ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS SCHOOL OF MANAGMENT

Determinants of Profitability on the Case of Selected Private Commercial Banks in Ethiopia

By: Getnet Dessie (BA)

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfilment of the Requirement for the Degree of Masters of Art in Executive Masters of Business Administration

June, 2023

Addis Ababa, Ethiopia

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Declaration

I, Getnet Dessie Bernie, confirm that the thesis research entitled “Determinants of Profitability on Selected Commercial Banks in Ethiopia” is done independently and submitted in partial fulfilment of the requirements for the Degree of Masters of Art in “Executive Master of Business Administration” in accordance with the advice and support of the thesis advisor. The paper complies with the regulations of the university and that all the sources of materials used for the purpose of this thesis have been cited and acknowledged.

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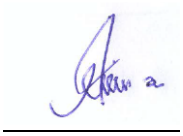
Name: Getnet Dessie

Signature 

Date-07/07/23

Confirmed by Advisor:

Name: Amare Abawa (PhD)

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Date 07/07/23

Addis Ababa University

School of Graduate Studies

This is to certify that I, Getnet Dessie have prepared the thesis entitled: Determinants of Profitability on Selected Commercial Banks in Ethiopia to be submitted to Addis Ababa University in partial fulfillment of the requirements for the Degree of Master of Art in Executive Master of Business Administration. I hereby certify that this thesis work is in compliance with the regulations of the University and maintains the accepted standards in respect to quality and originality.

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Examiner: Tenkir Seifu (Phd) **Signature:** _____ **Date:** July 04, 2023

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Chair of Department of Graduate Program Coordinator

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Acronyms

AIB Awash International Bank

AQ Asset Quality

CA Capital Adequacy

CAMEL Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality and Liquidity

CAR Capital adequacy ratio

CBE Commercial Bank of Ethiopia

CBO Cooperative Bank of Oromia

DB Dashen Bank S.Co.

DW Durbin Watson

EA Earning Ability

EQ Earning Quality

EVA Economic value added

GCC Gulf Cooperation Council

GDP Gross Domestic Product

GMM Generalized method of Moments

LIQ Liquidity

LM Liquidity management

ME Management Efficiency

NBE National Bank of Ethiopia

NIB NIB International Bank.

NIM Net interest Margin

NPLs Non-performing loans ratios

OCE Operating Cost Efficiency

OLS Ordinary Least Square

RMP Relative Market Power hypothesis

ROA	Return on Assets
ROE	Return on Equity
SCP	Structure-Conduct-Performance
SIZE	Size of the Bank
UB	United Bank

Abstract

This research attempts to investigate the factors that affect the profitability of a sample of six private commercial banks in Ethiopia during 2010-2022. The study used measures of internal factors that affect bank profitability. Panel data regression analysis is applied to explore the effect of capital adequacy, managerial capability, asset size, asset quality, earning capability and liquidity on profitability of the banks. The regression result suggested that internal factors including the banks' management capability, asset size and earning ability ratios positively and significantly contribute for the profitability of the sampled banks. The explanatory analysis result showed that with regard to management efficiency DB ranked first followed by AIB and NIB. In terms of bank size AIB, DB and BOA are ranked first, second and third respectively. The results of this study therefore, suggest that banks need to work on improving their operational efficiency through increasing productivity, cost minimization and revenue generation. In addition, banks need to focus in mobilizing relatively cheaper deposits by opening up of new branches to reach the unbanked population and they should also expand their banking service through, digital banking and agency banking services.

Key words: Banks profitability, internal factors, management capability, asset size and earning ability.

CHAPTER ONE

1. Introduction

1.1 The Study Background

The importance of commercial banks in the development of any country is mainly made through allowing resource allocation between various economic sectors and directing money from depositors to investors. Banks must be effective and lucrative or profitable in order to maintain a strong role as financial intermediaries. A flourishing banking industry promotes the transfer of money from savings to investments, boosts economic growth and subsequently makes profit for their shareholders (Ali K. A., 2011).

Financial markets and financial intermediaries make up a larger portion of the service-giving organizations that support a nation's economy, whether it is developed or in development. However, because financial markets are underdeveloped in countries like Ethiopia, the country's prosperity and economic growth are heavily dependent on these institutions, particularly commercial banks. Therefore, monitoring profitability of banks through financial statements analysis should be undertaken closely and frequently to improve the wealth & health of the banks. This effort will help to address the information need of investors, creditors, and managers, and largely to improve the economic development of the country. Moreover, it has a great importance to keenly observe the profitability and performance of banks on perspective of compliance within the regulatory body requirements or directives.

Even if a financial statement represents historical data and did not consider inflation, Banks prepare financial statements, particularly Balance sheets and Income statements for internal use or for management to decide the future and for external users mostly to investors and creditors to know about the profitability and prospect of their bank. The external financial analyst also uses financial statements to measure the performance of the banks for different stakeholders' decision.

Financial statement is designed to highlight a company's profitability in comparison to other businesses operating in the same industry and to demonstrate whether its financial condition has been enhancing or deteriorating over time. (Brigham and Houston, 1999).

Ratio analysis is a common tool for conducting financial analysis. The term "ratio" refers to the mathematical relationship between two distinct figures or groupings of figures connected logically and taken from the company's financial statements. Users can draw conclusions about the performance, strengths, and profitability of a firm by understanding the relationship between two accounting figures. So, the ratio analysis is used by different interested groups who has stake in a company. Especially banks profitability has an impact across various industry layers of an economy and furthermore most of members of the society need to know their performance.

The link between the financial industry and other real economic sectors has found to be strong as assessed by different researchers. Through effective facilitation of financial flows and encouragement of profitable investments, banks with excellent financial profitability will have the capacity to increase productivity in other industries. However, ineffective and subpar banking operations may result in bank collapses, which would trigger systemic failures and economic crises (Simwaka, 2012).

Evaluation of bank profitability is of great importance to different interested party. Performance of banks primarily has an impact on bank shareholders. In order to create expectations about future profitability that can be utilized to help price common shares growth, investors make use of bank profitability information. Second bank management is typically assessed based on how well the bank does in comparison to prior years and when compared to other banks in a comparable or peer group. Similarly, the profitability of bank is typically linked to employee wages and promotions. Regulators are also kept an eye on banks using onsite examination and computer-based early warning systems to track bank performance because they are worried about the safety and soundness of the financial system and the preservation of public confidence. Additionally, since each depositor is permitted deposit insurance up to the specified amount, depositors may be interested in how the bank is doing if they retain deposits above the amount that is unsecure. Besides, since the success or failure of their bank affects their ability to access credit and other financial services, the business community and general public are also concerned about the profitability of their bank (Benton E. Gup, 2005).

Based on theoretical grounds there are four pillars to internal bank profitability measurement. As explained by (Benton E. Gup, 2005) the first step is the bank planning process, which outlines the bank's goals, budget, and tactics. The second category of technology includes communications and computer functions. The third one is reliant on factors like training and rewards for personal growth. The fourth internal performance component has a wider range than the other three since it takes into account the health of the bank, which encompasses its cost-effectiveness, capitalization, operational effectiveness, asset quality, and liquidity. The external factors that must be considered for the profitability of banks consists market share, taxation, inflation, GDP growth and interest rate. There are also regulatory compliance measurement factors like capital position and lending capability of banks.

Banking in Ethiopia has undergone a number of reforms since the financial sector liberalization in 1992. These reforms brought significant changes on the ownership as of banks as well as on the accessibility of banking services compared with the public sector dominated ownership of banks during the socialist regime. The change provided opportunity to private sector to invest in banks and encouraged involvement of private banks to expand their operations in the country. The sector's profitability has been improving after the introduction of the reforms (Lelissa, 2007).

As of this date the total number of banks operating in Ethiopia reached 29 (Ethiopia). Hence, it is important to measure the profitability of banking sector in terms of addressing the needs of its stakeholders: in the midst of addressing global competition, adaptation of technological change, customers' expectation, improving productivity and meeting regulatory requirements. At present the stiff domestic competition among banks for resource especially deposit and foreign currency has dynamically changed the playing ground. Those banks who has a large number of depositors with wide coverage of branch network can mobilize large amount of deposit, which means they can lend the money to boost their profitability and others couldn't. Due to this fact the role and practical impact of factors that determine banks profitability is continuously changing with the economic and political condition of the country. This study therefore, tries to examine the profitability of the sampled 6 private banks in consideration of the contemporary opportunity and challenges persisted in the industry by applying secondary data for the period 2010 to 2022.

1.2 Banking Industry in Ethiopia

The National Bank of Ethiopia, which took on its present form first in 1963 after being formed by proclamation 206 of 1963 and operating since January 1964, oversees the current Ethiopian banking industry. 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. Other banks and similar institutions has been established in the country like Societe National D'Ethiopia pour le Development de 1'Agriculture et du Commerce opened in 1908, Banque de 1'Indochine and Compagnie de 1' Afrique Orientale , both opened in 1915 (Gidey, 1987).

With the founding of the BOA in Addis Ababa in 1905, modern banking was first introduced to Ethiopia. It was started under a franchise agreement between "Emperor Menelik" and the "National Bank of Egypt", which was owned by the British. The bank had right to print notes and coins which were exchangeable to Maria Theresa Thaler. By establishing branches in some trade hubs, the bank increased its business operations. The new concept of banking in the Ethiopian society did not interest the larger society. The bank's activities were restricted to dealings in the export financing and government accounts sectors (Gidey, 1987).

After making settlement with "Bank of Abyssinia", in 1931 the Haile Sellasie government established the "Bank of Ethiopia" which has GBP 750,000 initial capital aiming to change foreign ownership of the bank to Ethiopian. The new ownership of the bank by its nationals helped to attract the public and expand its services until 1935. After 1936, during the Italian invasion of Ethiopia, State Bank of Ethiopia was remained closed by the Italians and branches of Italian banks started to operate in the country. However, after the invasion only two Italian banks sustained their operation. In 1942, "the state bank of Ethiopia" was established by the government and backed up with legal charters to serve as the central bank with 2 branches in the country. It has given the right to issue Ethiopian notes on behalf of the government in 1945. The bank continued its operation serving both as "the central bank and commercial bank of the country" with additional rights of foreign currency dealing activities in 1949. Between 1943 and 1963, the state bank opened roughly 21 branches in important cities and towns, including one in Sudan's capital city of Khartoum and a transit hub in Djibouti (Gidey, 1987).

The state bank was finally dissolved and split into the National Bank of Ethiopia and the Commercial Bank of Ethiopia, S.C., pursuant to the banking proclamation No. 207 of October 1963, thereby separating the function of central and commercial banking. The new Ethiopian monetary and banking law entered into force in July 1963. The National bank maintained the central banking duties, while the commercial bank received the commercial activity (Gidey, 1987).

