



**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**EVALUATING THE FINANCIAL PERFORMANCE OF  
SELECTED PRIVATE COMMERCIAL BANKS OF ETHIOPIA  
USING CAMEL APPROACH**

**BY KIDIST KETEMA WONDIMU**

**DECEMBER 2021**

**ADDIS ABABA, ETHIOPIA**

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**KIDIST KETEMA WONDIMU**

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**A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY, SCHOOL OF  
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**ADVISOR MOHAMMED SEID (ASS. PROFESSOR)**

**DECEMBER 2021**

**ADDIS ABABA, ETHIOPIA**

## **DECLARATION**

I, Kidist Ketema have carried out independently a research work entitled Evaluating the Financial Performance of Selected Private Commercial Banks of Ethiopia Using CAMEL Approach in partial fulfillment of the requirements for Degree of Master of Business Administration with the guidance and support of the research advisor. This study is my own work that has not been submitted for any degree or diploma program in this or other institution and that all source of materials used for this thesis have been duly acknowledged.

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## **ENDORSEMENT**

This thesis papers is submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

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**ST. MARY'S UNIVERSITY**  
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This is to certify that the thesis prepared by Kidist Ketema entitled: Evaluating the Financial Performance of Selected Private Commercial Banks of Ethiopia Using CAMEL Approach and Submitted in partial fulfillment of the requirements for the Degree of Master of Business Administration complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## Acronyms

CAMEL: Capital adequacy, asset quality, management efficiency, earning quality and liquidity

CA: Capital Adequacy

AQ: Asset Quality

ME: Management efficiency

EQ: Earning quality

L: Liquidity

NIM: Net Interest Margin

NPA -Non-Performing Assets

NBE-National Bank of Ethiopia

Addis: Addis International Bank S.C.

Awash: Awash International Bank S.C.

Berhan: Berhan International Bank S.C.

Bunna: Bunna International Bank S.C.

CBO: Cooperative Bank of Oromia S.C.

Dashen: Dashen Bank S.C.

Hibret: Hibret Bank S.C.

Lion: Lion Bank S.C.

Nib: Nib International Bank S.C.

Wegagen: Wegagen Bank S.C.

Zemen: Zemen Bank S.C.

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## ***Abstract***

*Even though there are researches undertaken to explain the financial performance of banks in Ethiopia in general by applying CAMEL model, there are only few studies that were undertaken on only private commercial banks of Ethiopia. Among all these researches, only few studies were exhaustive in applying most of CAMEL explanatory variables. In addition, most of the studies were conducted at different periods of time. Thus, this study evaluated the financial performance of 11 selected private commercial banks of Ethiopia applying CAMEL model from 2013 to 2020. Accordingly the overall objective of the study was to measure the financial performance of private commercial banks using CAMEL ratios and to rank them based on their result. With regard to the CAMEL explanatory variables the research was limited to 21 variables. The research methodology was limited to quantitative approach with descriptive statics for CAMEL ratios. The results show that on group composite capital adequacy Wegagen bank was on top when compared to other banks under the study period. On asset quality perspective Hibret bank outperformed other banks. With regard to composite management efficiency Awash bank stood on top. Lion proved to be the better bank in utilizing its assets to generate sustainable and quality return when compared with sampled banks in the study period. Zemen was on top by being more liquid in the study period. When looking to the overall performance of banks Addis was on top followed by Zemen and Bunna. Based on the findings of the study the researcher recommend banks with very low score on different CAMEL ratios especially on group composite shall evaluate their own performance over a given period frequently.*

**Keywords:** CAMEL, financial performance, private commercial banks in Ethiopia

# CHAPTER ONE

## BACKGROUND

### 1.1 Background of the Study

It can be say we all work for money as it is considered the way to get the things we need. Banks have come all the way from temples to current world with no change in the basic bank business practice to deal with money, which is to mediate between those who need money (borrowers) and those who have surplus money (depositors).

In general, financial intermediation can be considered one of the fundamental factors for economic growth. Globally, banks in developing countries are expected to play very vital and effective roles in financing their economic projects and activities as their contribution in ensuring sustainable economic growth. This expectation is as a result of the fact that there is acute shortage of capital in the developing countries of the world. For many years, theoretical discussions about the importance of credit development and the role that financial intermediaries play in economic growth have occupied a key position in the literature of developmental finance (Agbada 2010). According to NadiyaRushchyshyn, OlhaMul'ska, YuliiaNikolchuk, MariiaRushchyshyn and TarasVasylytsiv (2021), the relationship between the banking sector and economic growth is due to the growth of investment opportunities and the emergence of profitable projects, facilitating the exchange of goods and services, creating a network of payment services, mobilizing and pooling savings of some investors, obtaining and processing information flow about business structures. The priority tasks of the banking sector on the way to establishing social and economic stability are consigning savings for their productive use in investment activities, monitoring the investment and innovation sphere, and diversifying liquid assets. The banking sector, guaranteeing access and controlling a significant part of the active money

supply, affects the volume of industrial production and the nature of production factors. By determining the amount of mobilized financial and investment resources, as well as the efficiency of individual segments of the economy, the banking sector is a trigger of social and economic development.

Businesses are the important part of economic system. The major and most important goal of these businesses is to create value maximization. In this regard financial performance of business plays a key role in achieving the value maximization goal of business. Financial performance analysis is among the few tools used to evaluate performance. This tool is an effective criterion for businesses to achieve their goals, to adapt to changing conditions in the market, to improve the way of doing businesses and to be able to take measures against possible problems. Hence, financial performance is an increasingly important issue not only for businesses but also for economies of countries. Therefore, the purpose of this study is to evaluate the financial performance of selected private commercial banks of Ethiopia using CAMEL approach.

## **1.2 Statement of the problem**

Among the existing business, it is a known fact that banks play several vital roles in any economy. And these roles are aimed at ensuring sound financial system and economic stability. It is incontrovertible that the banking system is the engine of growth in any economy, given its function of financial intermediation. Through this function, banks facilitate capital formation, lubricate the production engine turbines and promote economic growth. However, banks' ability to produce economic growth and development depends on the health, soundness and stability of the banking system itself. The need for a strong, reliable and viable banking system is underscored by the fact that the industry is one of the few sectors in which the shareholders' fund is only a small proportion of the liabilities of the entity. It is, therefore, not

surprising that the banking industry is one of the most regulated sectors in any economy (Omankhanlen 2012).

According to Ibrahim (2014), commercial bank's performance is evaluated for several reasons depending on evaluator's personal objectives. A government body like a bank regulator, for example, may need to identify and call attention to banks that are experiencing chronic financial problems in order that they shall fix them before they get out of control. Such is the case with so called "bank runs". Investors, on the other hand may need to assess which banks they can believe suitable to financially invest in. Unsurprisingly, commercial banks evaluate their own performance over a given period so that they may determine the efficiency and long term viability of management decisions or goals so that they can alter the course and make changes whenever it is appropriate. Ibrahim (2014) further state that with a constant and routine monitoring of performance, underlying problems may remain invisible and lead to financial failures further down the line. Barker and Holdsworth (1993) in their research called the Causes of Bank Failures in the 1980s, find evidence that CAMEL ratings are useful, even after controlling a wide range of publicly available information about the condition and performance of banks. In addition, it is important to bear in mind that... banks in developing countries are expected to play very vital and effective roles in financing their economic projects and activities as their contribution in ensuring sustainable economic growth (Agbada 2010).

Findings in previous researches in Ethiopia revealed that CAMEL model widely used to evaluate the financial performance of Banks. In analyzing the financial performance of commercial banks in Ethiopia from 2010-2014 Muluaem (2015), used CAMEL approach. He used only five CAMEL explanatory variables in the study. Dakito (2015) assessed the performance of banks using capital adequacy from 2000-2013. Similar study by Ermias (2016)

has also investigated the effects of internal determinants of profitability of six senior private Ethiopian commercial banks for the period from 2000-2014 and ranked the banks based on CAMEL model. Gudata (2015) also measures the financial performance of five commercial banks of Ethiopia for the period 2007-2011 using ratio analysis. 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.

Even though most of these studies were undertaken to explain the performance of banks using CAMEL approach, there are only few studies that were made on private commercial banks of Ethiopia. And among all these researches, only few studies were exhaustive in applying all components of CAMEL explanatory variables to observe the bank performance. In addition, most of the studies were conducted at different periods of time. Therefore, this study is undertaken with the intention of filling these gaps and believed to be worthy.

### **1.3 Basic Research questions**

This research is expected to answer the following specific research questions:

- Which bank maintained adequate capital under the study period to bear unexpected losses which might arise in the future?
- Which banks managed their assets well to ascertain good loan portfolio and investment?
- Which Banks Management were capable to identify, measure, and control the risks of their banks activities and ensure safe, sound, and efficient operation in compliance with applicable laws and regulations?
- Which banks made quality earnings to maintain sustainable growth of future earnings?
- Which banks maintained an adequate liquidity position to meet their financial obligations?



## **1.4 Objective of the study**

### **1.4.1 General Objective**

The overall objective of this study is to measure the financial performance of selected private commercial banks of Ethiopia by applying CAMEL approach and to rank them based on their performance using financial data from 2013 to 2020 GC.

### **1.4.2 Specific Objective**

- To evaluate the financial Performance of the banks using Capital adequacy ratios/measures.
- To evaluate the financial Performance of the banks using Asset quality measures.
- To evaluate the financial Performance of the banks using Management efficiency measures.
- To evaluate the financial Performance of the banks using Earning capacity measures.
- To evaluate the financial Performance of the banks using Liquidity measures.

## **1.5 Significance of the Study**

The findings of the research expected to provide information to regulatory body, shareholders and potential investors about the strength & weaknesses of the private commercial banks which in turn will help shareholders and potential investors to make informed decisions. It will also help the regulator body in making appropriate rules and regulations to mitigate the potential risk of failures and also to take corrective actions.

The research, believed to benefit management of the banks in formulating a proactive strategy for survival and long term growth. It is also expected to

assist the management to give due emphasis for the identified variables and work on them to enhance their bank's performance.

The findings may also be considered as important additions to the existing knowledge and literature in the area for the public at large.

The study could be also used as spring board for other advanced researchers and might create interest on those who has the interest to conduct a detailed and comprehensive study on the area.

### **1.6 Scope of the Study**

The scope of the study is limited to evaluating the financial performance of selected private commercial banks using CAMEL approach and rank them based on the result. The data used for this research is limited for the years from 2013 to 2020 GC. With regard to the CAMEL explanatory/component variables the research is limited to 21 variables: (1) Capital adequacy measured by debt to equity ratio, advance to asset ratio, government securities to total investment ratio and capital adequacy ratio itself. (2) Asset quality is measured by allowance for doubtful account to total Assets ratio, allowance for doubtful account to net Advance ratio and investments to total asset ratio (3) Management efficiency measured by total Advances to total Deposits, business per Employee, profit per employee and expenditure to income ratio (4) Earning quality measured by net interest margin to total assets, net profit to total assets, percentage growth in net profit, operating profit to total asset ratio, interest income to total income and non-interest income to total income (5) Liquidity quality measured by liquid assets to demand deposits, liquid assets to total deposits, liquid assets to total assets and term deposits to total deposits ratios. The research methodology is limited to quantitative approach with descriptive statistics, and ratio analysis.

### **1.7 Limitation of the Study**

The researcher was unable to get access to certain type of materials, like off balance sheet items and non-performing loans data, which could limit the research work. Instead of non-performing loans the researcher used allowance for doubtful account for the measurement of asset quality. Unavailability of information regarding sensitivity to the market forced the researcher to exclude the sixth CAMELS variable/component i.e. S (sensitivity). Therefore, the research is limited to CAMEL not CAMELS.

### **1.8 Organization of the Paper**

This study is organized into five chapters. The first chapter presents background of the study, statement of the problem, research questions, research objectives, significance of the study, scope and limitations of the study, and organization of the paper. The second chapter reviewed the most significant theoretical and empirical researches done before including bank history in Ethiopia. Chapter three presents the research design and methodology, and result and discussion are presented in chapter four. The last chapter comprises conclusions and recommendations of the study.

# **CHAPTER TWO**

## **REVIEW OF RELATED LITERATURE**

### **2.1 Theoretical Literature**

#### **2.1.1 Banking Industry in Ethiopia**

The current Ethiopian banking sector is regulated by the National Bank of Ethiopia which got its current shape first in 1963 after it was established by proclamation 206 of 1963 and began operation in January 1964. Prior to this proclamation, the Bank used to carry out both commercial banking activities and central banking activities. The history of banking sector in Ethiopia will take us back to 1905. The 1905 agreement between Emperor Minilik II and Mr.MaGillivray, representative of the British owned National Bank of Egypt was the reason for the introduction of modern banking in Ethiopia. As per the agreement reached Bank of Abyssinia was established and inaugurated in 1906. As that time the bank was managed by National Bank of Egypt. Within the first fifteen years of its operation, Bank of Abyssinia opened branches in Addis Ababa, Harar, Dire Dawa, Gore, Dessie and Djibouti.

After Emperor Haile Selassie came to power an agreement was reached to liquidate Bank of Abyssinia which had been carrying out limited business activities and were criticized for being inefficient and purely profit motivated Bank of Ethiopia was established in 1931. Bank of Ethiopia was purely Ethiopian institution and was the first indigenous bank in Africa The new bank took over the commercial activities of the Bank of Abyssinia and was authorized to issue notes and coins. The Bank continued its operation successfully until the Italian invasion in 1935.

