The effects of Electronic Banking on bank Performance of selected Commercial Banks in Ethiopia

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DECLARATION

I hereby declare that this research proposal "*effect of e-banking on banks performance: A Study on Selected Commercial Banks in Ethiopia",* has been carried out by me under the guidance and supervision of Ato Eshetu Yadecha and Ato Erko Teferi.

     Researcher's Name   Date   Signature

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This is to certify that the research proposal entitles "the effects of Electronic Banking on bank Performance of selected Commercial Banks in Ethiopia",submitted to Jimma University for the award of the Degree of Master of Business Administration (MBA) and research work carried out by Ato Tegenu Hailu, under our guidance and supervision.

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     Co-Advisor's Name   *Date*   *Signature*

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Abstract

Electronic banking is the use of electronic and telecommunication networks to deliver a wide range of value-added products and services to the bank customers. The main objective of this study was to examine the effect of electronic banking (as measured by POS, ATM, & Mobile Banking) on financial performance of selected commercial banks in Ethiopia. The specific objective is to measure the impact of *electronic banking performance on ROA and ROE. The targeted population of the study was 8 commercial banks in Ethiopia. The study employed quantitative research design using secondary data extracted from annual reports of banks and their respective websites. Both descriptive and inferential statistics, such as Pearson correlation analysis, linear regression model & panel data were used to analyze the data.*

The study found that there was positive association between the value of ATM and POS terminal transaction with return on equity (ROE). While the association between value of mobile bank transaction and return on equity (ROE) is found insignificant. With regard to ROA, the study found that value of ATM transaction has negative and significant linear relationship.

The significance test of the models shows an overall explanatory power of the regression as 74.2 and 58.8 percent of variation in the ROE & ROA respectively, indicating that the combined effect of the e-banking services in this research is statistically significant in explaining the performance of commercial banks in Ethiopia. However, the statistical significance is different for each e-banking component and coefficients of the control variables tested and therefore if banks are to have meaning contribution to ROE & ROA, they should espouse to the multifaceted forms of e-banking services.

Based on this summary of findings, the following main conclusions are drawn from the study. Except Mobile Banking, most of e-banking services (POS & ATM banking) have positive and significant relationship on performance to the ROE, whereas value of ATM has negative and significant relationship. However, the relationship between value of Mobile & POS have found in significant on ROA. This implies, an increase in all these e-banking services/products have very weak performance impact in terms of their contribution to the profit (except POS) and the investment made to them as measured by ROA of selected commercial banks in Ethiopia. Hence, the study recommends that banks should maintain and give due attention to promote and increase the use of POS product that has positive performance to their profitability, while giving special emphasis to improve on the sluggish performance of mobile banking, so as to enhance their contribution to the ROE. On the other hand, banks should strive their best so as to maintain a balance between the investment on all their e-banking service/products and the return on asset (ROA), so as to make the investment made on these products worthy enough. Moreover, they need to measure the impacts of e-banking service/products to their financial performance & strive to deter the bearings before pursuing on adopting the technologies that are both negative and weak in terms of their profitability and investment contribution.

Keywords: *Electronic banking; commercial banks; ROE; ROA*

Acknowledgment

First and foremost, I would like to forward my sincere thanks to my family for giving me a great help in doing this task and I would also like to acknowledge the input of my supervisor; main advisor: Ato Eshetu Yadecha and Co- advisor Ato Erko Teferi

List of acronyms

E-banking: Electronic Banking

ROE: return of equity

ROA: return on asset

ICT: Information and Communication Technology

IT: information technology

ATM: automatic teller machine

E-channels: electronic channels

POS: Point of sale

S.C. Share Company

TAM: Technology Acceptance Model

SMS: Short Message Service

PC: Personal computer

PIN: Personal identification number

NBE National Bank of Ethiopia

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The banking sector nowadays has used and equipped a new technology to provide its customer with a faster service, to reduce waiting delivery time and to operate their account without visiting the branch counter. According to Steven, (2002), Electronic banking is the use of electronic and telecommunication networks to deliver a wide range of value added products and services to bank customers. In relation with this subject, Ovia, (2001) argued that Electronic banking is a product of e-commerce in the field of banking and financial services. Furthermore, FinCen, (2000) stated that electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution.

Now a day, business environment is very dynamic and attained rapid changes as a result of technological development, increased understanding and demands that banks serve their customers by electronic means. In the 21st century, banking business operates in a complex and competitive environment characterized by these changing conditions and highly volatile economic climate. Information and Communication Technology (ICT) is at the centre of this worldwide change curve of Electronic Banking System. In the same token, Managers in the banking industry in Ethiopia cannot overlook Information Systems because they play a critical impact in current banking system.