Between 1964 and 1970, several new financial institutions entered the commercial banking market, including Addis Ababa Bank Share Company, Saving and Mortgage Corporation of Ethiopia S.C., Ethiopian Investment Corporation S.C., Banco di Roma (Ethiopia), and Agriculture and Industrial Development Bank. Both Commercial Bank of Ethiopia S.C. and Addis Bank had the same goals, authority, and obligations. As a result, their merger was required to reduce effort duplication and bring them under a consolidated banking framework. Consequently, decree No. 184 on August 2, 1980 led to the establishment of the current CBE (Gidey, 1987).

Following the regime change in 1974, the switching of the government to the socialist ideology made a significant change in the credit system. It gives the national bank the authority to control. By Proclamation No.99 of 1976, the government integrated the "Agricultural and Industrial Bank", into "the National Bank of Ethiopia". At that time by proclamation No. 158 of 1979, the "Agricultural and Industrial Development Bank (AIDB)" was restructured. There were only three banks in the socialist-leaning government's financial sector, and each had a monopoly in its own market. "The National Bank of Ethiopia (NBE), Commercial Bank of Ethiopia (CBE), and Agricultural and Industrial Development Bank (AIDB)" were the only ones operating in the market, which were solely controlled by the government at the conclusion of the socialist era (Melaku, 2016) .

Following the collapse of the socialist state, the "Monetary and Banking Proclamation of 1994", allowed the private sector to invest in the banking industry and introduced the whole new system to the industry, which liberalized and bring reforms to the financial sector. Ethiopia currently has 29 commercial banks in operation. One of the 29 commercial banks is publicly owned, while the other 28 are privately held (Ethiopia).

1.3 Statement of the Problem

Ethiopia's banking sector has been essential in fostering the nation's expansion economically. For previous two decades, the sector experienced a major development in terms of banking services and products. The industry performance has its own impact on the entire economy through its effect in enabling smooth transfer of funds. The health and profitability of banks provides a signal to depositors and investors about the economy. The decision of depositors and investors can be influenced by the profitability of commercial banks.

There are now 29 active commercial banks in Ethiopia. The government owns one of these banks; the other 28 are privately owned. AIB, DB, and BOA are placed first, second, and third, respectively, in the ranking of private industry players based on total assets. CBO, United Bank, and Nib International Bank, took the fourth, fifth, and sixth spots in the nation, respectively (Ethiopia). These six banks hold above 70% of the whole private banks total asset.

Sound and profitable banks will facilitate the saving and investment linkage through efficient allocation of funds. In addition, a financial sector backed by healthy and profitable banks will develop resilience against unfavourable conditions and keep health of the financial sector and the economy in general (Teker, 2011). Recently the pace of new bank openings is increasing and as a result, the competition for resource especially foreign currency and deposit is becoming stiff. The scarcity of both resources is highly affecting the profitability of new entrants and those banks entered the banking industry years before. Besides the current trend of banks in financial services and products expansion and the increasing pace in the dynamism of the international financial intermediation due to financial and technological innovations required researchers, academicians, policy makers and bank managers to analyse bank profitability on a regular basis. Considering these developments, this study therefore, tries to explore internal factors, which affect commercial banks profitability in the top 6 banks using secondary data from the sampled banks' financial statements dated from the year 2010 to 2022.

1.4 Research Question

1. Do internal bank-specific factors affect the financial profitability of commercial banks in Ethiopia?
2. Do banks can be rated based on the internal bank specific factors impact on their profitability?

1.5 The Research Objective

1.5.1 General Objective of the Research

The main goal of this study is to experimentally measure and identify factors that affect the profitability of the sampled six banks in the nation, with an emphasis on internal factors. Based on the findings of the ratio analysis, the study also makes an effort to rank the banks.

1.5.2 Specific Objectives

The research's specific objectives are to:

- Empirically test the relationship between internal bank specific factors and profitability.
- Perform explanatory analysis on internal bank specific factors and make ranking of banks based on the result.

1.6 The Research Hypothesis

The researcher answers the following question by taking into account the underlined objectives, theoretical underpinnings, and earlier researches. What are the key factors that substantially affect the profitability of Ethiopian banks? As a result, the research came to the following hypotheses:

H1: Ratios of capital adequacy and bank profitability are closely correlated

H2: There is a significant correlation between bank profitability and asset quality Ratios.

H3: Management ratios for efficiency and bank profitability are strongly correlated.

H4: Earning the quality indicators and profitability of banks are strongly related.

H5: The profitability of banks and their ratios of liquidity are strongly related.

H6: There is a significant correlation between a bank's profitability and its overall size.

1.7 Significance of the Study

The results of the study will be helpful in that they will enable regulatory agencies, shareholders, potential investors, boards of directors, and bank executives to make informed decisions by providing information about the strength and weakness of private commercial banks. Additionally, it helps the regulatory body create logical rules and regulations to lessen the possibility of failures and put corrective measures into place. The researcher also believes that the boards of directors and CEOs of the banks will benefit from creating a proactive strategy for survival and long-term growth. The executives can then concentrate on the identified variables to raise the performance of their bank.

The results could alternatively be viewed as supplements to the public's already-existing body of information and literature. The study could serve as a starting point for further investigation and spark enthusiasm among specialists in the field to carry out an in-depth investigation.

1.8 Scope of the Study

The study's primary focus is on the thirteen-year financial performance of the top six private commercial banks, from 2010 to 2022. With a focus on the most recent years, in order to take current economic reforms into account. The top six private commercial banks will be the only ones whose performance and financial reporting analyses will be studied. It does not address all the industry participants. The financial performance of the banks was measured using five elements of CAMEL, which were capital adequacy, Asset quality, management ability, earning quality and liquidity

1.9 The Research Limitations

The research focuses only on the sampled banks rather than taking the full population. It also used the financial statement data of the last thirteen years; thus it does not address all private banks. Further future studies could enrich the research topic by scaling up the sample size and

including other non-bank specific variables, which affect banks performance. Such variables include banks' specific qualitative variables, macroeconomic variables and country's ease of doing business condition variables.

1.10 Research Organization

The research is organized as follows: The theoretical and empirical research on the elements that affect a bank's performance is covered in the second chapter. The third chapter discusses the study's methodology and design, which includes information on data presentation, methodology, and econometrics. The analysis and discussion are offered in section four. Empirical results, a discussion, a conclusion, and a recommendation are covered in Section 5.

CHAPTER TWO

2. Review of Literatures

Banks function as intermediaries in an economy by accepting deposit from the savers and lending the same money to borrowers through creating margin or profit between lending interest rate and interest rate payment to be made for resource providers. The liquidity available from banks helps investors to actualize their projects and to achieve their objectives.

According to (Berger, 1997), the goal of monitoring bank profitability is to distinguish between banks that are performing well or profitable and those that are not. According to the study, "evaluating the performance of financial institutions can inform government policy by assessing the effects of deregulation, mergers, and market structure on efficiency" (p. 175). In order to intervene when necessary and to anticipate possible issues, bank regulators screen banks by assessing their liquidity, solvency, and overall performance or profitability (Casu et al., 2006). By finding the best and worst practices linked to high and low measured efficiency, bank profitability assessment can also aid in enhancing managerial performance at the micro level.

Levine (2007) conducted empirical research that demonstrated the degree of financial development is a valid predictor of future economic development and supported the existence of a positive relationship between financial sector development (banking sector development) and economic growth. Several academics have backed and confirmed the presence of a beneficial association between the growth of the financial sector and the expansion of the economy. However, researchers disagree on the two's causal link, nevertheless, and this has caused controversy. As stated by (Simwaka, 2012), beyond profitability, banks have a variety of roles in the economies of emerging nations, which include:

- **Encourage Investment**: - Banks help countries to reduce the saving and investment gaps by allocating financial resources from surplus households and sectors to the deficit sectors that help to finance investment projects. Especially developing countries need to encourage saving to finance their development projects as well as to encourage businesses to commence, expand and operate their activities which require finance. On the other hand, banks will encourage the saving habit of the population

through providing interest payments on their deposits so that the resources will be allocated to capital formation rather than consumption; which is the preconditions for countries economic growth.

- **Promote Innovation:** - Banks play a significant role in realization of innovative products and technologies. They fill the financial resources by providing finance for feasible innovations. Hence, technological advancement in developed economies are the results of the involvement of banks through supply of credit to develop their projects.
- **Promote Industrialization:** The industry sector in many countries is a sector, which requires finance in all stages of its production. The production process requires efficient finance in its physical infrastructure, machinery acquisition, raw material procurement and operational activities. Thus, banks do have a potential role to play in facilitating industrialization, which are necessary for economic development.

- **Facilitator in Money Creation:** A sound monetary policy is essential for economic progress. As a result, for monetary policy to be implemented effectively, a well-developed banking system is a requirement. The banking system makes it feasible for the monetary authorities to manage and regulate credit.

2.1 Theoretical Literatures on Banks profitability

Based on their ability to maximize returns while reducing costs and risks, banks and other financial organizations are judged on how well they perform or profitable (Abbas, 2012). The profitability of banks must be rigorously examined despite the fact that they are frequently subject to heavy regulation by central banks around the world and that there is growing competition on both the domestic and international banking markets.

The literature has investigated the variables affecting bank profitability in detail. Two theoretical models have been created for the analysis of profitability. The first hypothesis of banks' performance is the market power theory, which holds that the industry's market structure is the primary factor influencing banks' profitability.

When we dig in to the details there are two methodologies that are considered in the analysis of the market power theory. The first theory, which followed "The Structure-Conduct-Performance" methodology, claimed that banks operating in more markets that are concentrated have a propensity to conspire and gain a monopolistic advantage by lowering deposit interest rates or raising loan interest rates, which causes the banks to make abnormal profits regardless of their internal efficiency. Whereas according to the Relative Market Power (RMP) concept, market share is the primary factor affecting bank profitability. Hence, based on this argument, banks with a bigger market share could potentially affect pricing and use their market power to boost their profits (Molyneux, 1992).

This idea is also supported by Olweny and Shipho (2011), who assert that the use of the Market Power (MP) and Efficiency Structure (ES) theories (Athanasoglou et al., 2005) resulted in a more methodical evaluation of bank performance in the late 1980s. The MP theory states that increasing external market forces result in profit. The theory further claims that only companies with a significant market share and a highly differentiated product assortment are able to outperform rivals and generate monopolistic profit. On the other hand, the ES hypothesis argues that increased managerial and scale efficiency leads to more concentration and, in the end, more profitability.

Nzongang and Atemnkeng assert that balanced portfolio theory also brings a new perspective to the analysis of bank performance in Olweny and Shipho (2011). It asserts that the bank's portfolio composition, profitability, and return to shareholders are the results of managerial actions and general policy decisions. The aforementioned hypotheses can be used to draw the conclusion that both internal and external factors have an impact on bank profitability. (Athanasoglou, 2008)Athanasoglou et al. (2005) list the following internal factors: bank size, capital, managerial performance, and risk management capabilities. The same scholars claim that the primary external determinants of bank performance are macroeconomic variables including interest rates, inflation, economic growth, and other characteristics like ownership (Tibas, 2011).

