8	1.8	1.8	2.2	1.9	1.8	1.9	1.8	3.0	2.2	7th
AWAS	1.7	1.6	1.6	1.7	1.8	1.9	1.9	3.0	2.1	3.0	1.8	3.0	2.1	5th
BIRH	1.5	1.7	3.0	1.7	1.7	1.7	2.0	2.2	3.0	3.0	3.0	3.0	2.3	8th
BOA	2.1	2.3	2.2	1.8	2.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.6	16th
CBE	2.0	2.1	2.3	2.3	2.6	3.0	3.0	3.0	3.0	3.0	2.3	2.7	2.6	15th
CBO	1.9	1.7	1.8	1.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.6	14th
DAS	1.5	1.7	1.7	1.7	1.8	2.0	3.0	3.0	3.0	3.0	3.0	3.0	2.4	11th
ENT			1.6	1.9	1.8	1.8	1.8	2.0	1.9	1.9	2.0	2.0	1.9	2nd

GLB		3.0	1.8	3.0	1.7	1.6	1.8	1.5	1.6	3.0	2.1	3.0	2.2	6th
BAO	2.0	2.0	1.7	2.1	2.5	3.0	2.2	3.0	2.5	3.0	3.0	3.0	2.5	12th
LIB	1.6	1.5	1.6	1.7	1.9	2.0	3.0	3.0	3.0	2.6	3.0	3.0	2.3	10th
NIB	1.5	1.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.3	2.7	17th
UB	1.5	1.8	1.9	2.1	3.0	3.0	3.0	3.0	3.0	2.6	2.6	2.7	2.5	13th
WB	1.5	1.7	1.9	1.9	2.0	3.0	2.0	3.0	2.1	2.7	3.0	3.0	2.3	9th
ZEM	2.0	1.6	1.7	1.7	1.5	1.7	1.9	1.7	1.7	1.6	1.6	1.5	1.7	1st
BUIB	1.32	3.00	1.68	1.53	1.64	1.65	1.76	1.46	3.00	1.90	3.00	2.56	2.0	3rd
Industry Average	1.80	2.02	2.04	1.97	2.11	2.30	2.37	2.49	2.51	2.60	2.60	2.75	2.30	

Table 4.10 CAMEL composite Rating of Ethiopian commercial banks

Source: computed and developed based on audited financial report and NBE'S guideline.

The industry average rating of 2 also shows that the overall procedures and practices applied by the banks to manage their risk is satisfactory and fits their size, risk profile and complexity. The rating also shows that the supervisory concern is not substantial in these banks and accordingly, the supervisory response is informal and limited. Bank of Abyssinia, Commercial bank of Ethiopia, cooperative bank of Ethiopia, Bank of Oromia, NIB bank and United bank has a composite CAMEL rating above 2.5 which means they are included within the composite rating of 3. Banks in this composite rating category necessities supervisory involvement in one or more of the CAMEL parameters. These banks are more exposed to outside influences and may not have capability to withstand different shocks and business fluctuations compared to banks which gets rating of 1 and 2. These banks need more than usual supervision involvement which may result in some enforcement actions. However, the chance of failure is highly remote given the overall financial strength of the bank apart from one or two parameters

5. Conclusion

This research critically evaluates the soundness of commercial banks in Ethiopia using the most inclusive method of CAMEL framework. The capability of their capital to absorb economic shocks, the quality of loan they have possessed, the ability of their management in converting deposit to loan and management of expense, the quality of their earning and their capacity to satisfy the withdrawal demand of the depositor and the loan demand of borrowers have been thoroughly evaluated and the banks are rated and ranked accordingly. The result revealed that Ethiopian commercial banks are sound and in strong position in terms of capital adequacy and asset quality. In terms of management efficiency, earning quality and liquidity, the performance rating of these banks is fair but below satisfactory level. The composite rating of all the CAMEL parameters also indicates that, apart seven banks, all banks obtains satisfactory level of performances.

Recommendation

Based on each parameter rating and the composite rating there are points which needs attention of stakeholders

Bank's management: the management of banks which scores a rating of 2.5 and above in management efficiency, earning quality and liquidity rating needs a strategy to improve these parameters. In relation to management quality, the management and the board should look for mechanisms to cut out nonproductive expenses and to increase their loan capacity. Also, they should look for the way to improve their earning quality and diversity.

Supervisory agents: the central bank in the country shall require banks to determine and disclose their rating in each parameter. The management efficiency, the earning quality of the bank also requires a moderate intervention of the central bank.