During the invasion, the Italians established branches of their main Banks and started operation in the main towns of Ethiopia. However, they all ceased operation soon after liberation except Banco di Roma and Banco di Napoli

which remained in Asmara. In 1941 another foreign bank, Barclays Bank, came to Ethiopia with the British troops and organized banking services in Addis Ababa, until its withdrawal in 1943. In 1943 Bank of Ethiopia commenced full operation after 8 months of preparatory activities. It acted as the central Bank of Ethiopia. In 1945 and 1949 the Bank was granted the sole right of issuing currency and deal in foreign currency. The Bank also functioned as the principal commercial bank in the country and engaged in all commercial banking activities. Until 1963 the bank opened 21 branches in Ethiopia and in neighboring countries. The 1963 Ethiopian Monetary and Banking law separated the function of commercial and central banking creating National Bank of Ethiopia and commercial Bank of Ethiopia. This proclamation also allowed foreign banks to operate in Ethiopia limiting their maximum ownership to be 49 percent while the remaining balance should be owned by Ethiopians.

The National Bank of Ethiopia with more power and duties started its operation in January 1964. Commercial Bank of Ethiopia took over the commercial banking activities of the former State Bank of Ethiopia. It started operation on January 1, 1964 with a capital of Ethiopian Birr 20 million. In the new Commercial Bank of Ethiopia, in contrast with the former State Bank of Ethiopia, all employees were Ethiopians. There were two other banks in operation namely Banco di Roma S. and Bank O di Napoli S.C. that later reapplied for license according to the new proclamation each having a paid up capital of Eth. Birr 2 million.

The first privately owned bank, Addis Ababa Bank Share Company, was established on Ethiopians initiative and started operation in 1964 with a capital of 2 million in association with National and Grindlay Bank, London which had 40 percent of the total share. In 1968, the original capital of the Bank rose to 50 million and until it ceased operation, it had 300 staff at 26 branches.

There were other financial institutions operating in the country like the Imperial Savings and Home Ownership public Association (ISHOPA) which specialized in providing loans for the construction of residential houses and to individuals under the guarantee of their savings. There was also the Saving and Mortgage Corporation of Ethiopia whose aims and duties were to accept savings and trust deposits account and provide loans for the construction, repair and improvement of residential houses, commercial and industrial buildings and carry out all activities related to mortgage operations. On the other hand, there was a bank called Agricultural Bank that provides loan for the agricultural and other relevant projects established in 1945. But in 1951 the Investment Bank of Ethiopia replaced it. In 1965, the name of the bank once again hanged to Ethiopian Investment Corporation Share Company and the capital rose to Ethiopian Birr 20 million, which was fully paid up. However, proclamation No.55 of 1970 established the Agricultural and Industrial Development Bank Share Company by taking over the asset and liability of the former Development Bank and Investment Corporation of Ethiopia.

Following the declaration of socialism in 1974 the government extended its control over the whole economy and nationalized all large corporations. Organizational setups were taken in order to create stronger institutions by merging those that perform similar functions. Accordingly, the three private owned banks, Addis Ababa Bank, Banco di Roma and Banco di Napoli Merged in 1976 to form the second largest Bank in Ethiopia called Addis Bank with a capital of Eth. birr 20 million and had a staff of 480 and 34 branches. Before the merger, the foreign participation of these banks was first nationalized in early 1975. Then Addis Bank and Commercial Bank of Ethiopia S.C. were merged by proclamation No.184 of August 2, 1980 to form the sole commercial bank in the country till the establishment of private commercial banks in 1994. The Commercial Bank of Ethiopia commenced its

operation with a capital of Birr 65 million, 128 branches and 3,633 employees. The Savings and Mortgage Corporation S. .and Imperial Saving and Home Ownership Public Association were also merged to form the Housing and Saving Bank with working capital of Birr 6.0 million and all rights, privileges, assets and liabilities were transferred by proclamation No.60, 1975 to the new bank. Proclamation No.99 of 1976 brought into existence the Agricultural and Industrial Bank, which was formed in 1970 as a 100 percent state ownership, was brought under the umbrella of the National Bank of Ethiopia. Then it was reestablished by proclamation No. 158 of 1979 as a public finance agency possessing judicial personality and named Agricultural and Industrial Development Bank (AIDB). It was entrusted with the financing of the economic development of the agricultural, industrial and other sectors of the national economy extending credits of medium and long-term nature as well as short-term agricultural production loans. The financial sector that the socialist oriented government left behind constituted only 3 banks and each enjoying monopoly in its respective market. The following was the structure of the sector at the end of the era.

1. The National Bank of Ethiopia (NBE)
2. The Commercial Bank of Ethiopia (CBE)
3. Agricultural and Industrial Development Bank (AIDB)

Following the departure of the Dergue regime in 1991 that ruled the country for 17 years under the rule of command economy, the EPRDF declared a liberal economy system. In line with this, Monetary and Banking proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for private investors to invest in the banking sector. The first private bank established shortly after the proclamation came to effect in 1994 (<https://nbebank.com/history-of-banking/>).

## **2.1.2 Definition and Concept of CAMEL Model**

CAMEL was initially adopted by the Federal Financial Institution Examination Council on November 13th, 1979; then adopted by the National Credit Union Administration in October 1987 in the U.S.A. The CAMEL acronym stands for Capital adequacy, Asset quality, Management efficiency, Earnings quality and Liquidity.

### **2.1.2.1 Capital Adequacy**

Capital absorbs losses by allowing a bank to continue to operate as going concern during periods when losses owing to operation or other adverse financial results are experienced; promotes public confidence by providing a measure of assurance to the public that an institution will continue to provide financial services even in the event losses are incurred, thereby helping to maintain confidence in the banking system and minimize liquidity concerns. Also capital, along with minimum capital ratio standards, restrains unjustified bank asset expansion by requiring that asset growth be funded by a commensurate amount of additional capital; helps to minimize the potential moral hazard; and promotes safe and sound banking practices (Nimalathasan 2008). Capital adequacy is one of the prominent indicators of the financial health of a bank. It is regarded as a very useful measure of whether a bank will be able to bear unexpected losses and absorb shocks emanating from the financial system. It serves as a basis for conserving, protecting and earning stakeholders' confidence as well as preventing a bank from bankruptcy. It reflects the inner strength of a bank and its ability to stand in good stead during the times of crisis. It has direct bearing on the overall performance of a bank as it affects a bank's activities like opening of new branches, fresh lending in high risk but profitable areas, manpower recruitment and diversification of business (Demyanyk&Iftekhhar, 2009). Sangmi and Nazir (2010), opined that capital adequacy may have a bearing on the overall performance of a bank. This is



corroborated by the fact that opening of new branches, fresh lending in high risk but profitable areas, manpower recruitment and diversification of business through subsidiaries or through specially designated branches all require adequate capital. Therefore, capital adequacy represents the degree of leverage of a bank and indicates the relative proportion of shareholders equity and debt use to finance its assets. The literature has documented several ratios for measuring capital adequacy also called capital adequacy ratio. The Capital adequacy ratio is used to ascertain the ability of a bank to absorb a reasonable level of operational losses and its capacity to meet the losses. The most popular ratio is Debt-Equity Ratio, which indicates the degree of a bank's leverage. A third ratio that is commonly used in the literature to measure capital adequacy is Advance to Assets Ratio. This ratio indicates a bank's aggressiveness in lending. Generally, lending is considered the most important activity that brings profit to banks. A less pronounced measure of capital adequacy measure is Government Securities to Total Investments, which indicates the risk-taking ability of a bank and its risk-return strategy (Nimalathan, 2008; Demyanyk&Iftkhar, 2009; Dang, 2011; Islam, Siidiqui, Hossain, &Karim, 2013). Capital adequacy is rated based on a number of parameters. These include nature and volume of problem assets in relation to total capital and adequacy of loan loss and other reserves; balance sheet structure, nature of business activities and risks to the bank, asset and capital growth experience and prospects, earnings performance and distribution of dividends, capital requirements and compliance with regulatory requirements, access to capital markets and sources of capital, and ability of management to deal with the above factors (Shar, Shah and Jamali, 2011).

### **2.1.2.2 Asset Quality**

A bank's assets are considered the main source of its operations risk. This is because banks are in the business of financial intermediation. The bulk of their

activities have to do with creation of loans and advances. In the process of creating, disbursing and managing these loans and advances, a bank is exposed to credit risk. This means that a bank's asset quality measures how well credit are created, managed and recovered. It is an important parameter that gauges a bank's financial strength. Asset quality is used to ascertain the component of non-performing assets as a percentage of the total assets (Altan, Yusufazariand Bedük, 2014). Some of the popular measures of asset quality as documented in the literature are Net Non-Performing Assets to Total Assets, Net Non-Performing Assets to Net Advances, Total Investments to Total Assets and Percentage Change in Non-Performing Assets. Net Non-Performing Assets to Total Assets discloses the efficiency of a bank in assessing credit risk and, to an extent, recovering debts. Net Non-Performing Assets to Net Advances measures the net non-performing assets as a percentage of net advances. Total Investments to Total Assets indicates the extent to which assets are deployed in investment as against advances. Percentage Change in Non-Performing Assets tracks the movement in Net Non-Performing Assets over previous year (Rai, 2010). Asset quality is assessed based on some parameters. The parameters include the volume of problem assets, volume of overdue or rescheduled loans, management's ability to administer all the assets of a bank and to collect problem loans, large concentrations of loans and insiders loans, loan portfolio management, loan loss reserves, and growth of loans volume in relation to a bank's capacity (Trautmann, 2006; Dang, 2011).

### **2.1.2.3 Management Efficiency**

The ability of a bank's management is reflected by its soundness and effectiveness. In banking operation, the sustainability and quality of earnings is more important than its quantity. Inappropriate credit risk management adversely affects both quality and quantity of earnings. If a bank can achieve strong quality and quantity of earnings, then it will be able to pay a sustainable

return to its shareholders. The capability to absorb any unexpected shock arising from different risks will also translate into an increase in the earnings and profitability of a bank (Rai, 2010). Four different ratios are commonly used to measure management efficiency also referred to as management soundness or management quality (Dang, 2011). First is Total Advances to Total Deposits, which measures the efficiency with which a bank's management converts the deposits available with the bank into high earnings. The second ratio is Profit per Employee, which shows the surplus earned per employee measured as profit after tax over the total number of employees. Third is Business per Employee, which indicates the productivity of human force of bank, that is, the efficiency of employees of a bank in generating business for the bank. The fourth measure is Return on Net worth, which measures the profitability of a bank. Rating of management efficiency is based on the board and management's quality of monitoring of and supporting a bank's activities and their ability to understand and respond to all associated risks. Other parameters used for assessing management quality are development and implementation policies and procedures, availability of internal and external audit function, concentration or delegation of authority, compensations policies, and response to concerns and recommendations of regulators (Trautmann, 2006).

#### **2.1.2.4 EarningQuality**

The quality of a bank's earnings represents an important criterion that determines its ability to earn consistently. It evaluates the profitability of a bank and explains its future earnings sustainability and growth (Nimalathan, 2008). Three main ratios used in determining earnings quality have been documented in the literature. First is the ratio of Operating Profit to Average Working Funds, which evaluates how much a bank can earn profit from its operations. The second ratio is Percentage Growth in Net Profit, which shows

the percentage change in net profit over the previous year. The third ratio, Net Profit to Average Assets measures return on assets employed or the efficiency in utilization of assets (Dang, 2011). Earnings are rated based on earnings sufficiency to cover potential losses, provide adequate capital and pay reasonable dividends. Other parameters used to rate earnings are composition of net income and volume and stability of income components, level of expenses in relation to operations, non-traditional sources of income, adequacy of provisions, and earnings exposure to market risks (Trautmann, 2006).

### **2.1.2.5 Liquidity**

Liquidity is considered one of the most important criteria for sound banking operation. It shows the degree to which a bank is capable of fulfilling its obligations as they fall due. Banks make money by mobilizing short-term deposits at lower interest rate, and lending or investing these funds in long-term at higher rates (Rai, 2012). If a bank faces liquidity crisis, there is a probable chance of bank run to occur. Liquidity is thus crucial for banks and it is of utmost importance for a bank to maintain correct level of liquidity which will otherwise lead to decline earnings (Getahun, 2015). Liquidity is rated based on sources and volume of liquid funds available to meet short term obligations, volatility of deposits and loan demand, interest rates and maturities of assets and liabilities, access to money market and other sources of funds, diversification of funding sources, reliance on inter-bank market for short term funding, and management ability to plan, control and measure liquidity process (Trautmann, 2006). Liquidity risk on the other hand, is a curse to the image of a bank. As such banks need to take appropriate measures that will help in hedging liquidity risk; at the same time ensuring that good percentage of funds is invested in high return generating securities in order to generate profit with provision of liquidity to the depositors. Liquidity is measured using a number of ratios. One of the ratios is Liquid Assets to Demand Deposits, which

measures the ability of a bank to meet the demand from depositors in a particular year. Another ratio is Liquid Assets to Total Deposits that measures liquidity to total deposits of a bank. A third ratio is Liquid Assets to Total Assets, which measures the overall liquidity position of a bank. Liquid assets include cash in hand, balance with institutions and money at call and short notice while total assets include the revaluation of all assets (Nimalathan, 2008; Dang, 2011).