Conversely, Efficiency Structure theories accounts on the internal bank specific factors for playing a major role in banks profitability. According to this theory, the most efficient banks due to their management efficiency or productivity efficiency tend to be the most profitable in the market because of lower costs (X-efficiency). These can be due to strength in their

internal factors, which include diversified activities, with strong capital backup, wider and larger coverage in service, strength in loan repayment and follow-up, revenue generation capability in various sources, strong resource mobilization and management and cost effectiveness. Banks could also get advantage of efficiency due to the advantage of economies of scale (Scale efficiency approach).

2.2 Bank Performance Indicators

Due to their fundamental nature, banks play a key and major part in the economy's capital generation; hence, they should receive more attention than any other category of economic unit. An efficient way to gauge how well an economy is doing economically is to assess the financial performance of the banking sector. The profitability of the banking industry is thought of as an exact reproduction of economic activity.

The banking sector's stage of development is a good indicator of how the economy is doing. In terms of recovery, managerial effectiveness, asset quality and earning quality. In terms of internal control system to regulate the degree of risk and the financial sustainability of commercial banks, there has been a significant improvement observed over the prior supervisory system for the banking sector. By assessing and evaluating the profitability and financial soundness of the bank's operations using the CAMEL (capital adequacy, asset quality, management quality, earnings, and liquidity) grading criterion, the central bank authorities have strengthened bank oversight. With regard to frequency, check, spread out, and concentration, the CAMEL supervisory criterion in the banking industry is a major and appreciable advance over the preceding criterions. The banking industry has undergone a paradigm shift throughout this time, making it necessary to evaluate operations' success (Kumar, 2013).

Theoretically, internal and external variables make up the two main types of elements that influence bank profitability. Internal (bank-specific) factors are those that have to do with organizational effectiveness and managerial choices. These include things like bank capital, bank size, asset quality, and income diversification. They also include things like liquidity risk and operational effectiveness (cost management). On the other hand, external factors (macroeconomic factors) that might have an impact on bank profitability include things like GDP, the expansion of the money supply, governmental policies, and the rate of inflation, among others.

The Uniform Financial Institutions Rating System (UFIRS), which was established in US banking institutions in 1979 introduced ratings for on-site exams of banking institutions, is where the CAMEL approach to analysing financial profitability has its roots. According to this approach, each bank that is submitted to an on-site inspection is rated based on five important factors that relate to its performance and operations (Sahajwala & Van den Bergh, 2000).

According to a study by Lace and Stephen from 2001, there is unquestionably a connection between bank efficiency ratings and the financial ratios that serve as a stand-in criteria for a bank's CAMEL grade. According to Barr et al. (2002), "CAMEL rating criteria has become a concise and indispensable tool for examiners and regulators". By examining several components of a bank based on a number of information sources, including financial statements, funding sources, macroeconomic statistics, budgets, and cash flow, this rating criterion ensures a bank's healthy and profitability conditions. To assess the liquidity, solvency, and effectiveness of Japanese banks, Said and Saucier (2003) employed the CAMEL rating technique. The study looked at factors such as capital sufficiency, asset and management quality, earning potential, and liquidity situation. Similar to this, a research conducted in Bangladesh by Sarker (2005) looked at the CAMEL model for central bank regulation and oversight of Islamic banks. Through this study, regulators and supervisors were able to obtain a Shariah benchmark for monitoring and examining Islamic banks and Islamic financial organizations from an Islamic point of view (Lacewell, 2001). Hence, assessing profitability and wellbeing of banks through CAMEL rating is essential for both conventional and Islamic banking.

The CAMEL Model further supported by, (Prasad, 2012) who examined the performance of Indian banks. The study concluded that there was fierce rivalry and that consumers benefited from higher-quality services, novel items, and better deals. Similar to this, (Kapil, 2005) looked into the connection between the CAMEL ratings and the profitability of bank stocks. The CAMEL model of the offsite supervisory exam served as the foundation for the analysis of the banks' viability and profitability. Similar to this, Satish, Jutur, and Surender (2005) concluded that the Indian banking system appears to be sound and that information technology will aid in the banking industry's future expansion. However, Singh and Kohli (2006) conducted SWOT analyses on 20 historic and 10 contemporary private sector banks.

These banks were also ranked using financial information from the years 2003 to 2005, and the CAMEL model was used to assess profitability of banks.

Similar to this, Gupta and Kaur (2008) carried out their study with the primary goal of rating the top five and lowest five banks and evaluating the profitability of Indian private sector banks using the Camel Model. a review of local rural banks Reddy, Maheshwara, and Prasad (2011) talked about the post-reorganization financial performance of a few regional rural banks. To evaluate the overall effectiveness of Sapthagiri Grameena Bank and Andhra Pragathi Grameena Bank, the study used the CAMEL model. Similar to this, a 2011 study on State Bank Group by Siva and Natarajan experimentally evaluated the applicability of CAMEL criteria and their ensuing impact on SBI Groups' profitability and stability of banks. The study concluded that annual CAMEL scanning aids commercial banks in assessing their financial health and profitability and notifies them when they need to take preventive action to ensure their sustainability.

The CAMEL model importance further strengthen by the idea that profits are the ultimate goal of commercial banks, particularly private commercial banks, management, bank supervisors and investors are interested in profitability metrics using the best methodology to measure the performance of commercial banks. When making strategic decisions, managers and investors are also concerned with profit. This lofty objective is the focus of every strategy created and action taken and the CAMEL rating system preferably used by many in collaboration with return on asset and return on equity to gauge bank profitability. As a result, this thesis has chosen the CAMEL rating model to study determinant of banks profitability on private commercial banks in Ethiopia. The concise definition of the dependant and independent variables for banks profitability measurement are presented below.

Return on Asset (ROA): Studies use both empirical analysis and ratio analysis to measure performance and profitability of commercial banks using bank specific variables in computing their analysis (Avkiran, 1994). Some studies use Return on Asset to proxy banks profitability. Others assess bank performance using Return on Equity as a dependent variable (Ranajee, 2018). Return on assets (ROA) measures a bank's ability to make money from its resources. It is determined using the ratio of total assets to average profits after taxes.

Increased ROA is a sign of effective resource use. By dividing net profit after tax by total asset, ROA is computed.

Return on equity (ROE): Another financial metric, return on equity (ROE), shows how a bank's earnings compare to the value of all of its equity. Bank shareholders will closely watch this ratio because it demonstrates the earning capacity of the investment. Higher values of ROE make the bank to have sustainable internal. Hence, increasing return on equity show the increasing trend of profitability. According to (Ongore, 2013) by dividing net income by the proportion of net income to total equity, one can calculate ROE. This ratio represents the profit rate realized from shareholder investments and illustrates how well the bank management uses its resources. Improvement in the return on equity may show efficiency of management over using the shareholder capital.

Capital adequacy: CAR evaluates if a bank has enough capital to withstand any unfavourable shocks (Kosmidou, 2009; Baral, 2005). It represents the overall financial health of the banks as well as the management's capacity to satisfy the demand for higher capital needs, as observed by Ermias (2016) in his study. In order to absorb potential losses and safeguard the financial institution's (i.e. banks) debt holders, capital is anticipated to maintain balance with the risks exposure of the financial institution, such as credit risk, market risk, and operational risk (Mulalem, 2015; Ahsan, 2016). Dang (2011), Hamdu et al. (2015), and Mulualem (2015) utilized capital to risk weighted assets and leverage ratio to determine the capital adequacy of the bank. Other scholars employed various criteria like by dividing Capital to Risk Weighted Assets, Debt to Equity ratio; Advances to Assets, Misra & Aspal (2013) examined the capital adequacy.

International Journal of Scientific and Research Publications, Volume 7, Issue 10, October 2017 ISSN 2250-3153 373 www.ijsrp.org,the capital adequacy level of the bank was examined by Dakito (2015), Tefaye (2014), Hamada et al (2015), Minyahil (2015), Mulualem (2015), Ermias (2016), Anteneh et al. (2013), and Aspal & Dhawan (2014) using the measurements of the Capital Adequacy Ratio (CAR), Debt to Equity Ratio, and Advances to Assets Ratio. In summary The CAR gauges a bank's ability to withstand unexpected shocks to the business environment. The larger the ratio of capital kept aside, the more robust banks will be in a crisis. On the other hand, a ratio CAR that is too high indicates that a bank is overly cautious about its operations, which has a detrimental effect on the bank's profitability.

Asset quality: The quality of a bank's loans can have a significant impact on its profitability (Dang, 2011). Chen et al, (2009) define credit risk as the risk of loss due to a debtor's failure to make repayment of loan i.e. principal and interest. Default occurs when a debtor unable to fulfil legal obligations according to the contract, or has violated a loan condition of the debt contract, which might occur with all debt obligations including bonds, mortgages, loans, and promissory notes(Kongri,2015). As stated by Grier (2007), poor asset quality is the major cause of the most bank failures. The asset quality indicators highlight the use of nonperforming loans ratios (NPLs) which are the proxy of asset quality, and the allowance or provision to loan losses reserve (Frost, 2004 as cited by Mulalem).

Banks at risk of losses and crises include those with significant non-performing loan ratios. Therefore, in order to minimize credit risks, banks must maintain low levels of non-performing loans. Thus, banks will be more profitable the greater the quality of the loan portfolio. Financial ratios can be used to infer asset quality. The best method to assess asset quality is undoubtedly an on-site assessment of the bank's outstanding individual loans. In the absence of such a chance, several financial ratios can at least give a historical account of the credit worthiness of the loan portfolio of a specific bank. On its income statement, each bank records an estimate of potential loan losses as an expense. By dividing the provision for loan loss by the entire amount of loans and advances, one can determine whether this expense is proportional to the number of loans (Benton E. Gup, 2005). These portfolios are used as a buffer to minimize risks of defaults. These portfolios have served as a proxy in many studies to assess the banks' asset quality (Sangmi, 2010).

Management efficiency: It includes overall management policies, which are related to organization, policies, budget, control system, human resources and the overall efficiency of operations. Most studies use internal bank characteristics to measure the performance capacity of management. The bank manager's capacity to effectively manage the bank's resources, maximize profit, and cut costs can be partially demonstrated by the financial ratio. "The ratio of the bank's operating profit to its total revenue" (Sangmi, 2010) is one of these metrics. The management will be more effective at running the bank and generating income if the ratio value is higher.