Kalakota and Winston (2009) arguably indicated that e-payment systems are becoming central to online business process innovation, as companies look for ways to serve customers faster and at lower cost. In line with this, Chhabra (2009) suggested that electronic payment systems are being used in air ticketing, insurance, banking, retail, health care, and online markets. The development of e-banking services is able to reduce the incidences of long queues in banking halls.

The payment industry in Ethiopia over the last few years has been transformed with the new wave of IT advancements. Currently the use of cash to some extent has been started

to replace by digital service. One of the reasons for the limited empirical studies in Ethiopia is that the introduction of electronics is relatively new in the country. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concern to all banks. Certainly, it is a must for local and global for competing and to maintain sustainability in banking industry. Hence, the advancement in technology has played a significant role in improving banking service delivery standards in the banking industry.

1.2. Statement of the Problem

In many banks throughout the world e-banking is now the focal area of bankers because it reduces the cost of doing transactions, increases customer satisfaction, attracts new customers, makes transactions faster than before, creates new markets and enhances service quality to a better banks' performance. For this reason, banks are intended to adopt the new technologies. Even though the expansion of e- banking throughout the developed and the developing world is rapid in Ethiopia is still at an embryonic stage and using this technology is still very limited.

Electronic banking system has a great impact on bank performance because they increase profitability, reduce bank cost of operations, and increase bank asset and bank efficiency (Nagango, 2015). Electronic banking has made banking transaction to be easier by bringing services closer to its customers hence improving banking industry performance (Josiah and Nancy, 2012)

Leyouager (2015) conducted a research about the impact of electronic banking service quality on customer service and bank performance using secondary data are analyzed using multiple linear regression models for the two bank performance. The study employed multi stage cluster sampling technique to select the required sample. The finding shows that the adoption of electronic banking significantly influenced ROA and also its finding stated that electronic banking has statistically significant contribution to return on asset but the finding shown on ROE is that ROE is not significantly by electronic banking.

Solomon (2016) conducted a research about the role of electronic banking on financial performance by selecting 10 banks for the period covering from 2013-2015. He has examined the roles of e-banking on return on assets and used secondary data. The study showed e-banking service has a positive role on financial performance of commercial banks.

There exist a number of empirical studies concerning the impact of adoption of e-banking on the performance. Some scholars observed positive impact (Ezkel and Alaleaken (2016), Onay,et.al. (2008, Daneshvar & Rammesh (2012) some observed negative

(Leyouager (2015), Muta, (2010) while other researchers have drawn mixed conclusions. (Journal of Business Economics and Management, 2016,)

This clearly indicates that, there exist no one conclusive result that can be drawn and hence signaling there is still a need to conduct a customized research to the context of the target groups.

To the researcher knowledge there is very limited empirical evidence on the effect of electronic banking on profitability of Commercial Banks in Ethiopia and also adequate research has not made on the effect of e-banking on bank performance. One of the reasons for the limited empirical studies in Ethiopia is that the introduction of electronics is relatively new. Moreover, the research they conducted time is long and does not show a clear picture compared to current situation. It is simply because at the time of the research the Ethiopian banks was at infant stage with this specific service, most of the bank have not started e-banking service, the number of users and the number of transactions are incomparable with current situation. And very little research has been undertaken in Ethiopia on the subject and also the research already conducted with limited banks. Furthermore, in my observation from the research I found they have not showed clearly the relationship between e-banking with ROA and ROE.

1.3. Research question:

On the basis of the above stated statement of the problem a research question is developed to answer; what is the impact of e-banking towards ROE and ROA of commercial banks?

1.4. Objective and research questions, hypothesis

General Objective of the study

➢ The general objective of the study is to investigate the effect of electronic banking on the performance of selected Commercial Banks in Ethiopia.

Specific Objectives

✓ The effect of ATM, POS and Mobile on electronic banking on ROA.
✓ The effect of ATM, POS, and Mobile on electronic banking on ROE

Research Hypothesis

The primary research question should be given by the hypothesis rather than the data. That is, the research question and hypothesis should be developed before the start of the study. Based on this fact, the researcher used to employ hypothesis. These hypotheses are predictions about the outcome of the results. Accordingly, the followings are hypothesis to be tested based on selected variables.