## **2.2 Empirical Research**

Several studies have assessed the effect of CAMEL on firm performance. These studies were made at different times and on firms that operate in different socio economic environment. Some empirical evidences which are related to this research are presented here.

Altan et al. (2014) attempts to investigate the performance of selected Turkish banks using CAMEL model. The study included three state-owned banks and twelve privately owned banks. The research cover the period from 2005-2020. The study employed Equity to Total Assets, (Equity - Permanent Assets) to Total Assets , Net On Balance Sheet Position to Equity, Net On and Off Balance Sheet Position to Equity ratios as measures of capital adequacy. For asset quality the study used Financial Assets (net) to Total Assets, Total Loans and Receivables to Total Assets, Total Loans and Receivables to Total Deposits, Non-performing Loans NPLs (net) to Total Loans and Receivables and Fixed Assets to Total Assets ratios. To measure management quality the researchers used Profit per Employee (Turkish Lira), Business per Employee (Turkish Lira), Personnel Expenses, Other Operating Expenses, Total Assets to Total Deposit, and Funds Borrowed to Total Assets ratios. To measure earning quality the study used Net Profit to Total Assets, Net Profit to Equity, Earnings before Taxes and Interests to Total Assets, Net Interest Income after Specific Provisions to Total Assets and Non-interest Income (net) to Total Assets. For

liquidity the research used Liquid Assets to Total Assets, Liquid Assets to Short-term Liabilities and Liquid Assets to Total Deposit ratios. The study first ranked the banks based on their score on each ratio. The sum of these ranks was then taken to arrive at the group average of individual banks for each CAMEL variable. Finally the composite rankings for the banks were arrived at after computing the average of these group averages. The results indicated that on the overall performance, in the CAMEL rating model Ziraat Bank was in top position followed by Ak Bank and Vakif Bank. Tekstil Bank had the lowest rank in most positions. It was also observed that there is a significant difference between performance of state-owned and private-owned banks in Turkish banking system.

Islam et al. (2013) assessed banks in Bangladeshi by categorizing them in four groups, which are State-Owned Commercial Banks, Development Financial Institutions, Private Commercial Banks and Nine Foreign Commercial Banks. The performance of the banks was compared with each other, and the overall performance of the banking sector was also compared with that of other countries using performance data on the basis of some selected CAMELS ratios. The study covered the periods from 2004 to 2011 and used ANOVA test and correlation to find out the impact of different ratios. The results showed that ROA, ROE and liquidity ratios were too low in Development Financial Institutions and also reflected negatively in the overall banking industry performance. Foreign Commercial Banks and Private Commercial Banks showed positive signals of a well-functioning industry whereas State owned Commercial Banks showed a trend of improving performance. The shortcoming of the study is that it employed ANOVA to assess CAMEL in banks with different ownership. Thus, its conclusions cannot be extended to the effect of CAMEL ratios on financial performance using more robust techniques of analysis.

The study of Dang (2011) aimed to assess whether CAMEL framework plays a crucial role in banking supervision in Vietnam and also to identify the benefits as well as the drawbacks of the system. The study concluded that CAMEL rating system is a useful supervisory tool and that its analysis approach is beneficial as it is an internationally standardized rating that provides flexibility between on-site and off-site examinations, and thus it is the main model of assessing banks performance. It however, highlights the disadvantage of not following the Vietnamese banks closely, ignoring the interaction with banks top management and overlooking the provisions as well as allowance for loan loss ratio. The study is mainly descriptive in nature.

Prasada and Ravinder (2012) studied the performance of nationalized banks in India using CAMEL model. They used Capital Adequacy Ratio, Debt-Equity Ratio, Advance to Assets Ratio, Government Securities to Total Investments ratio parameters for Capital adequacy. For Asset quality they used Net Non-Performing Assets to Total Assets, Net Non-performing assets to Net Advances, Total Investments to Total Assets and Percentage Change in Non-performing assets. To measure management efficiency they used Total Advances to Total Deposits, Profit per Employee, Business per Employee and Return on Net worth. To measure the ability of a bank to earn consistently they used Operating Profit to Average Working Funds, Percentage Growth in Net Profit and Net Profit to Average Assets ratios. To evaluate the performance of the banks with regard to liquidity the researchers used Liquid Assets to Demand Deposits, Liquid Assets to Total Deposits, Liquid Assets to Total Assets, Government Security to Total Assets and Approved Securities to Total Assets ratios. The fiscal year for evaluating performance through CAMEL in the study ranges from 2005/2006 to 2009/2010, i.e., for 5 years. The absolute data for twenty nationalized banks on capital adequacy, asset quality, management efficiency, earning quality and liquidity ratios was collected from

various sources such as annual reports of the banks, Ace Analyzer and Analyst journal. All the banks were first individually ranked based on the sub-parameters of each parameter. The sum of these ranks was then taken to arrive at the group average of individual banks for each parameter. Finally the composite rankings for the banks were arrived at after computing the average of these group averages. Banks were ranked in the ascending/descending order based on the individual sub-parameter. The composite research result shows that Andhra bank ranked at top position followed by Bank of Baroda, Punjab and Sindh Bank, Indian Bank, Corporation Bank. Central bank of India was at the bottom most position.

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 whereas 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.

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.

The study by Adesina (2012) evaluated and compared the performance of the Nigerian banks in the post 2005 consolidation through the CAMEL rating system. According to the researcher the study was undertaken after the Central Bank of Nigeria (CBN) had been taken strong measures since 2005; this has



made the landscape of Nigerian banking changed altogether. Adesina (2012) further state that All Nigerian banks were directed to follow the norms of capital adequacy, asset quality, provision for non-performing assets, prudential norms, disclosure requirements, acceleration of pace and reach of latest technology, streamlining the procedures and complying with accounting standards and making financial statements transparent and using the same financial calendar. Ratios used for the five Elements of CAMEL were Shareholders Fund to Total Asset to measure capital adequacy, Non-Performing Loans and Advances to Total Loans and Advances, and Total Loans and advances to Total Assets to measure Asset Quality, Total Loans and Advances to Total Deposit, Interest Expenses to Total Deposit and Operating Expenses to Total Assets to measure Management Quality, Net Income to Total Assets and Net Interest Income to Total Assets to measure Earning Ability, and Liquid Asset to Total Asset and Liquid Asset to Total Customers Deposit to measure Liquidity. The research period covers from 2006 to 2010 GC. For all the above CAMEL parameters ratios were calculated based on the annual reports of the individual bank. The calculation was done separately for each of the parameters and the ratios related to each parameter. The average values were used to rank the banks. Higher average value of the ratios got ranked higher. The best ratio got rank one followed up to rank fifteen with an interval of one. In case of equal average ratio, the average rank was assigned to the banks. All the average ratios having higher value got higher rank except for the ratios of non-performing loans and advances to total loans and advances, interest expenses to total deposits, and operating expenses to total assets that were ranked in reverse order. Lower rank is assigned to higher ratio under the three ratios. The averages of all the parameters' rankings are used for the final ranking of the banks. The study results shows GTB ranked first for the overall ranking. Diamond Bank, Zenith Bank, and First Bank was ranked second, third, and fourth respectively. Unity Bank, Union Bank, and WEMA Bank were

not so successful based on the overall CAMEL composite and thus ranked 13, 14.5, and 14.5 respectively taking in to account the study period.

Mulualem (2015) in analyzing the financial performance of commercial banks in Ethiopia used CAMEL approach. He used only five CAMEL explanatory variables i.e. gross capital to total asset ratio to measure CA, the ratio of Provision for loan Loss to total loans to measure AQ, the ratio of Non-interest expense to Net Interest income plus non-Interest Income proxy of ME, the ratio of net interest income to total interest Income (NIM) as measure of EQ, the ratio of total loans to total Deposits to represent liquidity in the study. He included fourteen commercial banks using panel data and multiple regressions for the period of 2010-2014. The research result 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.

Even if, these reviewed empirical studies were done in banks that were operating in different socioeconomic environment, most of the study results revealed that CAMEL explanatory variables has significant impact in explaining banks financial performance. However, to the best of the researcher knowledge and according to the above empirical literature review there are few researches done on private commercial banks of Ethiopia using CAMEL explanatory variables exhaustively. In addition, most of these studies were conducted at different periods of time. Therefore, to fill the gap, this study was done on selected private commercial banks of Ethiopia by including CAMEL explanatory variables exhaustively. The time period covered in this research was from 2013 to 2020 GC.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Research Design**

As this research wants to evaluate the financial performance of selected private commercial banks of Ethiopia, descriptive research type with quantitative approach was employed. Descriptive research is a type of research that describes a population, situation, or phenomenon that is being studied. On the other hand, quantitative method uses numbers and closed-ended questions and it emphasizes on objective measurement and numerical analysis. CAMEL model will be applied considering the ultimate goal of this research that is to evaluate the financial performance of selected private commercial banks in Ethiopia. CAMEL is a ratio-based model used to evaluate the performance of banks with the help of different criteria, i.e. Capital Adequacy, Asset Quality, Management efficiency, Earnings quality and Liquidity. According to Yuva (2016), CAMEL rating indicates financial strength of a bank, whereas CAMEL ranking indicates the bank's relative position with reference to other banks.

### **3.2 Sources of Data**

The study used secondary data collected from National Bank of Ethiopia annual reports, websites of banks, private commercial banks annual and financial reports.

### **3.3 Sample and Sampling Technique**

The study population incorporates all private commercial banks of Ethiopia established and started operation on or before the 2012/2013 GC fiscal year of Ethiopia. The population is based on the national bank of Ethiopia database (annual reports). According to NBE annual report there were 16 private commercial banks that started operation before or on 2012/2013 fiscal year. The sample was constructed based on the following criteria. First banks that

made their annual and financial reports easily accessibility to the public were included in the study especially using websites. Then a bank that does not have complete annual reports from 2013 to 2020 was excluded. Accordingly eleven private commercial banks were included in this study.

### **3.4 Data Analysis**

Using the collected secondary data different ratios was calculated for all CAMEL explanatory variables (measures/proxy of CAMEL components). First descriptive statistics was used to study facts about the variables (financial ratios) under study. Accordingly mean, standard deviation, median, minimum and maximum of the CAMEL variables was calculated. Then ranks were given to banks based on their average score in each variable. For each CAMEL component i.e. capital adequacy, asset quality, management efficiency, earning quality and liquidity quality group composite were calculated by adding together the ranks of each bank on the variables in their respective group and dividing it by the number of variables in that group. For instance Group Composite for capital adequacy is calculated by adding together the ranks of each bank on: Capital adequacy ratio, Debt to equity ratio, Advance to asset ratio, Government securities to total investment ratio and dividing it by the number of capital adequacy variables which are 4. The results (scores) and ranks obtained in each group composite CAMEL were once again summarized into a grand composite rank CAMEL so as to get the overall performance of banks.

### **3.5 Descriptions of Variables**

This research followed CAMEL approach to evaluate the financial performance of selected private commercial banks. For the purpose of this research the five components of CAMEL which are capital adequacy, asset quality, management efficiency, earning quality and liquidity quality calculation were defined here below and are used accordingly in this research. The CAMEL ratio selections influenced by the literature.

## **A. Capital adequacy**

Capital Adequacy reflects the overall financial condition of the banks. It also indicates whether the bank has enough capital to absorb unexpected losses. Capital Adequacy ratio acts as an indicator of bank leverage. The following capital adequacy components/measures/proxy/ are included in this research;

### **Capital adequacy ratio**

The capital adequacy ratio is advocated to ensure that banks can take up a reasonable level of losses arising from operational losses. The higher the CAR ratio, indicates stronger the bank and the more will be the protection of investors. Capital adequacy shall be computed as per the following.

$$\text{Capital Adequacy} = \frac{\text{Total Capital} \times 100}{\text{Total Assets}}$$

Total capital includes paid up capital, retained earnings and other reserves of the bank.