Various academics attempt to utilize various financial ratios as a stand-in for management effectiveness. While Nassreddine et al. (2013) utilized the ratio of costs to total assets,

Rahman et al. (2009); Sangmi and Nazir, (2010) employed the operational profit to income ratio. While Olweny (2011) adopted the operating costs to net operating income ratio, Golin (2001) employed the operating costs to net operating income ratio and the operating expenses to assets ratio.

As alternative earned flow and overall asset growth are used to measure management effectiveness. The most accurate metric to assess a company's financial success is management efficiency as evaluated by total asset growth, company expansion, and profit stream. Efficiency in management encourages development and sophistication. Additionally, it encourages initiative, strategy success, and innovation. The greatest growing businesses do better financially, especially as the size of their overall assets increases, showing that faster growth and bigger profitability are more likely to occur (Ali A. M., 2021).

Earning Quality: "The quantity of earnings is one of major the bank's performance indicators. Earnings may be of such high quality if the bank is able to obtain them on a consistent and long-term basis, rather than only on a temporary one. It is usual to assess the permanence of earnings quality from the standpoint of its decision-making utility. The larger the percentage of earnings that add to the equity's value, the higher the earnings quality. The capacity of current earnings to predict future earnings is the second measure of earnings quality. High-quality earnings, in this situation, are earnings with a high ability to predict future earnings" (Beyene).

Liquidity: Is the capacity and readiness of a bank to provide cash to its depositors and other short term commitments in time of withdrawal needs. In addition, it measures the commercial banks' performance with regard to efficient collection of its loans and advances. To avoid risks of liquidity problems, banks are required to maintain sufficient margin of cash balance between their deposits and disbursements/withdrawals. Higher liquidity ratios confirm the banks position to accept withdrawal requests of depositors and other obligation without affecting the banks operation (Samad A. &., 2006).

Liability management has partially taken the place of asset management in the measurement of liquidity for many banks. Specifically, banks have increased their use of deposit and non-deposit sources of funds earning market rates of interest while decreasing the amount of liquid assets they keep to meet loan demands and deposit withdrawals, a practice known as

asset liability management. It is still important to construct financial measures that concentrate on the asset liquidity of the bank even though liability management is becoming a more common method of addressing liquidity requirements. It is likely that other banks in the market would stop lending to a bank if it encountered financial difficulties for whatever reason. The bank would have to rely more heavily on its asset liability management in this circumstance. In the event that the bank's access to the funds it has purchased is restricted, it might draw from a reserve known as asset liquidity. In order to fund loans when interest rates are high, banks also keep liquid assets (Benton E. Gup, 2005).

Bank Size: A log of total assets is used to calculate the size of the branch. Results generally indicated that bank profitability increased with bank size. The rationale is that huge size may lead to economies of scale, which will lower the cost of information collection and processing, or economies of scope, which will increase loan product diversification and accessibility to capital markets, which are not available to small banks. (Vong and Chang, 2009).

The organizational scale has an impact on the profitability and liquidity of corporations. Larger businesses eventually have a larger share of the market, which most often correlates to more profitability. Increased assets, returns, production ability, and product variety are thought to benefit customers. Large firms are able to produce products of superior quality at lower cost than small businesses. (Ali A. M., 2021).

2.3 Empirical Literatures

Researchers around the globe have done thesis on factors affecting the profitability of banks and they come across with different result using various techniques. Most of the researchers applied CAMEL ratings for their studies. In order to give a better insight, a summary of some of these empirical studies are given below:

Thirty-Eight Kenyan banks' internal and external indicators affecting profitability were examined by (Olweny T. &., 2011). The study employed econometric regression to analyse how internal factors affected profitability from 2002 to 2008, as defined by ROA. The results of the study demonstrated that every feature that makes a bank special has a favourable and significant impact on the performance indicator. However, the market parameters and profitability did not differ statistically significantly.

(Almazari, 2011) Used simple regression to estimate the impact of independent variables, which included bank size, asset management, and operational efficiency on dependent variables, which included return on assets and interest income size, to measure the financial performance of seven Jordanian commercial banks for the years 2005 to 2009. It was discovered that banks with larger overall deposits, credits, assets, and shareholder equity are not necessarily more profitable. Additionally, it was discovered that there is a positive association between financial performance and asset size, asset utilization, and operational efficiency. Regression analysis further shown that these independent characteristics have a significant impact on financial performance.

(Naceur, 2003) Notes that high net interest margin and profitability are likely to be related with banks with high amounts of capital and substantial overheads in his analysis of the determinants of the Tunisian banking industry profitability for 10 banks in Tunisia for the period 1980-2000. He also observed that other factors, such as loans, had a favourable impact on profitability whereas bank size had a negative effect. Studies by Bashir and Hassan (2003), Staikouras, and Wood (2003) demonstrate that greater loan ratios have a detrimental effect on earnings.

The effects of bank-specific characteristics as well as other variables on bank profitability are examined in another study by (Abreu, 2002) on commercial bank interest margins and profitability for banks from four different EU nations during the period of 1986–1999. They discovered that banks with enough capital have lower bankruptcy costs and higher asset interest margins. Regarding factors unique to banks, the net interest margin responds favourably to operational expenses, and interest margins and profitability are favourably impacted by the loan-to-asset ratio.

(Shah, 2014) Analysed the profitability of Pakistani banks between 2006 and 2010 using ten of the largest banks as a sample. The research used both regression and correlation techniques using the secondary data from financial statement data as a source. Interest income and ROA were employed in the study as dependent variables. CAMEL parameters have also been introduced as independent variables in order to analyse the effects of bank size, asset management, and operational efficiency on the profitability of the sampled banks. The study's findings indicate that operational effectiveness and bank size have a negative and significant impact on ROA. However, they have a positive and large impact on asset management ratio.

Interest income was positively impacted by the bank size variable. Interest income is inversely related to operational efficiency and asset management.

In a two-stage process, (Kiyota, 2011) examined the profit and cost efficiency of commercial banks operating in 29 Sub-Saharan African nations between 2000 and 2007. The SFA, financial ratios, and the Tobit regression are used in the paper to give cross-country information on the effectiveness and performance of African commercial banks. The results show that international banks typically outperform domestic banks in terms of profit efficiency as well as cost efficiency. These findings are based on a variety of performance ratios as well as stochastic cost and profit frontier estimation. The findings are also consistent with those of Kirkpatrick et al.'s (2007) study, which examined 89 banks from Sub-Saharan African nations between 1992 and 1999. They found that on average, banks are 67% profit- and 80% cost-efficient, which is supported by the findings of both the distribution free approach and SFA methods.

(Chowdhury, 2016) Analysed 29 “Islamic banks' performance in the Islamic Gulf Cooperation Council (GCC) regions” using annual financial data from 2005 to 2013. The study used macroeconomic and bank-specific variables that affect the performance of commercial banks in those countries. The analysis made use of models with both “fixed effects and random effects as well as the generalized method of moments (GMM)”. The generalized moments and fixed effects models' findings confirmed the idea that internal factors do affect the profitability of the banks under investigation. Operating efficiency ratios have a detrimental effect on profitability. In addition, the profitability was adversely affected by macroeconomic conditions.

According to (Khizer, 2011), in relation with the endogenous factor; Operating effectiveness, efficiency in asset management, and the bank’s relative size affected the performance of Pakistan banks directly and positively. The study covers 2006 to 2009 years. Changing the endogenous variable to ROE changes the result and the result is summarized as: the size of the bank and efficiency in the operation of the banks do have negative impact on performance. On the other hand, the remaining have positive link with this endogenous variable.

(DemirgucKunt, 1999) Evaluated the variables influencing factors of profitability using bank level characteristics data of 80 countries between 1988 - 1995. The variables included were a set of internal factors, general economic conditions, taxation laws, regulation indexes, structure of the sector, and enabling factor of legal institutions. The result asserted that reduced margins and profits are caused by increased competition and increased bank asset to GDP ratios. The result also classified the banks into foreign owned banks, which got higher profit, and the domestic owned banks, which received lower levels of profit as compared to the foreign in the case of developing countries. Whereas the opposite is true in wealthy countries.

(Merin, 2016) Examined the profitability of 6 banks in Ethiopia using financial data from the banks for the years 2004 to 2014. Fixed effect panel regression analysis was employed in the study, with ROA as the endogenous factor and capital, loan, asset size, liquidity ratio, labour productivity ratio, overhead cost, asset quality, and revenue from non-core activities as the exogenous factors. The results from the statistical outputs showed that asset size, capital, labour productivity, liquidity, and other revenue jointly have the major impact on banks' performance as assessed by ROA, according to the fixed effect panel regression result. The remaining factors had a considerable negative effect on profitability.

(Samad A. , 2004) Looked into seven locally incorporated commercial banks' performance in the Gulf from 1994 to 2001. To assess the credit quality, profitability, and liquidity performances, financial ratios were used. The performance of the seven commercial banks was evaluated in comparison to Bahrain's banking sector, which served as a benchmark. The statistical significance of the performance metrics was assessed using a Student's t-test in the article. The findings showed that Bahrain's commercial banks were significantly less lucrative, liquid, and susceptible to credit risk than the banking sector as a whole, of which wholesale banks make up the majority.

The balance sheets and income statements of a sample of Islamic banks were analysed by Bashir (1999, 2000, & 2001), who focused on the correlation between profitability and the banks' attributes. He discovered that the capital and loan ratios are an increasing function of the profitability metric. The study also emphasizes the empirical importance of proper capital ratios and loan portfolios in determining the success of Islamic banks. Customers, short-term borrowing, non-interest-earning assets, and other factors all help to boost the profit of Islamic

banks. He looks at the factors that affected the performance of Islamic banks in eight Middle Eastern nations from 1993 to 1998 in the year 2000. Profitability and efficiency were predicted using both internal and external factors. When the macroeconomic environment, the state of the financial markets, and taxation are taken into account, the results demonstrate that increased leverage and high loans-to-asset ratios result in higher profitability. Additionally, according to the research, foreign-owned banks are more profitable than domestic ones. Additionally, there is proof that taxes have a negative effect on bank profitability. Finally, profitability is positively impacted by the macroeconomic environment and stock market growth (Bashir, 2001).

The elements within and outside the bank that affected the success of seven banks in Ethiopia were examined by (Ayele, 2012) using 2002 to 2011 data. The study used panel data regression-based econometric analysis. “ROA, ROE, and NIM” were used as dependent variables in the study. The regression result demonstrated that factors such as capital sufficiency, bank size, GDP level, and managerial effectiveness have favourable effects on ROA. In contrast, managerial effectiveness, GDP and bank size have a significant positive impact on the ROE measure. The outcome also supported the notion that liquidity has a detrimental effect on ROE. According to the NIM model's findings, both adequate capital and high-quality assets negatively affect profitability. The macroeconomic factors influence NIM in a favourable way.