Reference

1. Ab-Rahim, R., Kadri, N., Ee-Ling, A.-C., & Dee, A. A. (2018). CAMEL Analysis on Performance of ASEAN Public Listed Banks. *International Business Research*, *11*(4), 96.
2. Abdul Amir Shamir, S., Mohammed Al-Baaj, Q., & Abdul Amir Shamir Author, S. (2022). *"Using CAMELS as a tool for Evaluate Banking Performance" A Sample Application Study of Iraqi Banks listed on Iraq's Stock Market For the Period (2015-2020)*. *24*(3), 408–420.
3. Ahsan, M. K. (2016). Measuring Financial Performance Based on CAMEL: A Study on Selected Islamic Banks in Bangladesh. *Asian Business Review*, *6*(1), 47.
4. Alemu Melaku. (2017). www.ijsrp.org. *International Journal of Scientific and Research Publications,* *7*(10), 367–395.
5. Badrul Munir, M. binti, & Ahmad Bustamam, U. S. (2017). Camel Ratio on Profitability Banking Performance (Malaysia Versus Indonesia). *International Journal of Management, Innovation & Entrepreneurial Research*, *3*(1), 30–39.
6. Birhanie, D. (2020). A Comparative Financial Performance Analysis of Some Selected Private Commercial Banks of Ethiopia: A CAMEL Approach. *International Journal of Accounting, Finance and Risk Management*, *5*(4), 174.
7. Desta, T. S. (2016). Financial Performance of "The Best African Banks": A Comparative Analysis Through CAMEL Rating. *Journal of Accounting and Management*, *6*(1), 1–20.
8. Ebrahimi, P., Fekete-Farkas, M., Bouzari, P., & Magda, R. (2021). Financial Performance of Iranian Banks from 2013 to 2019: A Panel Data Approach. *Journal of*

Risk and Financial Management, *14*(6).

9. Hyginus Iheanyi, I., & Sotonye, I. (2017). Assessing the Performance of Nigeria's Bank through Camel Model. *Journal of Accounting and Financial Management*, *3*(1), 14–22.
10. J, S. V, C, D. M., & Vijayapur, S. P. (2023). Section A-Research paper Analysis of Banks Financial Performance Using CAMEL Rating Model Analysis Of Banks Financial Performance Using Camel Rating Model Section A-Research paper Analysis of Banks Financial Performance Using CAMEL Rating Model. *Eur. Chem. Bull*, *2023*(1), 1322–1329.
11. Kabir, A., & Dey, S. (2012). Analysis through CAMEL Rating : A Comparative Study of Selected Private Commercial Banks in Bangladesh. *Journal of Politics & Governance Performance*, *1*(2), 16–25.
12. Kulshrestha, P., & Srivastava, A. (2022). Use of Camel Rating Framework: a Comparative Performance Analysis of Selected Commercial Banks in India. *Copernican Journal of Finance & Accounting*,
13. Lavanya, B., & Srinivas, T. (2018). Performance Analysis Using Camel Model- a Study of Select Private. *Journal of Emerging Technologies and Innovative Research (JETIR)*, *5*(6), 214–223.
14. Magoma, A., Mbwambo, H., Sallwa, A., & Mwasha, N. (2022). Financial Performance of Listed Commercial Banks in Tanzania: a Camel Model Approach. *African Journal of Applied Research*, *8*(1), 228–239.
15. Rahman, H. U., Yousaf, M. W., & Tabassum, N. (2020). Bank-specific and macroeconomic determinants of profitability: A revisit of pakistani banking sector under dynamic panel data approach. *International Journal of Financial Studies*, *8*(3), 1–19.
16. Raj, D. K. (2022). Evaluating Performance of Bank Through Camels Model : a Case Study of Select Public and Private Banks in India. *EPRA International Journal of Economics, Business and Management Studies*, *9*(5), 79–84.
17. Raja, V. A., Pasha, S., Ganapathy, K., & Christy, M. (2023). Camel Model Analysis and Discriminant Analysis of Commercial Banks' Performance in Guyana, South America. *Indian Journal of Finance and Banking*, *13*(2), 23–35.
18. Salhuteru, F., & Wattimena, F. (2015). Bank Performance with CAMELS Ratios towards earnings management practices In State Banks and Private Banks. *Advances in Social Sciences Research Journal*, *2*(4), 301–314.
19. Shibru, W., Kedir, H., & Mekonnen, Y. (2015). Factors Affecting the Financing Policy of Commercial Banks in Ethiopia. *International Journal of Research in Business and Social Science (2147- 4478)*, *4*(2), 44–53.
20. Singhal, P. K. (2020). An Analysis of Public Sector Banks' Performance using CAMEL Rating Model. *International Journal of Financial Management*, *10*(September), 24–37.