### **Debt to equity ratio**

This ratio indicates the degree of leverage of a bank. It indicates how much of the bank business is financed through debt and how much through equity. It measures ability of the bank capital to absorb financial shocks. Higher ratio indicates less protection for the creditors and depositors in the banking system. It is calculated as per the following;

$$\text{Debt to equity ratio} = \frac{\text{Total Liabilities} \times 100}{\text{Total Equity}}$$

### **Advance to asset ratio**

This ratio indicates the relationship between the total advances and loans given and total assets. It measures the percentage of assets that are tied up in loans and advances. This ratio indicates a bank's commitment in lending which eventually produces better profitability. Higher score of advance to assets ratio is preferred to a lower one.

$$\text{Advance to assets ratio} = \frac{\text{Total Gross Loans and Advances}}{\text{Total Assets}} \times 100$$

### **Government securities to total investment ratio**

This ratio reflects the risk involved in a bank's investment. Since government securities are risk-free, higher the proportion of government securities in total investment, lower will be the risk involved in a bank's investment and vice versa. Government securities are generally considered as the most safe debt instrument, which, as a result, carries the lowest return.

$$\text{Gov't Securities to investment ratio} = \frac{\text{Gov't Securities}}{\text{Total investments}} \times 100$$

### **B. Asset quality**

The quality of assets is an important parameter to examine the degree of financial strength. The main goal behind measuring the assets quality is to ascertain the component of Non-Performing Assets (NPA) as a percentage of the total assets. Asset quality indicates what types of advances the bank has made to generate interest income. Thus, assets quality indicates the type of the debtors the bank is having. The following assets quality components are included in this research;

### **Allowance for doubtful loans and advances to total assets ratio**

This ratio indicates the efficiency of bank in assessing the credit risk and recovering the debts. The lower the ratio reflects, the better is the quality of advances.

$$\text{Allowance for doubtful loans and advances to total assets ratio} = \frac{\text{Allowance for doubtful loans and advances}}{\text{Total Assets}} \times 100$$

### **Allowance for doubtful account to net advance ratio**

It is the most standard measure to judge the assets quality, measuring the net non-performing assets as a percentage of net advances.

$$\text{Allowance for doubtful loans and advances to net advance ratio} = \frac{\text{All. for doubtful loans and advances}}{\text{Net advance}} \times 100$$

### **Investments to total asset ratio**

Investment to total asset ratio is an indication of the growth of investment by banks beside their lending activities this ratio indicates the proportion of banks asset used in other investment instead of loan disbursement. A higher ratio means conservative policy of a bank to safeguard its assets from non performing loans.

$$\text{Investment to total assets} = \frac{\text{Total Investments}}{\text{Total Assets}} \times 100$$

### **C. Management efficiency/quality**

It is one of the key factors that determine the bank profitability and it is also one of the complex subjects to capture the financial ratios. The management of the bank takes crucial decisions depending on its risk perception. It sets vision and goals for the organization and sees that it achieves them. The ratios in this segment can be said it involves subjective analysis to measure the efficiency and effectiveness of management. The ratios used to evaluate management efficiency in this research are presented below:

### **Total Advances to Total Deposits**

This ratio measures the efficiency and ability of the bank's management in converting the deposits available with the bank excluding other funds like equity capital into high earning loans and advances. It is calculated as;

$$\text{Total advances to total deposits} = \frac{\text{Total Advances}}{\text{Total Deposits}} \times 100$$

### **Business per Employee**

Business per employee reveals the productivity and efficiency of human resources of the bank. It is used as a tool to measure the efficiency of all the employees of a bank in doing business for the bank. Higher the ratio, the better it is for the bank.

$$\text{Business per employee} = \frac{(\text{Total Loans and Advances} + \text{Total Deposits})}{\text{Total Number of Employees}}$$

### **Profit per employee**

This ratio shows the surplus earned after paying taxes per employee. It simply indicates how much profit each of the employees brought in for the bank over a given period. The higher the ratio, the better the efficiency of the management is.

$$\text{Profit per employee} = \frac{\text{Net profit after Tax}}{\text{Total Number of Employees}}$$

### **Expenditure to Income Ratio**

Cost to income ratio is one of the efficiency ratios used to gauge banks management's efficiency. It measures how much expense will be incurred in order to generate a 1 birr profit.

$$\text{Expenditure to income ratio} = \frac{\text{Total Expenses}}{\text{Total Incomes}} \times 100$$

### **D. Earning quality**

It basically determines the profitability of bank and explains its sustainability and growth. The principle here is in order to maintain sustainable growth large portion of the bank income should come from its core activities not through non-core activities like investments, treasury operations, and so on. The following ratios are used to explain the quality of bank's earning.

### **Net Interest Margin (NIM) to Total Assets ratio**

It is a measurement comparing the net interest income a financial firm generates from credit products like loans and mortgages, with the total assets it employed. Higher result means that the banks keep their interest low on deposits and high on advances to increase their earnings capacities. This ratio also indicates the percentage of income earned from the total asset utilized. A higher score indicates the better earnings.



$$\text{Net interest margin to total assets ratio} = \frac{(\text{Interest Income} - \text{Interest Expense})}{\text{Total Assets}} \times 100$$

### **Net Profit to Total Assets Ratio**

It indicates the efficiency of the banks in utilizing their assets in generating profits. A higher ratio indicates the better income generating capacity of the assets and better efficiency of management. Higher the ratio reflects better earning potential of a bank in the future.

$$\text{Net profit to total assets ratio} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100$$

### **Percentage Growth in Net Profit Ratio**

This ratio mainly determines the profitability of the bank, and explains the growth and sustainability in future earnings capacity. It simply measures the sustainability of the banks of profitability.

$$\text{Percentage growth in net profit} = \frac{(\text{Net Profit of Current Year} - \text{Net Profit of Last Year})}{\text{Net Profit of last Year}} \times 100$$

### **Operating Profit to Total Asset Ratio**

This ratio indicates how much a bank can earn profit from its operations for every Birr invested in its total asset. The higher the ratio, the better it is. This ratio determines the operating profits generated out of the assets employed.

$$\text{Operating profit to total asset ratio} = \frac{\text{Operating Profit}}{\text{Total Assets}} \times 100$$

### **Interest Income to Total Income**

Interest income is a main source of revenue for banks. The interest income to total income indicates the ability of the bank in generating income from its core business. Higher ratio is preferred to a lower one.

$$\text{Interest income to total income ratio} = \frac{\text{Interest Income}}{\text{Total Income}} \times 100$$

### **Non-Interest Income to Total Income Ratio**

These ratio measures incomes generated from other than lending. In general the rate increase indicates the increasing proportion of fee-based income of the bank. Higher ratio is preferred to a lower one.

$$\text{Non-interest income to total income ratio} = \frac{\text{Non-Interest Income}}{\text{Total Income}} \times 100$$

### **E. Liquidity quality**

Liquidity indicates the ability of the bank to meet its financial obligation. Banks have to take proper care of deposits by ensuring that a good percentage of funds are invested in high return activities, so that banks can generate profit while at the same time maintain liquidity to the depositors. The following Liquidity quality components are included in this research;

#### **Liquid Assets to Demand Deposits Ratio**

This ratio reflects the ability of bank to honor the demand from depositors during a particular year. In order to provide higher liquidity for depositors, bank has to invest these funds in highly liquid form. Higher ratio is preferred to a lower one.

$$\text{Liquid assets to demand deposits ratio} = \frac{\text{Liquid Assets}}{\text{Demand Deposits}} \times 100$$

#### **Liquid Assets to Total Deposits Ratio**

This ratio measures the liquidity available to the depositors of a bank. Higher ratio is preferred to a lower one.

$$\text{Liquid assets to total deposits ratio} = \frac{\text{Liquid Assets}}{\text{Total Deposits}} \times 100$$

#### **Liquid Assets to Total Assets Ratio**

This ratio measures the overall liquidity position of the bank. The higher this ratio indicates the more solvent the bank is. Higher ratio is preferred to a lower one.

$$\text{Liquid assets to total assets ratio} = \frac{\text{Liquid Assets}}{\text{Total Assets}} \times 100$$

#### **Term/Fixed deposits to total deposits Ratio**

Fixed deposit is a costly for banks as compared to other deposits. If this ratios shows a higher percentage this may not be good for the survival of the bank.

$$\text{Term deposits to total deposits ratio} = \frac{\text{Fixed Deposits}}{\text{Total Deposit}} \times 100$$

## **CHAPTER FOUR**

# **RESULTS AND DISCUSSIONS**

In this chapter of the study, the results of the research are presented in tables and discussed in detail. Ratios of explanatory variables of capital adequacy, asset quality, management efficacy, earning quality and liquidity, which are taken from the financial statements of the sampled eleven banks were analyzed using excel. The results from the ratio analysis and descriptive statistics are presented and discussed in detail with help of corresponding tables.

## **4.1 Descriptive Statistics of the variables and Ranking of Banks**

### **4.1.1 Descriptive Statistics and ranks of banks based on Capital Adequacy Ratios**

Capital adequacy is very useful for a financial institute to conserve & protect stakeholder's confidence and prevent the bank from bankruptcy. Minimum capital adequacy ratios have been designed to ensure banks can absorb a reasonable level of losses before becoming insolvent. The higher the capital adequacy ratios a bank has, the greater the level of unexpected losses it can absorb before becoming insolvent. A financial institute should have adequate capital to support its risk assets. It has become recognized that capital adequacy more appropriately relates to asset structure than to the volume of liabilities.

#### **4.1.1.1 Capital adequacy ratio**

Beside to have the confidence of depositors and shareholder, capital adequacy may have a bearing on the overall performance of a bank, like opening of new branches, fresh lending in high risk but profitable areas manpower recruitment and diversification of business.

As exhibited below, Addis, Zemen, and Berhan held the rank from first to third with average score of 23.24%, 18.92% and 16.68% respectively. The lowest

average percentage was registered by CBO which is 10.36%. The average score of CBO also shows a declining trend from year to year except for the years 2014 and 2020. CBO and Zemen registered the minimum and maximum capital adequacy ratio in 2019 and 2020 respectively.

Table 1 Capital adequacy ratio(%)

S/ n	Bank	Year								Average	Ran k
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	24.56	24.98	25.95	25.85	22.19	21.31	20.16	20.90	23.24	1
2	Awash	11.62	11.75	12.63	12.63	11.46	11.75	12.91	13.41	12.27	8
3	Berhan	17.36	19.70	17.42	14.73	17.97	15.65	14.58	16.04	16.68	3
4	Bunna	17.50	17.16	15.06	14.08	13.78	15.23	17.72	16.29	15.85	5
5	CBO	10.65	14.83	12.31	11.42	8.14	7.95	7.87	9.74	10.36	11
6	Dashen	10.36	11.83	11.81	11.75	14.53	12.91	12.18	12.18	12.19	9
7	Hibret	12.03	13.26	11.74	12.00	11.49	10.54	10.80	12.45	11.79	10
8	Lion	18.42	17.38	14.03	13.18	13.20	12.63	12.55	10.95	14.04	7
9	Nib	18.22	18.28	16.42	15.91	14.05	12.67	13.08	13.63	15.28	6
10	Wegage n	17.61	18.60	17.61	17.33	15.37	18.77	14.42	13.38	16.64	4
11	Zemen	15.19	16.74	15.69	13.59	13.84	13.64	30.65	32.03	18.92	2
MIN		7.87	MAX	32.03	MEAN	15.21	MEDIA N	14.04	SD	4.50	

Source: researchers own computation- from 2013 to 2020

#### 4.1.1.2 Debt to equity ratio

Debt to equity ratio of banks indicates how much of the bank business is financed through debt and how much through equity. Minimum debt to equity ratio indicates lessor obligation to creditors and depositors. Higher ratio indicates less protection for the creditors and depositors and may lead to liquidity crises.

Table 2 Debt to equity ratio (Times)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	3.07	3.00	2.85	2.87	3.51	3.69	3.96	3.78	3.34	1
2	Awash	7.61	7.51	6.92	6.92	7.73	7.51	6.74	6.46	7.17	8
3	Berhan	4.76	4.08	4.74	5.79	4.56	5.39	5.86	5.23	5.05	2
4	Bunna	4.71	4.83	5.64	6.10	6.26	5.57	4.64	5.14	5.36	4
5	CBO	8.39	5.74	7.12	7.75	11.28	11.58	11.70	9.27	9.11	11
6	Dashen	8.65	7.45	7.47	7.51	5.88	6.74	7.21	7.21	7.27	9
7	Hibret	7.31	6.54	7.52	7.33	7.71	8.49	8.26	7.03	7.52	10
8	Lion	4.43	4.76	6.13	6.59	6.58	6.92	6.97	8.13	6.31	7
9	Nib	4.49	4.47	5.09	5.29	6.12	6.90	6.64	6.34	5.67	6
10	Wegagen	4.68	4.38	4.68	4.77	5.51	6.16	5.93	6.47	5.32	3
11	Zemen	5.58	4.97	5.37	6.36	6.23	6.33	5.30	4.92	5.63	5
	MIN	2.85	MAX	11.70	MEAN	6.16	MEDIAN	6.14	SD	1.75	

Source: researchers own computation- from 2013 to 2020

Addis was ranked in the first place with an average score of 3.34, Berhan was ranked second with an average score of 5.05 and Wegagen was positioned in the 3rd place with average score of 5.32. CBO is seen to be the most indebted bank when it is compared with other banks with average score of 9.11. CBO also registered the maximum debt to equity ratio in 2019 which was 11.70. The minimum debt to equity ratio registered by Addis in 2015 and the score was 2.85.

#### 4.1.1.3 Advance to asset ratio

Advance to asset ratio measures the percentage of assets that are tied up in loans and advances. This ratio indicates a bank's commitment in lending which eventually produces better profitability. Buna, Nib and Awash were positioned from first to third place in advance to asset ratio with average score of 52.99%, 52.90%, and 52.73% respectively. This indicates that Buna, Nib and Awash makes 52.99%, 52.90%, and 52.73% of their total asset available for loan and advances. From the available total asset Addistied up only 45.23% of its assets to loans and advances and placed on last place. In general advance to asset ratio of Addis showed increasing trend except for the years 2016 and 2019. The

minimum 32.37 advance to asset ratio score was recorded by CBO in 2013, while the maximum score was registered by Awash (64.15%) in 2020.