(Amene, 2019) (Amene, 2019) examined the elements influencing the performance of seven privately owned banks in Ethiopia. Panel regression testing including general and internal characteristics was used in the research to look at the profitability of the selected banks between 2006 and 2015. The study used the dependent variables "ROA, ROE, and (EVA)" to measure profitability. The statistical examination of the elements unique to banks shows that capital sufficiency has a positive impact on ROA and a negative impact on ROE and EVA. ROA suffers because of the asset quality aspect. Additionally, management effectiveness had a detrimental effect on all profitability parameters. Liquidity and bank size have a beneficial impact on all measures of bank profitability. GDP is one general factor that influences ROE and EVA in a positive way.

(Ahmed, 2011) In his research of the financial performance of seven Jordanian commercial banks, employed ROA as an indication of the success of banks and identified the size of the

bank, managing capacity of the assets, and managerial effectiveness as three exogenous factors affecting ROA. He concluded that there was a strong negative correlation between ROA and managerial effectiveness and bank size, but a positive correlation between ROA and asset management ratio.

According to (Belayneh, 2011), The profitability of banks is significantly impacted by factors unique to each bank, such as capital backup of the bank, the size of their asset, loan portfolio, ability to raise sufficient deposits, other income, noninterest expense, and credit risk. He applied financial information from seven commercial institutions, including significant public and private banks, during 2001 - 2010. Market concentration and GDP growth are two macroeconomic factors that favourably impact bank profitability in Ethiopia, according to his research. In order to determine the profitability of the banks in Ethiopia, the endogenous variable in this study was the return on assets (ROA).

(Mulualem, 2015) In the research, the CAMEL was used to analyse the financial performance of banks in Ethiopia. The sample included 14 commercial banks during the study period between 2010 and 2014. CBB came in last, according to the findings of his investigation. And, BIB, LIB, and WGB were ranked in the first, second and third. He employed a "fixed effect regression model" to look at how the internal factors affected profitability of the sampled banks under the study. The overall findings indicate that, with the exception of capital adequacy, which is not significant for endogenous but significant for asset quality for ROE, earnings and liquidity have strong positive relationships with profitability and are statistically significant, whereas asset quality and management efficiency have negative relationships with both profitability measures.

To illustrate the factors influencing the financial performance of commercial banks in Kenya (2001–2010), (Ongore, 2013)) used explanatory statements based on secondary data collected from published statements accounts of all commercial banks in Kenya for ten years. RoA, RoE, and OCE were employed as dependent variables; explanatory variables included capital adequacy, asset quality, management effectiveness, and liquidity management; and macroeconomic factors included GDP growth rate and inflation rate. The results of the study demonstrated that the performance of commercial banks is highly impacted by capital adequacy, asset quality, and managerial effectiveness. Liquidity does not, however, have a significant impact on how well commercial banks perform.

Dakito (2015) used the CAMEL technique and descriptive and econometric analysis to analyse the performance of 8 commercial banks over the period of 2000–13. The results demonstrated that NIB performed well overall. Additionally, he used the GLS regression model to examine the connection between capital adequacy and financial performance. The regression analysis revealed a strong correlation between adequate capital and bank performance.

Using the CAMEL model, Ermias (2016) assessed the financial performance of six senior private commercial banks over the years 2000–2014. According to the study, UNB, NIB, and BOA have consistently ranked first through third using the CAMEL model composite ranking system. The results also showed that 67.5% of changes in the profitability of Ethiopia's private commercial banks were influenced by bank-specific characteristics included in the CAMEL model.

(Jha, 2012) also utilized the CAMEL model to compare the financial success of Nepalese commercial banks by figuring out what factors affected success. They calculated the effects of the Return on Assets (ROA) and Return on Equity (ROE) ratios, the capital adequacy ratio, the non-performing loan ratio, the interest expenditures to total loan, the net interest margin, and the credit to deposit ratio using regression models. While capital adequacy ratio had a substantial impact on return on equity, return on assets was highly impacted by capital adequacy ratio, interest expenditures to total loan, and net interest margin. The conclusion of their research showed that while capital adequacy ratio had a substantial impact on return on equity, return on assets (ROA) was highly influenced by capital adequacy ratio, interest expenditures to total loan, and net interest margin.

The use of the CAMEL components to assess the health and profitability of commercial banks' finances using ROA, ROE, and NIM produced conflicting findings, as can be observed from the empirical literature review done above at the international as well as national levels. However, the CAMEL model better explained the determinants of banks profitability than other methods. As a result, this study used annual financial reports and the composite CAMELS ratings to assess privately owned banks' financial performance during a thirteen-year period (2010-2022)

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1 The Research Design and Approach

This section describes the research approach to be used, source of the data and the methodology used in analysis of the research. It also presents the population and sample of the study. The CAMEL Model, a recent breakthrough in the field of evaluating the financial performance of banks, is the research tool employed for the current study. The research used explanatory analysis, the CAMELS methodology/financial ratio approach, and measurement, analysis, and ranking to determine the performance of the selected private commercial banks in terms of profitability. A balanced Panel Ordinary Least Square (OLS) regression model will be used to more precisely identify the key variables affecting profitability of commercial banks.

3.2 Population Size

Commercial banks operating nationwide are the study's target demographic in Ethiopia, which are providing banking services to the public. The largest sized private banks are taken into consideration. These include AIB, DB, BOA, CBO, NIB and HB.

3.3 Data Types & Sources

The study will rely mainly on secondary sources of data, particularly publicly available audited financial records of the top six private commercial banks. Key financial ratios are calculated using annual data for commercial banks between 2010 and 2022 data will be used in order to evaluate for both the explanatory as well as for econometric analysis in the performance of the institutions.

3.4 Size of sample and Sampling Method

The whole 29 private commercial banks were eligible to participate in the study's population. The top six banks among these, measured by the bank's assets, were selected using the purposive sampling method. These six banks are thought to provide the data required for the investigation. As a result, the sample comprised the AIB, DB, BOA, CBO, NIB, and HB.

3.5 The Research Variables

Return on Asset is the only endogenous variable in this study. There would be six exogenous variables, these includes; capital sufficiency, the quality and composition of the banks' asset, the effectiveness and efficiency of the management, earning quality, liquidity management as well as and size of the banks' assets.

3.5.1 The Dependent/Endogenous Variable

Return on assets (LROA)

Return on asset, a metric of a bank's profits, is the dependent/endogenous element expressed in logarithmic form. ROA is computed by dividing the average ratio of net profits before tax with total assets (Ongore, 2013). The ROA indicates a bank's ability to generate profit from all of its resources. This indicator, thus, demonstrates how profitably a commercial bank employs its resources. An increase in ROA is regarded as a rise in efficiency and profitability.

3.5.2 Independent/Exogenous Variables

The Ratio of Capital Adequacy (LCAP)

"The Capital Adequacy Ratio in the logarithm form is calculated by dividing the banks total capital with its total asset". Large values of the variable capital adequacy (CAR), will result in to strong banks. The strength of the bank intends to rise with the capital adequacy ratios (CAR) level. Therefore, it is expected that capital adequacy ratio will have a positive impact on the dependent variable (ROA). Extremely high CAR, however, suggests that the bank is conservative and has not used all of its capital to the fullest extent possible

Asset Quality (LAQL)

The quality of assets expected to impact bank's performance. The health of the assets in a certain bank shows the repayment situation of borrowers including credit risk. This can be computed as a ratio of proportion of provision of for doubtful loan set aside as reserve in case of default risk to the total loan portfolio (Baral, 2005). The logarithm form of this ratio is used in the study and the expected sign of the result of asset quality computed by taking this ratio is negative.

This idea is also seconded by Baral and he said that one of the key elements anticipated for success is asset quality. The condition of the assets in a specific bank reveals the borrowers' ability to make payments as well as their level of credit risk. This can be calculated as a ratio of the proportion of the overall loan portfolio to the provision for uncertain loans set aside as a reserve in case of default risk (Baral, 2005). The study uses this ratio in its logarithmic form, and the result of asset quality derived from this ratio is predicted to have a negative sign.

Management Effectiveness (LMEF)

It is possible to define the effectiveness in the management as the capacity of the management to maintain the daily activities of banks while managing risks. Additionally, sustaining the institution's health and soundness necessitates following all applicable regulations. The bank manager's capacity to effectively manage the bank's resources, maximize profit, and cut costs can be partially demonstrated by the financial ratio. As a gauge of management effectiveness, the study examined the bank's operating profit to total revenue ratio. The management will be more effective at running the bank and generating income if the ratio value is higher. In this study, it is anticipated that managerial effectiveness will have a favourable impact on ROA.

Earning Quality (LEQL)

The quality of earnings in a bank is often calculated by looking at how much net interest income a particular asset generates. Higher values suggest that there is a chance that the operations of the commercial banks involved in this study will result in higher earnings.

Liquidity (LLIQ)

Banks need to manage and balance their liquidity in order to avoid mismatch in their operation. The performance of the bank will be negatively affected if there is no adequate liquidity to respond to unexpected withdrawals of cash. On the other hand excess liquidity will make expose the banks to interest expense and affect their performance negatively. Hence, banks need to manage liquidity so that they could maintain the balance between shortage in liquidity and interest expenses. The expected sign of liquidity can be positive or negative depending on the liquidity management performance of the bank (Dawit, 2016). To analyze the impact of this variable on performance, a liquidity ratio (measured in logarithmic

form) that represents a percentage of customer deposits to the bank's total assets was included.

Size (LASET)

The effect of size on bank performance is a contentious topic among researchers, as it is with many other factors. The biggest banks operate at an extent that enables them to more easily provide more specialized banking products, leading to better profitability. Banks need to have enough capital to satisfy borrowers' credit requests. However, major institutions will experience problems with inefficiency. Total bank asset is taken into account as an indicator of size in this research. In this study, it is anticipated that size, as defined by total assets of commercial banks in logarithmic form, will have a beneficial impact on banks' performance as assessed by ROA.

3.6 Model Specification

The specification of the model is given as;

$$Yi = \partial + \beta iXi + \varepsilon i \qquad (1)$$

The equation can be explained as:

Yi = is the dependent/endogenous variable and it is the profitability index of the bank i;

Xi= the set of explanatory variable for to be included in the econometric model;

βi = the set of parameters to be estimated using the observed data;

∂ = the intercept term of the model; and

εi = the stochastic white noise variable which captures all unobserved variables which will potentially affect the dependent variable.

The model is described in equation 2 below using the logarithm of Return on Asset "LROA" as the dependent variable and the CAMEL variables "LCAP, LMEF, LEQL, LASET, and LLIQ" as the independent variables.

$$ROA = \beta_0 + \beta_1 LCAP + \beta_2 LAQL + \beta_3 LMEF + \beta_4 EQL + \beta_5 LASET + \beta_6 LLIQ + \in \qquad (2)$$

CHAPTER FOUR

4. DISCUSSION OF THE RESULTS

4.1 Explanatory Ranking Analysis

The explanatory analysis section presents analysis on "CAMEL" variables of the sample banks using ratio analysis by accompanying tables. Based on the analysis result the ranking of banks will be assessed and presented in the summary tables.