Table 3 Advance to asset ratio(%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	35.80	40.47	44.99	43.18	46.31	48.87	48.55	53.64	45.23	11
2	Awash	43.35	41.51	49.51	49.60	53.79	56.64	63.32	64.15	52.73	3
3	Berhan	44.43	42.10	45.59	52.21	50.83	51.12	53.28	59.55	49.89	9
4	Bunna	44.61	45.14	54.36	54.17	53.87	53.32	57.13	61.31	52.99	1
5	CBO	32.37	50.51	58.79	57.80	55.88	50.41	53.02	57.50	52.03	5
6	Dashen	44.88	43.75	46.55	44.43	50.63	51.26	57.95	61.76	50.15	7
7	Hibret	47.17	42.69	47.77	49.42	54.77	53.75	60.79	63.89	52.53	4
8	Lion	44.80	43.23	49.12	54.07	51.00	52.80	58.12	61.54	51.84	6
9	Nib	49.68	51.39	52.80	48.31	51.31	51.35	57.66	60.73	52.90	2
10	Wegagen	45.12	39.94	45.00	47.13	49.66	54.94	55.26	62.14	49.90	8
11	Zemen	42.16	36.43	46.84	46.16	42.89	41.95	52.95	53.64	45.38	10
	MIN	32.37	MAX	64.15	MEAN	50.51	MEDIAN	50.73	SD	6.75	

Source: researchers own computation- from 2013 to 2020

#### 4.1.1.4 Government securities to total investment ratio

This ratio reflects the risk involved in a bank's investment. Since government securities are risk-free, higher the proportion of government securities in total investment, lower will be the risk involved in a bank's investment. As exhibited below Zemen, Wegagen and Lion held the rank from first to third with average score of 99.32%, 98.92% and 98.59% respectively. The lowest average percentage was registered by Dashen which is 95.70%. In 2013 Bunna and Zemen registered the minimum 86.71% and the maximum 99.53% government securities to total investment ratio respectively.

Table 4 Government securities to total investment ratio (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	99.36	96.88	96.73	96.01	96.85	96.80	92.83	90.40	95.73	10
2	Awash	98.15	98.49	98.74	98.35	98.71	98.92	98.53	98.54	98.55	4
3	Berhan	96.27	97.71	97.70	98.77	99.03	99.29	99.15	98.84	98.35	5
4	Bunna	86.71	99.08	98.42	98.06	98.22	98.56	98.08	97.11	96.78	9
5	CBO	97.11	95.09	96.66	97.15	98.43	99.26	99.11	98.76	97.70	8
6	Dashen	99.10	99.27	99.30	99.18	90.63	92.13	93.27	92.70	95.70	11
7	Hibret	97.68	97.63	98.06	97.94	98.19	98.56	98.24	97.93	98.03	6
8	Lion	98.54	98.75	97.99	98.49	98.93	99.19	98.74	98.11	98.59	3
9	Nib	97.06	97.61	97.81	97.07	97.11	97.37	98.93	98.94	97.74	7
10	Wegagen	99.03	99.05	98.65	98.52	98.85	99.44	99.12	98.72	98.92	2
11	Zemen	99.53	99.47	99.17	99.28	99.42	99.49	99.33	98.88	99.32	1
	MIN	86.71	MAX	99.53	MEAN	97.76	MEDIA N	98.50	SD	2.21	

Source: researchers own computation- from 2013 to 2020

#### 4.1.1.5 Group Composite Capital Adequacy

On composite capital adequacy, Wegagen and Zemen took the first and second place by having average composite rate of 4.25 and 4.5 respectively. Berhan and Bunna stood third by scoring same average of 4.75. Due to its poor overall performance on capital adequacy, debt to equity ratio, advance to asset ratio and government securities to total investment ratio, Dashen bank placed on the last position with score of 9.

Table 5 Composite Capital Adequacy

S/n	Bank	Capital adequacy		Debt to Equity		Advance to Asset		Gov't Sec. to Inv't		Comp. Rate	Comp. Rank
		%	Rank	Times	Rank	%	Rank	%	Rank		
1	Addis	23.24	1	3.34	1	45.23	11	95.73	10	5.75	7.00
2	Awash	12.27	8	7.17	8	52.73	3	98.55	4	5.75	7.00
3	Berhan	16.68	3	5.05	2	49.89	9	98.35	5	4.75	3.50
4	Bunna	15.85	5	5.36	4	52.99	1	96.78	9	4.75	3.50
5	CBO	10.36	11	9.11	11	52.03	5	97.70	8	8.75	10
6	Dashen	12.19	9	7.27	9	50.15	7	95.70	11	9.00	11
7	Hibret	11.79	10	7.52	10	52.53	4	98.03	6	7.50	9
8	Lion	14.04	7	6.31	7	51.84	6	98.59	3	5.75	7
9	Nib	15.28	6	5.67	6	52.90	2	97.74	7	5.25	5
10	Wegagen	16.64	4	5.32	3	49.90	8	98.92	2	4.25	1
11	Zemen	18.92	2	5.63	5	45.38	10	99.32	1	4.50	2

Source: researchers own computation- from 2013 to 2020

#### 4.1.2 Descriptive Statistics and ranks of banks based on Asset Quality Ratios

The Asset quality of any financial institutions or firm is a significant determinant of its financial condition and health namely it's earning capability. The logic behind calculating the asset quality is to determine the employment quality of assets in investment. This measure reveals the magnitude of credit risk prevailing in the bank due to its composition and quality of loans, off balance sheet activities, investment and advances.

##### 4.1.2.1 Allowance for doubtful account to Total Assets ratio

This ratio measures the efficiency of banks to collect loans. The lower ratio considered to be best performance of banks.



Table 6 Allowance for doubtful account to Total Assets ratio(%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	0.36	0.44	0.54	0.54	0.58	0.44	0.52	0.49	0.49	1
2	Awash	1.00	0.94	0.86	0.76	0.79	0.46	0.55	1.11	0.81	6
3	Berhan	0.68	0.69	0.63	0.77	0.73	0.73	0.62	0.64	0.69	4
4	Bunna	0.52	0.54	0.62	0.92	0.90	0.77	0.91	1.09	0.79	5
5	CBO	0.56	0.93	1.50	3.05	2.39	1.20	1.81	1.61	1.63	10
6	Dashen	0.94	0.76	0.73	0.74	0.93	0.50	0.37	0.14	0.64	3
7	Hibret	0.88	0.62	0.58	0.64	0.68	0.70	0.31	0.43	0.61	2
8	Lion	0.58	0.58	0.81	1.06	1.03	1.31	1.13	1.50	1.00	9
9	Nib	1.24	1.08	0.79	0.85	0.75	0.77	0.56	0.51	0.82	7
10	Wegagen	1.01	0.67	0.71	0.77	0.96	1.29	1.19	1.22	0.98	8
11	Zemen	3.59	3.22	2.59	2.03	2.00	1.79	2.21	1.78	2.40	11
	MIN	0.14	MAX	3.59	MEAN	0.99	MEDIA N	0.77	SD	0.64	

Source: researchers own computation- from 2013 to 2020

Table 6 depicts the highest average value of non-performing loans and advances as a percentage of total assets of Zemenbank 2.4% and is ranked last. Whereas, Addis, Hibret and Dashenbank exhibited best performance which accounts average non-performing loans and advances of 0.49 %, 0.61 % and 0.64 % respectively. The maximum 3.59% non-performing loans and advances total asset was registered by Zemen bank in 2013. Whereas the minimum score was by Dashen (0.14%) bank in 2020.

#### 4.1.2.2 Allowance for doubtful account to Net advance ratio

This is the most widely used standard measure of asset quality in relation to loan given by banks. It reflects the loss incurred due to poor loan quality. The lower ratio considered to be best performance of banks. As exhibited below Addis, Hibret and Dashen held the rank from first to third with average score of 1.1%, 1.21 % and 1.37 % respectively. The lowest average percentage was registered by Zemenbank which is 5.35%. Except in 2014 and 2017

Zemmenbank showed slight improvement. Dashen and Zemen registered the minimum 0.22 % and the maximum 9.69 % Allowance for doubtful account to Net advance ratio respectively.

Table 7 Allowance for doubtful account to Net advance ratio(%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	1.01	1.11	1.21	1.27	1.26	0.90	1.09	0.92	1.10	1
2	Awash	2.36	2.33	1.77	1.55	1.48	0.82	0.87	1.77	1.62	7
3	Berhan	1.55	1.66	1.40	1.51	1.46	1.45	1.18	1.09	1.41	4
4	Bunna	1.18	1.22	1.16	1.73	1.70	1.47	1.62	1.80	1.49	5
5	CBO	1.75	1.88	2.62	5.57	4.46	2.44	3.53	2.88	3.14	10
6	Dashen	2.14	1.78	1.60	1.68	1.87	0.99	0.65	0.22	1.37	3
7	Hibret	1.89	1.46	1.24	1.32	1.25	1.32	0.52	0.69	1.21	2
8	Lion	1.31	1.35	1.69	2.01	2.05	2.54	1.98	2.50	1.93	9
9	Nib	2.57	2.14	1.53	1.80	1.49	1.52	0.99	0.85	1.61	6
10	Wegagen	2.29	1.70	1.61	1.65	1.39	1.78	2.21	2.00	1.83	8
11	Zemen	9.32	9.69	5.86	4.61	4.90	4.45	2.21	1.78	5.35	11
	MIN	0.22	MAX	9.69	MEAN	2.00	MEDIAN	1.64	SD	1.54	

Source: researchers own computation- from 2013 to 2020

#### 4.1.2.3 Investments to Total Assets ratio

Investment to total asset ratio is an indication of the growth of investment by banks beside their lending activities. A higher ratio means conservative policy of a bank to safeguard its assets from none performing loans. Table 8 indicates that, Zemen, Wegagen and Hibret bank took the lead from one to three places on investment to total asset ratio with average score of 27.45%, 25.48% and 23.75% respectively. This means Zemen, Wegagen and Hibret used 27.45%, 25.48% and 23.75% proportion of their asset for investment respectively to safe guard the assets from non-performing loans.

Table 8 Investments to Total assets (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	11.93	14.71	19.31	19.27	19.49	19.79	20.76	14.70	17.49	9
2	Awash	18.88	18.68	21.55	17.32	16.62	15.51	15.94	14.65	17.39	10
3	Berhan	16.49	19.91	19.96	22.05	21.23	21.69	22.39	17.94	20.21	8
4	Bunna	22.40	20.27	23.04	23.73	20.76	22.38	22.93	16.10	21.45	6
5	CBO	15.61	12.02	13.63	17.15	19.15	18.30	20.01	17.28	16.64	11
6	Dashen	19.01	18.76	23.66	22.71	25.58	24.31	23.46	17.58	21.88	5
7	Hibret	29.04	24.74	28.77	25.76	22.84	22.72	21.03	15.12	23.75	3
8	Lion	21.15	20.08	21.54	21.00	21.98	23.31	21.01	12.57	20.33	7
9	Nib	23.22	25.61	29.11	27.13	25.20	23.61	20.22	15.84	23.74	4
10	Wegagen	24.95	26.62	30.78	27.24	25.07	31.54	23.27	14.36	25.48	2
11	Zemen	33.02	24.26	28.08	22.31	20.98	19.57	42.42	28.93	27.45	1
	MIN	11.93	MAX	42.42	MEAN	21.44	MEDIAN	21.09	SD	5.03	

Source: researchers own computation- from 2013 to 2020

#### 4.1.2.4 Group Composite Asset Quality

As indicated on the table below, Hibret was ranked in the 1st place scoring average composite rate of 2.33. Both Addis and Dashenbank are on second place registering same average value of 3.67. The last place occupied by CBO scoring average value of 10.33. Here, CBO is ranked eleventh on the average of the three parameters selected to assess assets quality. In other words, the composite ratio tells that CBO needs to improve its asset quality in order to cope up with its peers.

Table 9 Composite Asset quality

Bank	All. for doubtful to T. Asset		All. for doubtful to Net Adv.		Investment to T. Asset		Comp. Rate	Comp. Rank
	%	Rank	%	Rank	%	Rank		
Addis	0.49	1	1.10	1	17.49	9	3.67	2.5
Awash	0.81	6	1.62	7	17.39	10	7.67	8.5
Berhan	0.69	4	1.41	4	20.21	8	5.33	4.5
Bunna	0.79	5	1.49	5	21.45	6	5.33	4.5
CBO	1.63	10	3.14	10	16.64	11	10.33	11
Dashen	0.64	3	1.37	3	21.88	5	3.67	2.5
Hibret	0.61	2	1.21	2	23.75	3	2.33	1
Lion	1.00	9	1.93	9	20.33	7	8.33	10
Nib	0.82	7	1.61	6	23.74	4	5.67	6
Wegagen	0.98	8	1.83	8	25.48	2	6.00	7
Zemen	2.40	11	5.35	11	27.45	1	7.67	8.5

Source: researchers own computation- from 2013 to 2020

### 4.1.3 Descriptive Statistics and ranks of banks based Management Efficiency Ratios

The success of any institution depends on the competency of its management. In fact, the management not only makes suitable policy and the business plans but also implements them for the short term and the long term interests, which helps to achieve aimed objectives of bank and financial institution's. It is evaluated by checking the effectiveness of the board of directors, the management, manpower and the officials, operating expenditure, customer's relation with the officials and institution, management information system, organization and working method, internal control system, power concentration, monitoring, decision making process, policies.

#### 4.1.3.1 Total Advances to Total Deposits ratio

This ratio measures the efficiency of management in converting the deposits available with the bank into loans and advances. As displayed on table 10, Buna, Awash and Nib management converts 70.64%, 69.59% and 68.30% of their deposits to loans and advances. Zemen was the last performer, which converts only 56.99% of its deposit to loans. The minimum performance was

registered by Zemen(47.12%) in 2014. In 2014 CBO recorded the maximum total advances to total deposits ratio which is 91.45%.

Table 10 Total advances to total deposits ratio (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	58.44	64.49	69.54	68.04	69.61	69.25	67.84	75.11	67.79	4
2	Awash	61.46	61.01	67.40	67.37	73.54	72.04	72.71	81.15	69.59	2
3	Berhan	61.27	58.89	61.99	70.94	70.22	66.21	68.27	76.16	66.74	6
4	Bunna	61.35	63.19	69.86	68.62	70.73	69.79	78.22	83.37	70.64	1
5	CBO	47.39	68.12	91.45	72.77	69.44	58.38	61.27	66.31	66.89	5
6	Dashen	55.91	54.34	58.18	55.67	65.45	64.71	72.84	78.81	63.24	10
7	Hibret	61.19	56.90	61.97	66.58	67.38	65.28	72.60	79.01	66.36	8
8	Lion	62.59	58.13	64.57	69.07	63.54	64.96	72.29	74.84	66.25	9
9	Nib	68.26	69.71	71.61	61.13	65.42	63.39	70.27	76.64	68.30	3
10	Wegagen	62.11	54.91	60.38	63.99	66.11	74.83	69.87	78.80	66.38	7
11	Zemen	54.68	47.12	59.74	55.49	52.24	50.95	66.90	68.81	56.99	11
	MIN	47.12	MAX	91.45	MEAN	66.29	MEDIAN	66.74	SD	7.86	

Source: researchers own computation- from 2013 to 2020

#### 4.1.3.2 Business per Employee

Increasing deposits and granting loans are the main functions of banks. Business per employee is calculated by adding together deposits and loans and dividing it by number of employees. It is an important indicator of productivity of employees which in turn indicates how efficiently the management is using its employees. As exhibited on table 11, Zemen, Bunna and CBO banks were positioned from 1st to 3<sup>rd</sup>, which implies that these banks are under staffed as compared to the last ranked bank Berhan.

Table 11 Business per employee

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	6,538,815	7,083,999	6,486,767	7,293,588	8,939,578	9,742,845	11,519,958	12,565,670	8,771,403	4
2	Awash	5,049,914	5,058,716	5,302,285	6,394,563	7,867,127	9,496,392	12,409,741	12,621,143	8,024,985	6
3	Berhan	6,281,942	4,612,553	4,208,070	4,988,381	4,510,824	5,577,116	6,535,181	6,433,875	5,393,493	11
4	Bunna	6,485,815	6,384,328	7,961,191	9,679,552	10,942,444	14,585,228	11,040,294	12,453,197	9,941,506	2
5	CBO	4,611,843	5,600,595	7,208,143	6,415,418	8,194,761	11,661,503	13,350,300	17,830,466	9,359,129	3
6	Dashen	6,697,447	6,370,021	6,817,730	6,305,288	6,314,122	6,622,614	7,941,836	9,594,256	7,082,914	9
7	Hibret	5,909,344	5,766,788	6,138,602	6,645,560	8,683,031	10,237,488	12,708,020	14,040,877	8,766,214	5
8	Lion	4,969,417	5,207,123	7,417,303	8,368,143	9,454,785	10,498,000	6,142,475	8,337,524	7,549,346	7
9	Nib	4,915,806	5,719,606	6,397,143	6,567,798	7,440,796	8,154,017	9,473,887	10,016,794	7,335,731	8
10	Wegagen	5,100,412	4,677,539	5,558,765	5,776,739	7,132,129	8,440,761	8,775,030	10,965,604	7,053,372	10
11	Zemen	12,222,654	10,287,178	10,804,745	17,927,965	16,592,624	21,351,988	21,801,043	24,386,729	16,921,866	1
	MIN	4,208,070	MAX	24,386,729	MEAN	8,745,451	MEDIAN	7,355,445	SD	4,017,177	

Source: researchers own computation- from 2013 to 2020

#### 4.1.3.3 Profit per Employee

Profit per employee simply shows how much profit each of the employees brought in for the bank over a given period. It is used to check efficiency of the banks management in utilizing employees to maximize profit of the bank. As per the average score displayed in table below, Zemen ranked in the first place with average profit percentage of birr 408,304.80 per employee. Addis and Bunnabanks were positioned in 2nd and 3rd place with average profit per employee score of birr 241,193.35 and 201,096.96 respectively. The lowest average score was recorded by Berhan with value of birr 117,552.45 profits per employee.

Table 12 Profit per employee

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	200,024.62	242,689.18	202,276.08	237,098.98	221,774.94	218,808.14	276,973.91	329,900.93	241,193.35	2
2	Awash	109,351.44	129,155.43	110,370.72	123,899.03	148,100.88	189,586.51	268,939.75	255,790.23	166,899.25	4
3	Berhan	127,846.83	128,850.77	88,526.40	143,357.76	110,712.74	101,280.82	118,848.69	120,995.63	117,552.45	11
4	Bunna	153,731.69	145,369.97	180,057.59	199,410.35	172,481.07	272,247.84	269,963.72	215,513.46	201,096.96	3
5	CBO	132,876.95	210,300.11	159,651.56	17,111.43	70,304.67	149,334.09	150,552.07	278,591.05	146,090.24	6
6	Dashen	164,432.62	166,312.86	158,610.83	129,138.53	111,664.52	103,793.74	103,977.91	153,187.16	136,389.77	9
7	Hibret	134,266.26	114,756.61	96,309.25	105,513.63	113,224.36	153,954.37	185,115.16	201,565.08	138,088.09	8
8	Lion	161,532.81	118,358.15	202,994.32	203,692.62	151,987.53	213,650.08	117,206.78	117,355.84	160,847.27	5
9	Nib	125,666.18	133,461.52	128,555.64	116,219.93	134,131.76	118,848.80	144,961.18	175,872.77	134,714.72	10
10	Wegagen	141,690.68	114,670.79	119,554.01	110,965.29	141,900.16	190,529.41	136,235.85	169,536.58	140,635.35	7
11	Zemen	296,990.36	295,865.18	272,013.10	381,137.80	361,926.53	374,338.40	543,561.80	740,605.21	408,304.80	1
	MIN	17,111.43	MAX	740,605.21	MEAN	181,073.84	MEDIAN	151,269.80	SD	100,031.96	

Source: researchers own computation- from 2013 to 2020

#### 4.1.3.4 Expenditure to Income ratio

This ratio measures how much expense will be incurred in order to generate a 1 birr profit.

Table 13 Expenditure to income

S/n	Bank	Year									Rank
		2013	2014	2015	2016	2017	2018	2019	2020	Average	
1	Addis	0.56	0.59	0.62	0.62	0.67	0.70	0.69	0.67	0.64	4
2	Awash	0.59	0.57	0.63	0.60	0.64	0.64	0.58	0.65	0.61	1
3	Berhan	0.60	0.59	0.63	0.56	0.62	0.73	0.74	0.75	0.65	5
4	Bunna	0.70	0.74	0.62	0.66	0.71	0.69	0.66	0.73	0.69	9
5	CBO	0.51	0.46	0.61	0.97	0.84	0.73	0.79	0.75	0.71	10
6	Dashen	0.55	0.55	0.62	0.65	0.71	0.74	0.77	0.75	0.67	8
7	Hibret	0.59	0.65	0.73	0.74	0.75	0.76	0.74	0.77	0.72	11
8	Lion	0.49	0.63	0.57	0.61	0.70	0.68	0.69	0.75	0.64	3
9	Nib	0.56	0.60	0.64	0.67	0.66	0.73	0.72	0.71	0.66	6
10	Wegagen	0.54	0.61	0.66	0.69	0.67	0.66	0.77	0.76	0.67	7
11	Zemen	0.69	0.64	0.60	0.62	0.63	0.70	0.60	0.54	0.63	2
	MIN	0.46	MAX	0.97	MEAN	0.66	MEDIA N	0.66	SD	0.08	

Source: researchers own computation- from 2013 to 2020

As exhibited above, Awash, Zemen and Lion spent average 0.61, 0.63 and 0.64 birr to get 1 birr income respectively. The highest average cost incurred by Hibret which was 0.72 birr per 1 birr. Both the minimum and maximum cost per birr registered by CBO in 2014 and 2016.

#### 4.1.3.5 Group Composite Management Efficiency

On the basis of four management efficiency ratios average Awash and Addis, held the first two ranks by scoring of 3.25 and 3.5 respectively. Bunna and Zemen placed on the third place by having similar score. On the other hand, Dashen has held the last position scoring 9.



Table 14 Composite Management Efficiency

S/n	Bank	T. advances & loans to T. deposits		Business per employee		Profit per employee		Expenditure to income		Comp. Rate	Comp. Rank
		%	Rank	value	Rank	value	Rank	value	Rank		
1	Addis	67.79	4	8,771,402.62	4	241,193.35	2	0.64	4	3.50	2
2	Awash	69.59	2	8,024,985.36	6	166,899.25	4	0.61	1	3.25	1
3	Berhan	66.74	6	5,393,492.80	11	117,552.45	11	0.65	5	8.25	10
4	Bunna	70.64	1	9,941,506.18	2	201,096.96	3	0.69	9	3.75	3.5
5	CBO	66.89	5	9,359,128.56	3	146,090.24	6	0.71	10	6.00	6
6	Dashen	63.24	10	7,082,914.07	9	136,389.77	9	0.67	8	9.00	11
7	Hibret	66.36	8	8,766,213.69	5	138,088.09	8	0.72	11	8.00	9
8	Lion	66.25	9	7,549,346.17	7	160,847.27	5	0.64	3	6.00	6
9	Nib	68.30	3	7,335,730.81	8	134,714.72	10	0.66	6	6.75	7
10	Wegagen	66.38	7	7,053,372.26	10	140,635.35	7	0.67	7	7.75	8
11	Zemen	56.99	11	16,921,865.83	1	408,304.80	1	0.63	2	3.75	3.5

Source: researchers own computation- from 2013 to 2020

#### 4.1.4 Descriptive Statistics and ranks of banks based on Earning Quality Ratios

Earning quality not only demonstrates the amount of and the trend in earnings but also analyses the strength of expected earnings growth in future. For any financial institution to be feasible in the long term, it has to be profitable.

##### 4.1.4.1 Net Interest Margin to Total Assets

Net interest margin to total asset ratio is the difference between the interest income and the interest expended divided by total assets. A higher ratio indicates the better earnings given the total assets. As exhibited on table 15, the first 3 highest average earning abilities were recorded by Bunna, Nib and Lion with an average earning capacity of 4.76%, 4.57% and 4.53% respectively as compared to the lowest average earning 2.58 % which was registered by

Zemen. The minimum earning which is 1.53 % registered by Zemen in 2013. Whereas the maximum earning 5.98% scored by Bunna in 2020.

Table 15 Net Interest Margin to Total Assets (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	2.02	2.78	3.15	3.52	3.27	3.65	3.62	4.00	3.25	10
2	Awash	2.97	2.78	3.26	3.66	3.99	4.93	5.18	5.84	4.08	8
3	Berhan	2.18	3.81	3.29	4.53	4.39	4.94	4.85	5.84	4.23	7
4	Bunna	3.82	4.16	4.85	4.65	3.85	4.94	5.81	5.98	4.76	1
5	CBO	2.62	4.37	4.92	5.57	4.40	4.11	4.26	4.98	4.40	5
6	Dashen	2.69	2.58	3.02	2.73	3.91	3.99	4.22	4.93	3.51	9
7	Hibret	3.55	3.69	3.92	4.05	4.17	4.42	4.69	5.57	4.26	6
8	Lion	3.85	3.74	3.76	4.40	4.76	5.23	5.21	5.31	4.53	3
9	Nib	4.22	4.32	4.43	4.73	4.37	4.49	4.87	5.15	4.57	2
10	Wegagen	3.97	3.73	4.10	4.21	4.21	4.98	5.01	5.27	4.44	4
11	Zemen	1.53	2.32	2.58	2.17	1.86	2.18	3.29	4.70	2.58	11
	MIN	1.53	MAX	5.98	MEAN	4.05	MEDIAN	4.16	SD	1.00	

Source: researchers own computation- from 2013 to 2020

#### 4.1.4.2 Net Profit to Total Assets

Net profit to total assets shows how banks are exploiting their assets to generate profit. The higher the ratio the better the earning potential of the bank will be.