4.1.1 Capital Adequacy

Banks must have sufficient capital to safeguard themselves against all potential risks, including credit, market, and operational risk, which may develop during the operation of the business. It is also employed as a gauge of internal resilience. Table 1 shows the capital adequacy ratio computed for the sample banks for the period 2010 to 2022. Accordingly, the result showed that NIB, HB and AIB have the highest mean capital adequacy ratio during the study period with the annual average CAR of 15.3%, 11.7 % and 11.51%. According to (Vong, 2006) higher CAR are always associated with highest profitability and moderate risk in their business activities.

Table 1: Capital Adequacy Ratio

"Total Capital/Total Asset"

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	12.74	10.06	11.40	**3**
BOA	11.39	10.86	11.13	**5**
CBO	11.59	8.79	10.19	**6**
DAB	10.69	11.96	11.32	**4**
NIB	17.01	13.29	15.15	**1**
HIB	12.01	11.33	11.67	**2**

Source: Own computation

4.1.2 Asset Quality

Summary comparison asset quality indicator for banks over the study period is shown in Table 2. The bank's capacity to tolerate asset loss is shown by its asset quality. The non-performing loan ratios are used in this indicator, which uses the percentage of suspicious loans to gauge the soundness of the banks' assets. When calculating the asset quality indicator, the segregated fund for such loan losses or the provision for loan loss reserve is taken into account. Summary result from the ranking analysis showed that in terms of asset quality the best performer from the group is DB with 1.49 followed by HB (1.53) and NIB with 1.97. In this indicator, CBO is ranked last with the ratio of 2.55 percent.

Table 2: Asset Quality Ratio

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	2.79	1.40	2.09	**4**
BOA	2.98	1.32	2.15	**5**
CBO	2.56	2.54	2.55	**6**
DAB	2.01	0.98	1.49	**1**
NIB	2.74	1.20	1.97	**3**
HIB	2.13	0.94	1.53	**2**

Source: Own computation

4.1.3 Effectiveness of the Management

Efficiency in management in handling its operations is one of the key components in a bank's performance. Table 3 presents management efficiency of the sample banks calculated by dividing operating profit with total income. Higher ratio values testify to the management's ability to optimize profit per unit of revenue. Hence, DB ranked first in management efficiency followed by AIB and NIB. BOA and CBO performed as 5^{th} and 6^{th} rank respectively, in management efficiency criterion.

Table 3: Management Efficiency

(Operating profit /Total Income Ratio)

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	44.26	36.72	40.49	**2**
BOA	36.94	23.94	30.44	**5**
CBO	36.48	21.53	29.01	**6**
DAB	60.69	44.77	52.73	**1**
NIB	45.38	28.57	36.98	**3**
HIB	39.56	23.48	31.52	**4**

Source: Own computation

4.1.4 Earning Ability

One of the key aspects that affects how well banks perform is earning capacity. It is often calculated by looking at how much net interest income a particular asset generates. The study divided total loans and advances by net interest income to determine the sample institutions' earning capacity. Higher values suggest that there is a chance that the operations of the commercial banks involved in this study will result in higher earnings. NIB, HB and CBO stood in the first, second and third ranking respectively, based on earning quality. Whereas, BOA, AIB and DB stood in the fourth, fifth and sixth ranking, respectively.

Table 4: Earning Quality

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	6.26	8.65	7.46	**5**
BOA	7.00	8.10	7.55	**4**
CBO	7.99	7.55	7.77	**3**
DAB	5.66	7.55	6.61	**6**
NIB	7.99	8.84	8.41	**1**
HIB	7.42	8.31	7.86	**2**

Source: Own computation

4.1.5 Adequate Liquidity

Managing the liquidity status of the bank is the critical function in banks' activities. Banks must maintain a balanced cash position by avoiding excessive or insufficient cash usage. Liquidity is determined in this analysis by dividing the total asset by the aggregate deposit. This ratio gauges the liquidity of cash available to depositors. Higher levels of this indicator indicate that the bank's liquidity status are superior than others. The result in table 5 presented that taking the 13 years' average ratio, the best performers in terms of availing liquidity are BOA, DB, and CBO ranked first, second and third respectively. Whereas, HB, AIB and NIB took the fourth, fifth and sixth rank, respectively.

Table 5: Liquidity

"Deposit to Total Asset Ratio"

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	76.90	78.44	77.7	**5**
BOA	82.02	82.53	82.3	**1**
CBO	74.16	85.14	79.6	**3**
DAB	80.52	79.00	79.8	**2**
NIB	72.99	80.27	76.6	**6**
HIB	79.02	80.13	79.6	**4**

Source: Own computation

4.1.6 Bank Size

Table 6 presents the mean value of total asset by bank for the study period. The sum of Asses which is total asset of bank is considered as a measure of size in this research. A number of studies consider size if there are growing returns to scale in banking, this will be a key factor in determining bank performance. According to this study, a larger asset is thought to contribute positively to profitability because of the advantage of economies of scale. Based on this, AIB, DB and BOA are ranked first, second and third respectively. On the other hand, CBO, HIB and NIB took the fourth, fifth and sixth rank.

Table 6: Bank Size

Total Asset "in millions of Birr"

Name of Bank	Average			Rank
	2010-2016	2017-2022	2010-2022	
AIB	17,083.54	95,542.19	56,312.87	**1**
BOA	10,532.73	67,799.09	39,165.91	**3**
CBO	6,282.41	56,303.05	31,292.73	**4**
DAB	19,940.41	69,395.11	44,667.76	**2**
NIB	10,048.01	39,930.05	24,989.03	**6**
HIB	10,843.11	41,695.30	26,269.20	**5**

Source: Own computation

4.2 Econometric Analysis

4.2.1 Variables Descriptive Statistics

Table 7 provides a comprehensive overview of the variable summaries used in the econometric study. This provides an overall description with respect with respect to the dependent and independent variables, their respective values of mean, minimum, maximum values and standard deviations. The results demonstrate how bank-specific attributes and profitability assessments of ROA have changed throughout 78 observations from 2010 to 2022. The findings show that ROA ranges from a lowest of -1.043 and the highest was 1.598, the average value for this variable was 0.966. All of the variables had modest standard deviation levels and relatively few outlier data points. LCAP and LMEF average values for bank-specific profitability drivers are 2.457% and -1.059%, respectively. While the averages

for LASET, LAQL, LEQL, and LLIQ are respectively 10.1%, -4.081%, 2.007%, and -0.607%, having deviations from the mean of 0.987%, 0.559 %, 0.188%, and 0.906%.

Table 7: Variables Descriptive Statistics

	LROA	LCAP	LMEF	LASET	LAQL	LEQL	LLIQ
Mean	0.966	2.457	-1.059	10.009	-4.081	2.007	-0.607
Median	0.999	2.466	-1.022	9.974	-4.068	2.054	-0.233
Maximum	1.598	2.916	-0.326	12.119	-2.603	2.393	-0.134
Minimum	-1.043	2.063	-3.374	7.478	-6.113	1.451	-3.203
Std. Dev.	0.336	0.184	0.433	0.987	0.559	0.188	0.906
Skewness	-2.728	0.240	-1.931	-0.009	-0.444	-1.004	-2.109
Kurtosis	17.478	3.190	11.594	2.547	4.620	3.996	5.668
Jarque-Bera	777.941	0.865	288.473	0.668	11.096	16.319	80.962
Probability	0.000	0.649	0.000	0.716	0.004	0.000	0.000
Sum	75.311	191.642	-82.602	780.740	-318.301	156.575	-47.319
Sum Sq. Dev.	8.704	2.609	14.440	75.070	24.081	2.719	63.211
Observations	78	78	78	78	78	78	78

Source: Own computation using Eviews 9

4.2.2 Units Root Test

Verifying the stationarity of the variables is the first stage in assessing an econometric analysis. Non-stationary variables are known to have different means at various times in time, and their variance rises as sample size increases. Non-stationary data will produce erroneous regression as a result. When this occurs, the Durbin Watson (DW) statistic value is very low, the coefficient of determination (R2) is very nearly one, and the t-values of the coefficients are highly significant. The assessment of the coefficient thus got inaccurate. Therefore, in order to prevent the problem of spurious regression, it is crucial to determine whether stationarity exists in the series (Granger, 1974).

Utilizing the Levin, Lin, and Chu, Im, Pesaran, and Shin, Augmented Dickey-Fuller, and PP-Fisher tests, Table 8's panel data unit root test checking is done. The findings in

Table 8 demonstrated that the model's variables were identified as stationary at the first difference in the applied tests, which ruled out the existence of a unit root.

Table 8: Panel Data Unit Root Test Results

Variables	At level				At first Difference				Order of Integration
	Levin, Lin & Chu t*	Im, Pesaran and Shin W-stat	ADF – Fisher Chi-square	PP – Fisher Chi-square	Levin, Lin & Chu t*	Im, Pesaran and Shin W-stat	ADF – Fisher Chi-square	PP – Fisher Chi-square	
LROA	0.025	0.224	0.337	0.343	0.133	0.026	0.041	0.000	(I_1)
LCAPA	0.107	0.232	0.325	0.376	0.091	0.060	0.095	0.000	(I_1)
LMEF	0.001	0.385	0.432	0.716	0.120	0.022	0.032	0.000	(I_1)
LASET	1.000	1.000	1.000	1.000	0.300	0.363	0.493	0.002	(I_1)
LAQL	0.002	0.061	0.093	0.000	0.015	0.020	0.026	0.000	(I_1)
LEQL	0.000	0.002	0.003	0.004	0.303	0.000	0.001	0.000	(I_1)
LLIQ	0.833	0.872	0.963	0.386	0.392	0.029	0.012	0.000	(I_1)

Source: Own computation using Eviews 9

4.2.3 Fixed effects and Random Effects Testing- Haussman Test

A hausman test has been utilized to select the best model for the study by comparing fixed and random effect models. The ideal model in this test is random effects as opposed to the alternative, fixed effects (Hausman 1978). The regression result shown in table 9 indicated to reject the superiority of the random effect model has a probability value of 0.000. As a result, the results indicate that fixed effect regression is suitable for the model and will be performed using a fixed effect model.