Table 16 Net Profit to Total Assets (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
3	Addis	2.97	3.54	3.42	3.47	2.70	2.68	2.89	3.28	3.12	1
4	Awash	2.47	2.80	2.56	2.39	2.39	2.70	3.26	2.90	2.68	5
5	Berhan	2.38	3.17	2.51	3.62	3.32	2.33	2.39	2.59	2.79	4
6	Bunna	2.78	2.65	2.99	2.74	2.05	2.42	3.18	2.33	2.64	6
7	CBO	2.90	4.68	2.73	0.37	1.17	1.75	1.57	2.25	2.18	10
8	Dashen	3.07	3.24	2.94	2.54	2.26	2.05	1.80	2.24	2.52	8
11	Hibret	2.82	2.34	1.96	1.96	1.74	2.05	2.11	2.08	2.13	11
12	Lion	3.78	2.67	3.43	3.22	2.45	2.73	2.64	2.02	2.87	3
13	Nib	3.13	2.92	2.54	2.25	2.34	1.93	2.14	2.46	2.46	9
15	Wegagen	3.27	2.76	2.57	2.32	2.48	2.90	2.09	2.18	2.57	7
16	Zemen	2.90	3.27	3.15	2.75	2.73	2.18	3.29	4.00	3.03	2
	MIN	0.37	MAX	4.68	MEAN	2.64	MEDIAN	2.65	SD	0.62	

Source: researchers own computation- from 2013 to 2020

As exhibited above, Addis is at the top with an average ratio of 3.12% followed by Zemen and Lion with 3.03% and 2.87% respectively. Hibret is on the floor with average ratio of 2.13%. Both the maximum 4.68% and the minimum 0.37% net profit to total assets ratio registered by CBO in 2014 and 2016 respectively.

#### 4.1.4.3 Operating Profit to Total Asset ratio

This ratio indicates how much a bank can earn from its operation after meeting its operating expenses but before paying taxes taking to account its total asset. According to the table below, Lion, Addis and Zemen generates 4.27%, 4.11% and 4.01% operating profit for every birr investment in total asset. 2.74%, the lowest average operating profit for every one birr investment in total assets earned by Hibret bank. The maximum operating profit earning which is 7.63% registered by Lion in 2014, whereasthe minimum0.35% earning scored by CBO in 2016.

Table 17 Operating Profit to Total Asset ratio (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	4.05	4.76	4.57	4.58	3.46	3.51	3.72	4.23	4.11	2
2	Awash	3.28	3.75	3.42	3.17	3.22	3.55	4.48	4.03	3.61	5
3	Berhan	3.19	4.32	3.32	4.86	4.49	2.92	3.03	3.31	3.68	4
4	Bunna	3.77	3.57	4.04	3.67	2.70	3.28	4.31	3.08	3.55	6
5	CBO	4.08	6.47	4.20	0.35	1.35	2.24	1.84	2.71	2.90	10
6	Dashen	4.12	4.36	3.89	3.33	2.93	2.52	2.28	2.62	3.26	8
7	Hibret	3.75	3.04	2.49	2.48	2.23	2.52	2.74	2.62	2.74	11
8	Lion	5.12	7.63	4.70	4.31	3.20	3.35	3.41	2.46	4.27	1
9	Nib	4.14	3.88	3.33	2.90	2.34	2.47	2.75	3.08	3.11	9
10	Wegagen	4.33	3.59	3.30	2.96	3.38	3.83	2.47	2.82	3.33	7
11	Zemen	3.81	4.20	4.12	3.66	3.78	2.75	4.33	5.40	4.01	3
	MIN	0.35	MAX	7.63	MEAN	3.51	MEDIAN	3.41	SD	1.01	

Source: researchers own computation- from 2013 to 2020

#### 4.1.4.4 Percentage growth in Net Profit

This ratio mainly determines the growth and sustainability in future earnings capacity. It shows profit percentage increment from year to year.

Table 18 Percentage growth in Net Profit (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	272.16	64.15	31.36	45.51	8.08	22.38	41.06	33.82	64.81	2
2	Awash	11.20	40.96	4.38	15.25	34.85	48.81	63.01	6.51	28.12	7
3	Berhan	53.28	70.77	17.09	148.87	33.98	-	5.96	39.68	20.80	3
4	Bunna	112.60	35.09	68.23	39.07	7.61	56.62	46.34	- 4.57	45.12	4
5	CBO	87.73	81.45	9.19	- 87.48	431.28	151.86	25.67	79.79	95.14	1
6	Dashen	- 6.94	17.43	2.34	- 0.29	4.00	22.86	8.94	50.91	12.41	11
7	Hibret	- 5.34	- 1.34	1.13	20.51	12.60	50.28	31.15	18.77	15.97	9
8	Lion	47.60	13.22	107.87	30.27	2.64	45.56	37.94	19.31	34.75	5
9	Nib	0.01	9.61	7.43	5.82	38.43	4.28	39.99	44.80	18.79	8
10	Wegagen	1.32	- 6.36	10.68	6.57	38.12	52.96	-	21.75	33.97	10
11	Zemen	9.00	36.39	19.69	31.93	31.19	1.88	78.50	52.78	32.67	6
	MIN	-	87.48	MAX	431.28	MEAN	37.23	MEDIAN	30.71	SD	60.70

Source: researchers own computation- from 2013 to 2020

Table 18 shows that, CBO stood first scoring an average percentage net profit growth of 95.14%. CBO registered its maximum 431.28% net profit percentage in 2017 after facing two consecutive years net profit decrease by 9.19% and 87.48% in 2014 and 2016 respectively. The second and third place occupied by Addis and Berhan banks by scoring average net profit percentage growth of 64.81% and 47.31%.

#### 4.1.4.5 Interest Income to Total Income

Interest income is considered as prime source of revenue for banks. The interest income to total income ratio reflects the banks capability in generating income from its lending activities.

Table 19 Interest Income to Total Income (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	38.01	41.53	46.13	50.81	52.81	58.90	60.65	61.80	51.33	11
2	Awash	62.70	56.69	63.52	62.76	0.07	77.70	74.19	77.12	59.34	9
3	Berhan	49.58	56.07	56.43	58.56	61.03	71.90	69.61	72.08	61.91	8
4	Bunna	44.79	43.41	63.95	66.82	68.23	74.16	69.96	76.86	63.52	7
5	CBO	44.34	47.88	57.23	76.38	73.20	71.29	74.04	72.23	64.57	5
6	Dashen	56.18	53.19	56.23	55.67	60.62	73.22	76.90	79.93	63.99	6
7	Hibret	66.39	68.76	71.07	73.26	77.34	78.43	84.48	86.13	75.73	2
8	Lion	70.40	95.56	51.16	58.92	74.40	77.82	75.41	86.06	73.71	3
9	Nib	67.03	66.81	73.47	81.16	76.66	83.55	85.59	85.76	77.50	1
10	Wegagen	60.35	61.75	64.36	66.81	62.95	68.52	78.49	73.47	67.09	4
11	Zemen	42.16	45.12	52.31	52.19	48.37	62.73	64.12	67.97	54.37	10
	MIN	42.16	MAX	95.56	MEAN	67.56	MEDIA N	68.64	SD	12.27	

Source: researchers own computation- from 2013 to 2020

As exhibited on the above table, Nib is on top position with highest average score of 77.50% followed by Hibret and Lion with average scores of 75.73% and 73.71 % respectively. Addis is seen to stood last with average score of 51.33%. The maximum score of interest income to total income ratio which was 95.56% registered by Lion in 2014, whereas the minimum score was registered by Zemen in 2013.

#### 4.1.4.6 Non-Interest Income to Total Income

These ratio measures incomes generated from other than lending activities. Higher ratio is preferred to a lower one.

Table 20 Non-Interest Income to Total Income (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	61.99	58.47	53.87	49.19	47.19	41.10	39.35	38.20	48.67	1
2	Awash	37.30	43.31	36.48	37.24	99.93	22.30	25.81	22.88	40.66	3
3	Berhan	50.42	43.93	43.57	41.44	38.97	28.10	30.39	27.92	38.09	4
4	Bunna	55.21	56.59	36.05	33.18	31.77	25.84	30.04	23.14	36.48	5
5	CBO	55.66	52.12	42.77	23.62	26.80	28.71	25.96	27.77	35.43	7
6	Dashen	43.82	46.81	43.77	44.33	39.38	26.78	23.10	20.07	36.01	6
7	Hibret	33.61	31.24	28.93	26.74	22.66	21.57	15.52	13.87	24.27	10
8	Lion	29.60	4.44	48.84	41.08	25.60	22.18	24.59	13.94	26.29	9
9	Nib	32.97	33.19	26.53	18.84	23.34	16.45	14.41	14.24	22.50	11
10	Wegagen	39.65	38.25	35.64	33.19	37.05	31.48	21.51	26.53	32.91	8
11	Zemen	57.84	54.88	47.69	47.81	51.63	37.27	35.88	32.03	45.63	2
	MIN	4.44	MAX	57.84	MEAN	32.44	MEDIAN	31.36	SD	12.27	

Source: researchers own computation- from 2013 to 2020

Table 20 shows that Addis, Zemen and Awashbanks stand from first to third positions. On average, the non –interest income of Addis, Zemen and Awashcover 48.67%, 45.63% and 40.66% of the their total income respectively. The lowest share of average non –interest income to total income was recorded by Nib which was 22.50 %. The maximum score of non-interest income to total income ratio which was 57.84% registered by Zemen in 2013, whereas the minimum score was registered by Lion in 2014.

#### 4.1.4.7 Group Composite Earning Quality

Composite earning Quality demonstrates the overall profitability and productivity of banks. Based on the group average of six indicators of earning quality, Lion, Addis and Bunna held the ranks from 1<sup>st</sup> to 3<sup>rd</sup> respectively. The last position in the composite earning quality is held by Hibret.

**Table 21 Composite Earning Quality**

S/n	Bank	Net Interest Margin to T. Asset		Net profit to T. Asset		Net Profit Growth		Operating Profit to T. Asset		Interest Income to T. Income		Non-Interest Income to T. Income		Comp. Rate	Comp. Rank
		%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank		
1	Addis	3.25	10	3.12	1	64.81	2	4.11	2	51.33	11	48.67	1	4.50	2.00
2	Awash	4.08	8	2.68	5	28.12	7	3.61	5	59.34	9	40.66	3	6.17	6.00
3	Berhan	4.23	7	2.79	4	47.31	3	3.68	4	61.91	8	38.09	4	5.00	4.00
4	Bunna	4.76	1	2.64	6	45.12	4	3.55	6	63.52	7	36.48	5	4.83	3.00
5	CBO	4.40	5	2.18	10	95.14	1	2.90	10	64.57	5	35.43	7	6.33	7.00
6	Dashen	3.51	9	2.52	8	12.41	11	3.26	8	63.99	6	36.01	6	8.00	10.00
7	Hibret	4.26	6	2.13	11	15.97	9	2.74	11	75.73	2	24.27	10	8.17	11.00
8	Lion	4.53	3	2.87	3	34.75	5	4.27	1	73.71	3	26.29	9	4.00	1.00
9	Nib	4.57	2	2.46	9	18.79	8	3.11	9	77.50	1	22.50	11	6.67	8.50
10	Wegagen	4.44	4	2.57	7	14.44	10	3.33	7	67.09	4	32.91	8	6.67	8.50
11	Zemen	2.58	11	3.03	2	32.67	6	4.01	3	54.37	10	45.63	2	5.67	5.00

Source: researchers own computation- from 2013 to 2020

#### **4.1.5. Descriptive Statistics and ranks of banks based on Liquidity Ratios**

Liquidity is ability of a firm to convert its assets into cash most rapidly or we can say availability of the funds to pay off all its financial obligations when they become due.

##### **4.1.5.1 Liquid Assets to Demand Deposits**

Liquid assets to demand deposits ratio measure the ability of a bank to meet the demand from demand deposits in a particular year. In order to provide higher liquidity for depositors, bank has to invest these funds in highly liquid form. Table 22 indicates that, Addis, Zemen and Lion held the ranks from 1<sup>st</sup> to 3<sup>rd</sup> based on the average score of 160.86%, 128.49% and 122.07% respectively. In contrast, CBO is seen to stand last with average score of 74.84%. Both the maximum and minimum score which are 199.34% and 34.31% registered by Addis and wegagen respectively in same year(2013).

Table 22 Liquid Assets to Demand Deposits (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	199.34	185.46	148.62	182.63	138.42	144.64	141.90	145.91	160.86	1
2	Awash	104.01	139.45	91.46	100.94	85.36	89.89	61.01	74.96	93.38	7
3	Berhan	129.95	152.30	120.16	73.03	105.19	67.47	57.06	52.91	94.76	6
4	Bunna	102.61	134.64	72.23	87.01	106.99	118.93	95.54	118.87	104.60	4
5	CBO	132.13	69.50	72.23	72.00	57.43	82.87	61.21	51.36	74.84	10
6	Dashen	142.08	142.15	116.14	116.53	78.20	84.92	38.40	49.94	96.05	5
7	Hibret	91.18	126.31	94.64	89.40	70.73	91.65	54.27	62.53	85.09	8
8	Lion	84.75	118.98	59.27	105.09	149.00	128.35	132.87	198.24	122.07	3
9	Nib	99.11	76.29	59.99	71.95	68.44	81.64	72.97	87.90	77.29	9
10	Wegagen	34.31	60.58	36.19	67.60	66.45	54.16	69.54	76.31	58.14	11
11	Zemen	125.27	158.91	113.03	151.61	173.74	151.59	63.67	90.07	128.49	2
	MIN	34.31	MAX	199.34	MEAN	99.60	MEDIA N	90.63	SD	38.67	

Source: researchers own computation- from 2013 to 2020

#### 4.1.5.2 Liquid Assets to Total Deposits

This ratio measures the liquidity position of banks, by showing the capacity of banks to meet the withdrawal demand of all of their customers(depositors) from liquid assets. From the table below, Addis, Zemen, and Berhan are seen to have better liquid to deposit ratio with an average liquid to deposit ratio of 44.52%, 34.76%, and 32.32%. On the other hand, Wegagen is seen to be in the lowest position with average liquid asset to total deposit ratio of 20.12%.