Table 9: Hausssman Test: Correlated Random Effect Results

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	55.232006	5	0.0000

Source: Own computation using Eviews 9

4.2.4 Model Diagnostic Tests

Table 10 presents the test result of correlation between the residuals of the panel regression results. The existence of cross section dependence between the residuals will make the results of the regression to have inefficient estimate and invalid statistics. The regression's outcome is shown in the table. 11 confirmed that The Pesaran CD test, the Breusch-Pagan LM test, the Pesaran scaled LM test, and the bias-corrected scaled LM test. The outcome demonstrated that at all levels of significance for the tests, the null hypothesis that there is no cross-sectional dependence is accepted. As a result, the model's output is suitable for statistical analysis

Table 10: Residual Cross-Section Dependence Test

Null hypothesis: No cross-section dependence (correlation) in residuals
observations: 78

Test	Statistic	d.f.	Prob.
"Breusch-Pagan LM"	21.22906	15	0.1297
"Pesaran scaled LM"	0.041820		0.9666
"Bias-corrected scaled LM"	-0.208180		0.8351
"Pesaran CD"	-0.602850		0.5466

Source: Own computation using Eviews 9

4.3 Fixed Effect Model Regression Analysis

Table 11 displays the outcomes of a fixed effect model with the profitability of banks' ROA as a dependent variable and bank-specific independent variables performance criteria of capital sufficiency, management effectiveness, bank size, asset quality, and liquidity. The model's overall significance, as indicated by the F statistic of 46.5, indicates that all of the

independent factors collectively have an impact on the endogenous variable, which is ROA. As a result, the model is sufficient to explain how endogenous and exogenous variables relate to one another. According to the adjusted R^2 result, the model can account for 87 percent of the variability in return on asset.

Table 11 Fixed Effect Model Results of the Panel Regression

Dependent Variable: LROA

Independent Variable	Variable Coefficient	Standard Error	t Statistic	Probability
LCAPA	0.143929	0.131552	1.094080	0.2779
LMEF	0.875808	0.049133	17.82518	0.0000
LASET	0.091893	0.025701	3.575515	0.0007
LLIQ	0.016468	0.041617	0.395710	0.6936
LAQL	0.067283	0.037568	1.790978	0.0779
LEQL	0.242009	0.125352	1.930631	0.0578
C	0.107226	0.448922	0.238851	0.8120

Specification of the Effects

"Cross-section fixed (dummy variables)"

"R-squared	0.880743	"Mean dependent var	0.965530
Adjusted R-squared	0.860867	S.D. dependent var	0.336216
S.E. of regression	0.125410	Akaike info criterion	-1.173815
Sum squared resid	1.038030	Schwarz criterion	-0.811244
Log likelihood	57.77878	Hannan-Quinn criter.	-1.028671
F-statistic	44.31157	Durbin-Watson stat"	1.929260
Prob(F-statistic)"	0.000000		

Source: Own computation using Eviews 9

4.4 Panel Regression Results Discussion

Capital adequacy's Impact on ROA

Internal variable capital adequacy and profitability, as assessed by ROA, have a positive association, as shown by the outcome of the OLS fixed effect model regression can be seen in table 11. However, probability value of 0.278 percent indicates that capital adequacy has little impact on the result. The outcome is in agreement to previous research of (Hailu, 2019) and (Ayele, 2012) on banks. This research outcome contradicts the claim of (Vong, 2006) for Macao banks and (Belayneh, 2011) on Ethiopian commercial banks.

Management Effectiveness and ROA

The management's effectiveness and ROA are positively and significantly correlated as indicated in table 11. The coefficient for this variable is 0.875 percent. According to the findings, commercial banks' management efficiency is likely to improve ROA by 0.87 percent for every 1% increase. For Ethiopian banks, the result supports that of (Ayele, 2012). However the result doesn't support the results of (Shah, 2014), (Chowdhury, 2016), (Merin, 2016), (Amene, 2019) and (Mulualem, 2015) which conclude the profitability and managerial effectiveness have an adverse relationship.

Asset Quality and ROA

Asset Quality's Effect on Return on Asset was shown in Table 11. It was confirmed by the probability value of 0.007 that the significance of this variable in deciding profitability. In other words, citrus-paribus, a one percent rise in the asset quality would result in a 0.067 percent gain in ROA and at a 10% level, statistically significant. The study's findings are consistent with earlier research on Pakistani banks by (Khizer, 2011) Ethiopian banks by (Amene, 2019), and Jordanian banks by (Ahmed, 2011). Nevertheless, the outcome goes against the study conducted by (Merin, 2016) for Ethiopian banks, it concluded that the profitability impact of asset quality was minimal. On the other hand, the findings conflict with those of (Ayele, 2012), who discovered a negative association between the two variables.

Earnings ability and ROA

According to Table 11, that Earnings efficiency, “calculated by dividing Net Interest Income by total Income” was 0.242 with a probability of 0.05, indicating that this variable significantly affects return on asset. Citrus-paribus, the coefficient indicates that a percentage rise in earning potential will result in a 0.24 percent increase in bank profitability. These findings are consistent with earlier research conducted on Ethiopian commercial banks by (Amene, 2019) and on Iranian banks by (Ebrahimi, 2017).

Liquidity management's Impact on ROA

Although the correlation between the banks liquidity and ROA is direct, Table 11's summary results showed that, it is insignificant when compared to the other factors, signifying that additional profits will be lost by keeping more liquid assets and therefore reduce the ROA. The study's conclusions doesn’t support the significant effect of liquidity on profitability on the conclusion of studies by (Ebrahimi, 2017), (DemirgucKunt, 1999), (Mulualem, 2015) and (Hailu, 2019).

The Impact of Bank Size on ROA

ROA and asset size variables are positively related and this relationship is confirmed by the result statistics in Table 11 above. Bank size has a positive coefficient of 0.09 and its Probability value is reported as 0.0007. The result can be interpreted as citrus paribus, a 1 percentage point improvement in investment of the commercial banks, will increase their profitability by 0.1 percent. Therefore, as banks grow in size, they will benefit from economies of scale, which will lower their cost per unit and boost their profitability. This finding was supported by earlier research by (Khizer, 2011), (Merin, 2016) and (Ayele, 2012). However the result contradicts with the result of (Shah, 2014).

CHAPTER FIVE

5. FINDINGS SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Main Results

The research intends to empirically measure as well as determinant variables which impact the business profitability of sampled six operating banks in the country specially focusing with internal ones. The study also attempts to rank them based on the results of ratio analysis. The research will rely mainly on secondary sources of data, particularly publicly available audited financial records of the top six private commercial banks. Key financial ratios are calculated using annual data for commercial banks between 2010 and 2022 data will be used in order to evaluate for both the explanatory as well as for econometric analysis. the performance of the institutions.

The study measured, analysed, and ranked using explanatory analysis, assess the achievements of the chosen private commercial banks through CAMELS methodology/financial ratio approach. To further pinpoint the primary factors influencing the performance, a balanced Panel Ordinary Least Square (OLS) regression model.

The population included in this research are banks licenced in Ethiopia which are providing banking services to the public. The largest sized private banks are taken into consideration. These include: AIB, DB, BOA, CBO, NIB and HB.

The research relied mainly on secondary sources of data, particularly publicly available audited financial records of the top six private commercial banks. Key financial ratios are calculated using annual data for commercial banks between 2010 and 2022 data used in order to evaluate for both the descriptive as well as for econometric analysis.

All the 29 commercial banks were eligible to participate in the study's population. The top six banks among these, measured by the bank's assets, were selected using the purposive sampling method. These six banks are thought to provide the data required for the investigation. As a result, the sample comprised the AIB, DB, BOA, CBO, NIB, and HB. ROA was the endogenous variable of this study. There were six exogenous variables which

includes capital adequacy, the size of the asset, the quality of their asset, the efficiency of their management, revenue performance as well as liquidity.

explanatory analysis result showed that NIB, HB and AIB have the largest mean adequacy of capital in the time under consideration with annual average CAR of 15.3%, 11.7 % and 11.51%. In terms of asset quality, the best performer from the group was DB with 1.49 followed by HB (1.53) and NIB with 1.97. With regard to management efficiency DB ranked first in management efficiency followed by AIB and NIB. While on earning quality, NIB, HB and CBO were the first, second and third performers. BOA, DB, and CBO ranked first, second and third on liquidity record respectively. Finally, AIB, DB and BOA are ranked first, second and third respectively on bank size of asset measurement.

The fixed Effect Model Regression Analysis result is sufficient to explain how endogenous and exogenous variables relate to one another. According to the adjusted R^2 result, the model can explain about 87 percent of the variability in return on asset. The model's overall significance, as indicated by the F statistic of 46.5, indicates that all of the independent factors collectively have an impact on the endogenous variable ROA. As a result, the model confirmed to be sufficient to explain how endogenous and exogenous variables relate to one another.

Regression of the Panel result demonstrated that capital sufficiency and ROA are positively and significantly correlated. Besides, Management Efficiency has a large positive impact on profitability of the institutions under consideration. The coefficient for this variable is 0.875 percent. Asset Quality has also positively affected return on asset with a probability of 0.07 percent. Net interest income divided by total income yields a coefficient of earnings ability of 0.242. with a probability of 0.05, indicating that this variable significantly affects return on asset. Despite being positive, the coefficient of liquidity is not particularly important. factor to affect profitability in the sampled banks. The statistical finding supports the notion that a significant predictor of profitability is the asset size of banks.

5.2 Conclusion

This research has assessed the extent of "bank-specific characteristics" in affecting Ethiopian banks profitability. The largest 6 "commercial banks" were sampled in applying balanced panel data regression during 2010 to 2022

The explanatory analysis result showed that NIB, HB and AIB were toping up in "mean capital adequacy ratio" in the review period with annual average CAR of 15.3%, 11.7 % and 11.51%. In terms of asset quality, the best performer from the group was DB with 1.49 followed by HB (1.53) and NIB with 1.97. With regard to management efficiency DB ranked first in management efficiency followed by AIB and NIB. While on earning quality, NIB, HB and CBO stood as the lead, second and third ranking respectively. BOA, DB, and CBO ranked first, second and third on liquidity record respectively. Finally, AIB, DB and BOA are ranked first, second and third respectively on bank size of asset measurement.

In this study, "management efficiency, size, asset quality, earning quality" and "liquidity" are incorporated as endogenous/bank specific factors. The statistical results of the finding suggest that "capital adequacy, management efficiency, asset size and earning quality" are the most important variables in determining the "profitability of Commercial banks" providing financial service in Ethiopia. However, variables such as "capital adequacy, asset quality and liquidity" are not significantly affecting profitability as compared to other variables.

5.3 Recommendation

- The regression result confirmed how management efficiency is significantly affecting banks profitability. Therefore, we recommend that banks need to work on improving their operational efficiency through increasing productivity, cost minimization and revenue generation. In addition, how big the bank is another significant variable that determine profitability. The larger the bank, the more it gets strength to engage in diversified products and services. Banks will also take advantage of "economies of scale" in which they distribute fixed expenses through large number of revenue derivatives. This fact will raise the need for merger of small banks.