Table 23 Liquid Assets to Total Deposits (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	67.36	54.43	44.11	49.11	40.65	34.89	33.60	31.98	44.52	1
2	Awash	27.27	33.65	20.96	25.37	22.92	26.77	17.49	20.46	24.36	8
3	Berhan	46.44	48.79	40.52	29.39	31.61	24.64	20.43	16.74	32.32	3
4	Bunna	37.54	41.52	23.41	23.27	27.58	26.84	21.58	21.86	27.95	5
5	CBO	67.24	32.25	31.53	25.14	19.04	29.75	19.82	14.99	29.97	4
6	Dashen	38.24	37.00	27.91	30.26	18.87	19.57	13.62	11.33	24.60	7
7	Hibret	26.78	37.99	24.60	22.39	17.90	19.61	12.80	15.30	22.17	9
8	Lion	24.74	34.35	18.27	28.88	30.40	25.94	22.01	26.38	26.37	6
9	Nib	31.63	24.18	18.39	23.81	19.82	17.97	14.21	15.86	20.73	10
10	Wegagen	13.78	22.29	14.55	25.98	24.87	20.14	18.18	21.15	20.12	11
11	Zemen	31.32	49.22	30.20	36.01	39.68	39.59	21.74	30.29	34.76	2
	MIN	11.33	MAX	67.36	MEAN	27.99	MEDIA N	25.65	SD	11.13	

Source: researchers own computation- from 2013 to 2020

The minimum performance was registered by Dashen (11.33%) in 2020. In 2013 Addis recorded the maximum liquid assets to total deposits ratio which is 67.36%.

#### 4.1.5.3 Term deposits to Total Deposits

Fixed term deposit is costly for banks as compared to other types of deposits. In general if this ratio shows a higher percentage this may not be good for the survival of the bank. As exhibited on the below table, CBO, Awash and Dashen held the ranks from 1<sup>st</sup> to 3<sup>rd</sup> based on the average score of 4.50%, 7.83% and 8.63 % respectively. In contrast, Addis is seen to stand last with average score of 30.94 %.

Table 24 Term deposits to Total Deposits (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	29.90	28.87	29.06	31.43	30.17	33.10	33.87	31.14	30.94	11
2	Awash	5.97	7.72	10.41	9.81	7.54	7.19	6.02	8.01	7.83	2
3	Berhan	16.34	14.40	8.50	9.34	12.25	10.33	8.73	8.09	11.00	6
4	Bunna	14.61	16.66	15.50	22.11	19.65	18.71	2.30	5.40	14.37	8
5	CBO	2.64	2.87	2.58	7.92	4.73	2.97	4.15	8.17	4.50	1
6	Dashen	6.36	6.63	7.36	7.26	9.45	13.29	9.15	9.52	8.63	3
7	Hibret	8.69	6.66	11.73	12.46	19.22	21.18	22.19	23.20	15.66	10
8	Lion	9.16	9.80	10.47	15.67	11.74	4.68	7.76	5.67	9.37	4
9	Nib	8.28	10.91	13.52	14.63	15.75	17.83	16.38	18.40	14.46	9
10	Wegagen	7.03	7.59	7.04	11.12	15.33	14.90	19.36	10.61	11.62	7
11	Zemen	4.26	4.21	13.12	20.14	13.59	10.07	11.10	7.55	10.50	5
	MIN	2.30	MAX	33.87	MEAN	12.63	MEDIAN	10.37	SD	7.68	

Source: researchers own computation- from 2013 to 2020

#### 4.1.5.4 Liquid Assets to Total Assets

This ratio indicates the percentage of a bank's total asset in liquid form. As exhibited on table 25 below, Zemen, Addis, and Berhan held from 1<sup>st</sup> to 3<sup>rd</sup> positions with average ratio of 32.38%, 29.21%, and 23.87% respectively. To the contrary, Wegagen is seen to be at the bottom of the rank with an average ratio of 15.72%. When we see the maximum and minimum score, CBO in 2013 and Dashen in 2020 scored the highest and lowest liquid assets to total assets ratio respectively.

Table 25 Liquid Assets to Total Assets (%)

S/n	Bank	Year								Average	Rank
		2013	2014	2015	2016	2017	2018	2019	2020		
1	Addis	41.27	34.16	28.54	31.17	27.04	24.63	24.05	22.84	29.21	2
2	Awash	19.24	22.89	15.40	18.60	16.68	21.05	15.23	16.17	18.16	8
3	Berhan	33.67	34.88	29.80	21.63	22.88	19.03	15.95	13.09	23.87	3
4	Bunna	27.29	29.66	18.21	18.37	21.01	20.50	15.76	16.08	20.86	5
5	CBO	45.93	23.91	20.27	19.97	15.32	25.69	17.16	13.00	22.65	4
6	Dashen	30.69	29.79	22.33	24.04	14.60	15.50	10.83	8.88	19.58	7
7	Hibret	20.65	28.50	18.96	16.90	14.55	16.15	10.72	12.37	17.35	9
8	Lion	17.70	25.54	13.90	22.59	24.34	21.08	17.70	21.69	20.57	6
9	Nib	23.02	17.83	13.56	18.81	15.55	14.56	11.66	12.57	15.94	10
10	Wegagen	10.01	16.21	10.84	19.13	18.68	19.86	14.38	16.68	15.72	11
11	Zemen	24.15	38.06	23.68	29.95	32.58	32.59	33.21	44.80	32.38	1
	MIN	8.88	MAX	45.93	MEAN	21.48	MEDIAN	19.91	SD	7.81	

Source: researchers own computation- from 2013 to 2020

#### 4.1.5.5 Group Composite Liquidity

Composite liquidity tells us the overall liquidity position of the banks included in this study. The table below exhibits, Zemen, Addis and Berhan were the most liquid banks as compared to the other banks included in the study with average values of 2.50, 3.75 and 4.50 respectively. Wegagen stand on the last place with average rate of 10. CBO and Bunna held the 5<sup>th</sup> rank with average rate of 4.5.

Table 26 Composite Liquidity

S/n	Bank	Liquid Assets to Demand Deposits		Liquid Assets to Total Deposits		Liquid Assets to Total Assets		Term Deposits to Total Deposits		Comp. Rate	Comp. Rank
		%	Rank	%	Rank	%	Rank	%	Rank		
1	Addis	160.86	1	44.52	1	29.21	2	30.94	11	3.75	2.00
2	Awash	93.38	7	24.36	8	18.16	8	7.83	2	6.25	8.00
3	Berhan	94.76	6	32.32	3	23.87	3	11.00	6	4.50	3.00
4	Bunna	104.60	4	27.95	5	20.86	5	14.37	8	5.50	6.50
5	CBO	74.84	10	29.97	4	22.65	4	4.50	1	4.75	4.50
6	Dashen	96.05	5	24.60	7	19.58	7	8.63	3	5.50	6.50
7	Hibret	85.09	8	22.17	9	17.35	9	15.66	10	9.00	9.00
8	Lion	122.07	3	26.37	6	20.57	6	9.37	4	4.75	4.50
9	Nib	77.29	9	20.73	10	15.94	10	14.46	9	9.50	10.00
10	Wegagen	58.14	11	20.12	11	15.72	11	11.62	7	10.00	11.00
11	Zemen	128.49	2	34.76	2	32.38	1	10.50	5	2.50	1.00

Source: researchers own computation- from 2013 to 2020

#### 4.1.6 Composite CAMEL

The composite CAMEL ratings of banks have been calculated with the aim of ranking the private commercial banks included in this study based on their overall financial performance applying CAMEL model.

As shown on the table below, Addis, Zemen, and Bunna held from 1st to 3rd of the rank based on CAMEL model overall performance. As discussed on group composite, Zemen was on top position with capital adequacy CAMEL component, while Bunna got 2<sup>nd</sup> rank jointly with Berhan scoring the same result. Under the asset quality, Addis held the top rank. Under management efficiency the top rank has been taken by Awash and the 2<sup>nd</sup> place by Addis. Bunna and Zemen took the 3<sup>rd</sup> place scoring the same. In terms of earning quality, Addis got the 2nd rank and Bunna held the 3rd rank. Under the liquidity, Zemen stood 1<sup>st</sup> and Addis stood 2nd. The last rank in the composite

CAMEL is held by CBO due to its lowest performance especially on composite capital adequacy 10<sup>th</sup> place and composite asset quality 11<sup>th</sup> place.

Table 27 Composite CAMEL

S/n	Bank	Composite CAMEL					Comp. Rate	Comp. Rank
		Capital adequacy	Asset quality	Management efficiency	Earning quality	Liquidity		
1	Addis	5.75	3.67	3.50	4.50	3.75	4.23	1
2	Awash	5.75	7.67	3.25	6.17	6.25	5.77	6
3	Berhan	4.75	5.33	8.25	5.00	4.50	5.37	4
4	Bunna	4.75	5.33	3.75	4.83	5.50	4.83	3
5	CBO	8.75	10.33	6.00	6.33	4.75	7.03	11
6	Dashen	9.00	3.67	9.00	8.00	5.50	6.58	10
7	Hibret	7.50	2.33	8.00	8.17	9.00	6.60	9
8	Lion	5.75	8.33	6.00	4.00	4.75	5.22	5
9	Nib	5.25	5.67	6.75	6.67	9.50	6.37	7
10	Wegagen	4.25	6.00	7.75	6.67	10.00	6.23	8
11	Zemen	4.50	7.67	3.75	5.67	2.50	4.32	2

Source: researchers own computation- from 2013 to 2020

# **CHAPTER FIVE**

## **CONCLUSION AND RECOMMENDATION**

In this chapter conclusions and recommendations are presented. The conclusions and recommendations are drawn based on the research results presented on the previous chapter.

### **5.1 Conclusion**

Banks in developing countries are expected to play key roles in financing business activities and economic projects as their contribution in ensuring sustainable economic growth. This expectation is as a result of the fact that there is serious shortage of capital in the developing countries. For a long period the Ethiopian banking sector is characterized by being relatively small and under developed, closed for foreign investors, and known by a large share by the state banks. Now days, the number and size of private commercial banks are increasing. Accordingly, the contribution of the private banks to the Ethiopian economy in directing funds from surplus units of the economy to those with better productive investment opportunities cannot be undermined. On other hand, it is very important to put in mind that banks' ability to produce economic growth and development depends on the health, soundness and stability of the banking system itself. It is, therefore, not surprising that the banking industry is one of the most regulated sectors in any economy. CAMEL model is among few tools used to check the health, soundness and stability of banks worldwide. This study has been initiated with the intention to fulfill the research objective that was to evaluate the financial performance of selected private commercial banks using CAMEL model. CAMEL approach has been selected for this research not because it is popular but also considering its appropriateness to detect problems and its ability to present comparative performances of different banks. Therefore, the study has analyzed the

performance of the Ethiopian private commercial banks using secondary data from 2013 to 2020 through the CAMEL rating system. Based on the CAMEL ratios results the researcher draws the following conclusions.

- In terms of composite capital adequacy Wegagen bank was on top when compared to other banks under the study period. It proved that it has sufficient capital to absorb unexpected losses. This in return might help the bank in opening of new branches, to work on fresh lending in high risk but profitable areas, in manpower recruitment and diversification of business.
- In asset quality perspective Hibretbank outperformed other banks. It can be say; to minimize credit risk the management was following careful process of creating, disbursing and managing loans and advances.
- With regard to composite management efficiency Awash bank stood on top. Considering the explanatory variables used in this study to measure management efficiency, it can be say Awash bank's management was efficient in converting the deposits available with the bank to loans and advances. The result also indicates the management was efficient in managing its expenditure. Last but not least the bank was successful in making its employees productive.
- Lion proved to be the best bank in utilizing its assets to generate sustainable and quality return when compared with sampled banks in the study period. It was on the top with earning quality composite rank.
- Zemenonce again was on top by being liquid in the study period, indicating it excelled other banks in protecting depositors.
- When looking to the overall performance of banks Addis was on top followed by Zemen and Bunna.

## 5.2 Recommendations

Based on the findings of the study and the conclusions drawn above, the researcher forwards the following recommendations to different stakeholders.

- Those commercial banks with very low score on different CAMEL ratios especially on group composite shall evaluate their own performance over a given period so that they may determine the efficiency and long term viability of their management decisions or goals so that they can alter the course and make changes whenever it is appropriate. National Bank of Ethiopia (NBE) in this regards shall give due attention in controlling these banks.
- Private financial institutions are advised to equip their management and staff with comprehensive knowledge of CAMEL rating system.
- The CAMEL model proofed to be useful rating tool for banking sectors; however, the model was not seen used in evaluating the financial performance of other financial institutions like micro finances in Ethiopia. The researcher believes it can be equally be applicable to aforementioned institutions and encourage other researchers to consider this.
- The researcher strongly advises the regulatory body of the Ethiopian financial sector to use CAMEL model fully as regulatory supervisory rating system.



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