- Size of asset also has significant impact on banks' profitability. Larger size banks with a large number of branches, digital bank users, and agent banks will have a potential to mobilize significant amount of deposit from the market share. Ultimately this opportunity creates for the big size banks to avail large sum of funds as "loans and advances" to their debtors. As main asset of banks are loans and advances book balance, the significant part of the banks total income is generated from the interest income.

- Banks need to focus on their main income generating capacity through disbursing loans than using depositors' money for other income generating assets and investments such as building branches, headquarters, or commercial buildings for rent. Money used for loan disbursement has rollover advantage through customers' loan repayment. Whereas, money invested in fixed assets limit the money circulation.

- Earning quality which is peroxide by "a ratio of net interest income to total income" resulted to affect return from asset significantly. In order to increase revenue generation from net interest income, banks need to mobilize resource from cheap sources of deposit. Currently fixed time deposits are becoming expensive to commercial banks compared to savings and demand deposits. Hence, banks need to focus in mobilizing relatively cheaper deposits through opening up of new branches to reach the unbanked population through digital banking and agency banking.

- The central bank as a regulatory body as well, need to design and implement a system that enables it to follow up management efficiency and earning quality of banks, in addition to the existing prudential requirements.

Bibliography

A., M. (2016). Determinants of Bank Profitability, An Empirical Study on Private Commercial banks. *Addis Ababa University, A Masters Thesis*.

Abbas, F. T. (2012). A comparison of financial performance in the banking sector: Some evidence from Pakistani commercial banks. *Journal of Business Administration and Education*, 1(1).

Abreu, M. &. (2002). Commercial bank interest margins and profitability: Evidence from EU countries.

Ahmed, A. (2011). Financial Performance Evaluation of Some Selected Jordanian Commercial Banks. *International Research Journal of Finance and Economics*.

Ali, A. M. (2021). Effect of Leverage on Earnings Quality Among commercial Banks in Kenya. *Thesis Research, University of Nairobi*.

Ali, K. A. (2011). Bank-specific and macroeconomic indicators of profitability-empirical evidence from the commercial banks of Pakistan. *International Journal of Business and Social Science*, 235-242.

Almazari, A. A. (2011). Financial performance evaluation of some selected Jordanian commercial banks. *International Research Journal of Finance and Economics*, 68(8), 50-63.

Amene, T. B. (2019). Determinants of financial performance in private banks: A case in Ethiopia. *African Journal of Business Management*, 13(9), 291-308.

Athanasoglou, P. P. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of international financial Markets, Institutions and Money*, 18(2), 121-136.

Avkiran, N. K. (1994). Developing an instrument to measure customer service quality in branch banking. *International journal of bank marketing*, 12(6), 10-18.

Ayele, H. N. (2012). Determinants of bank profitability: An empirical study on Ethiopian private commercial banks. *Unpublished MBA Project, Addis Ababa University*.

Baral, K. J. (2005). Health check-up of commercial banks in the framework of CAMEL: A case study of joint venture banks in Nepal. *Journal of Nepalese Business Studies*, 2(1), 41-55.

Bashir, A. H. (2001). Assessing the performance of Islamic banks: Some evidence from the Middle East. *Topics in Middle Eastern and North African Economies*, 3.

Belayneh, H. (2011). Determinants of commercial banks profitability: an empirical study on Ethiopian commercial . *Published Master project. Addis Abeba University*.

Benton E. Gup, J. W. (2005). *Commercial Banking, The Management of Risk.* New York: John Wiley & Sons, Inc.

Berger, A. N. (1997). Efficiency of financial institutions: International survey and directions for future research. *European journal of operational research*, 98(2), 175-212.

Beyene, A. (n.d.). Analysis of Financial Performance of Selected Commercial Banks in Ethiopia. *M.A. Thesis, Addis Ababa University*, 2022.

Chowdhury, M. A. (2016). Determinants of performance of Islamic banks in GCC countries: Dynamic GMM approach. *Advances in Islamic finance, marketing, and management* , pp. 49-80, Emerald Group Publishing Limited.

Dang, U. (2011). The CAMEL rating system in banking supervision. A case study.

Dawit, F. (2016). Determinants of commercial banks financial performance in Ethiopia. *A thesis. Department of Accounting and Finance College of Business and Economics Addis Ababa University, Addis Ababa, Ethiopia*.

DemirgucKunt, A. a. (1999). Determinants of commercial bank interest margins and profitability: . *World Bank Economic Review*, 13, 379-408.

Ebrahimi, S. K. (2017). The impact of CAMEL indexes on profit management in banks listed on Tehran Stock Exchange. *International Review of Management and Marketing*, 7(2), 421-429.

Ethiopia, N. B. (n.d.). *nbe.gov.et*.

Getahun, M. (2015). Analyzing financial performance of commercial banks in Ethiopia: CAMEL Approach. *Addis Ababa University, Masters Thesis*.

Gidey, B. (1987). *Currency and Banking in Ethiopia.* Addis Ababa.

Granger, C. W. (1974). Spurious regressions in econometrics. *Journal of econometrics*, 2(2), 111-120.

Hailu, B. (2019). Financial performance of private commercial banks in Ethiopia: . *Jimma University, MSC Thesis Research*.

Jha, S. &. (2012). A comparison of financial performance of commercial banks: A case study of Nepal. *African Journal of Business Management*, 6(25), 7601.

Kapil, S. &. (2005). CAMEL'Ratings and its Correlation to Pricing Stocks—An Analysis of Indian Banks. *The IUP Journal of Bank Management*, 4(1), 64-78.

Khizer, A. M. (2011). Bank-Specific and Macroeconomic Indicators of Profitability - Empirical Evidence from the Commercial Banks of Pakistan. *International Journal of Business and Social Science, Volume 2*.

Kiyota, H. (2011). Efficiency of commercial banks in Sub-Saharan Africa: A comparative analysis of domestic and foreign banks . *WIDER Working Paper.*, (No. 2011/58).

Kumar, M. S. (2013). A CAMEL model analysis of state bank group. *World Journal of Social Sciences*, 3(4), 36-55.

Lacewell, S. K. (2001). Are all banks rated equitably? The association between bank characteristics, efficiency, and financial performance. *Mississippi State University*.

Lelissa, T. B. (2007). The Impact of Financial Liberalization on the Ownership, Market Structure and Performance of the Ethiopian Banking Industry. *MBA thesis, Addis Ababa University*.

Levine, R. (1997). Financial development and economic growth: views and agenda. *Journal of economic literature*, 35(2), 688-726.

Melaku, A. (2016). Determinants of Bank Profitability, An Empirical Study on Ethiopia Private Commercial Banks. *Addis Ababa University Masters Thesis*.

Merin, M. A. (2016). Determinants of bank profitability in Ethiopia: A case study of private commercial banks. *Research Journal of finance and Accounting*, 7(7), 28-43.

Molyneux, P. a. (1992). Determinants of European bank profitability: A note. *Journal of banking & Finance 16.6*, 1173-1178.

Mulualem, M. A. (2015). Analyzing Financial Performance of Commercial Banks in Ethiopia . *(Master thesis).Addis Abeba University*.

Naceur, S. B. (2003). The determinants of the Tunisian banking industry profitability:Panel evidence. *Universite Libre de Tunis* , working papers, 10.

National Bank of Ethiopia. (2008). Asset Classification and Provisioning. *Directives No SBB/43/2008*.

Olweny, T. &. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.

Olweny, T. &. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.

Ongore, V. O. (2013). Determinants of financial performance of commercial banks in Kenya. *International journal of economics and financial issues*, 3(1), 237-252.

Prasad, K. V. (2012). Evaluating performance of public and private sector banks through camel model. *Asian Journal of Research in Banking and Finance*, 2(3), 36-46.

Ranajee, B. B. (2018). Factors influencing profitability of banks in India. *Theoretical Economics Letters*, 8(14), 3406-3061.

Rousseau, P. L. (2013). Monetization, financial development, and growth: time series evidence from 22 countries in Sub-Saharan Africa. *World Development, 51*, 132-153.

Samad, A. &. (2006). The performance of Malaysian Islamic bank during 1984–1997: An exploratory study. *International journal of Islamic financial services*, 1(3).

Samad, A. (2004). Bahrain commercial bank's performance during 1994-2001. *Credit and Financial Management Review*, 10(1), 33-40.

Sangmi, M. U. (2010). Analyzing financial performance of commercial banks in India: Application of CAMEL model. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 4(1), 40-55.

Shah, S. Q. (2014). Analysis of financial performance of private banks in Pakistan. *Procedia-Social and Behavioral Sciences*, 109, 1021-1025.

Simwaka, K. M. (2012). Financial development and economic growth in Malawi: an empirical analysis. *Banks and Bank Systems*, 7(3), 85-96.

Smirlock, M. (1985). Evidence on the (non) relationship between concentration and profitability in banking. *Journal of money, credit and Banking*, 17(1), 69-83.

Teker, S. T. (2011). Measuring commercial banks' performances in Turkey: A proposed model. *Journal of Applied Finance and Banking*, 1(3), 97.

Tibas. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1-30.

Valencia, F. &. (2008). Systemic banking crises: A new database. *IMF Working Papers*, 2008(224).

Vong, P. I. (2006). Determinants of Bank Profitability in Macao. *The 30th Anniversary of Journal of Banking and Finance Conference, Beijing*.

Annex I: Haussman Test for Fixed Effect Model

"Correlated Random Effects - Hausman Test

Equation: EQ01

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	55.232006	5	0.0000

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LCAPA	0.249407	0.259331	0.007528	0.9089
LMEF	0.851610	0.693072	0.001017	0.0000
LASET	0.108504	0.080807	0.000176	0.0369
LAQL	0.042643	0.090344	0.000101	0.0000
LLIQ	0.017874	-0.038295	0.001495	0.1463

Cross-section random effects test equation:

Dependent Variable: LROA

Method: Panel Least Squares

Date: 05/24/23 Time: 21:04

Sample: 2010 2022

Periods included: 13

Cross-sections included: 6

Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.353394	0.397701	0.888592	0.3774
LCAPA	0.249407	0.122058	2.043346	0.0450
LMEF	0.851610	0.048404	17.59366	0.0000
LASET	0.108504	0.024659	4.400123	0.0000
LAQL	0.042643	0.036178	1.178710	0.2427
LLIQ	0.017874	0.042423	0.421326	0.6749

Effects Specification

Cross-section fixed (dummy variables)"

“R-squared	0.874181	“ Mean dependent var	0.965530
Adjusted R-squared	0.855403	S.D. dependent var	0.336216
S.E. of regression	0.127849	Akaike info criterion	-1.145895
Sum squared resid	1.095144	Schwarz criterion	-0.813538
Log likelihood	55.68990	Hannan-Quinn criter.	-1.012847
F-statistic	46.55130	Durbin-Watson stat”	1.838690
Prob(F-statistic)”	0.000000		