Hypothesis 1: Value of the transaction of POS terminals has significant effect on ROA of commercial Bank in Ethiopia

Hypothesis 2: Value of the transaction of POS terminals has significant effect on ROE of commercial Bank in Ethiopia

Hypothesis 3: Value of the transaction of ATM has significant effect on ROA of Commercial Bank in Ethiopia

Hypothesis 4: Value of the transaction of ATM has significant effect on ROE of Commercial Bank in Ethiopia

Hypothesis 5: Value of transaction of mobile banking activities has significant effect on ROE of commercial Bank in Ethiopia

Hypothesis 6: Value of transaction of mobile banking activities has significant effect on ROE of commercial Bank in Ethiopia

1.5. Importance of the study

The outcome of this study will provide a factual information and demonstration the relationships between electronic banking service and bank performance. This study will have great benefit to banking industry since the study relies on both the effect of e-banking on ROA and ROE. This means most of Ethiopian researchers have conducted either ROA or ROE. Furthermore, the study will have benefit to researchers, and other beneficiaries. Finally, the study may add to serve as one of the literatures in the area of academics who would be undertaken similar projects.

1.6. Scope and limitation of the Study

The study carried out in Ethiopia and covered 8 commercial banks in Ethiopia in order to assess the banks performance as a result of implementing e-banking service. The financial performance of banks measured using profit after tax, return on asset and return on equity. The study employed secondary data collected from 8 commercial banks in Ethiopia. Accordingly, the required data for 5 years covering 2014/15 – 2018/19 collected to assess the effects of e-banking on the financial performance of the Ethiopian commercial banks. The basic limitation of the study is that it is limited to majority of the commercial banks in Ethiopia that implement E-banking services. This might have some affects to the full accomplished of the goal of this research.

1.7. Organization of the paper

The study is organized into five chapters: the first Chapter deals with the Foundation of the Study, Statement of the problem, general and specific objectives of the Study, Research Questions related to the objectives, Relevance of the Study and Scope of the study. The second Chapter focuses on literature review extracted from relevant textbooks, diaries, websites and other reference sources. The third Chapter will explain the research design and research methodology and analysis and data interpretations in chapter four. The final chapter presents summary, Conclusion and recommendation of the study.

CHAPTER TWO

LITERATURE REVIEW

2. Introduction

This chapter contains the literature related with e-banking. Accordingly, the review of the literature is divided into two parts. The first part discusses the theoretical foundation for the study, while the second part presents the empirical studies. Under the theoretical Review of related literature, the concept of Electronic banking, overview of Financial Performance, the effect of E-banking on financial performance of Commercial Banks, Theory of Financial Intermediation, Innovation Diffusion Theory, Technology Acceptance Model, Benefits and Challenges of Adoption of E-Banking, Types of E-banking is presented. The review of empirical studies is done on the e-banking on bank performance, and the gaps that necessitate this study.

2.1. Theoretical Review of Related Literature

2.1.1. Electronic banking

The concept of e-banking is a delivery channel for banking services. Banks have used electronic channels for years to communicate and transact with both domestic and internationally bodies. The development of Internet and the World Wide Web (WWW) in the latter half of the 1990s, has made banks to modernize their services; using electronic channels for receiving instructions and delivering their products and services to their customers. This form of banking is generally referred to as e-banking or Internet banking, although the range of products and services provided by banks over the electronic channel vary widely in content, capability and sophistication. According Simpson 2002, the term "e-banking" refers to a method of banking through which customers are able to carry out their banking transactions electronically without visiting a bank branch. Among other benefits, e-banking saves time, customers need not to visit the bank branch and banks have the opportunity to enhance their customer base thereby experience improved profits (Okibo and Wario 2014).

To clarify further, E-banking means a system through which financial service providers, customers, individuals and businesses are able to access their accounts, do transactions and obtain latest information on financial products and services from public or private networks, such as the internet.

2.1.2. Financial Performance

Financial Performance is measuring the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, value added, etc This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

One of the benefits banks derive from electronic banking products and services delivery is improved efficiency and effectiveness of their operations so that more transactions can be processed faster and most conveniently, which will undoubtedly impact significantly on the overall performance of the bank. The use of e-banking can contribute to improve bank performance, in terms of increased market share, expanded product range, customized products and better response to client demand (Kariuki, 2005).

2.1.3. Effect of E-Banking on Financial Performance of Commercial Banks

Commercial banks assaulted by the pressure of globalization and competition from nonbanking functions must find new ways to add value to the services. The question "what drives performance?" is at the top in understanding superior performance and hence striving for it. Substantial research efforts have gone into addressing this question, starting from the strategic level and going down to operational details. Customers in developing economies seems to keep the "technological factors" of services as the yardstick in differentiating good and bad services and the human factor. The variation in services offered by the banks develops the excellence for service quality. Banking is no longer regarded as a business dealing with money transaction alone, but it also seem as a business related to information on financial transaction (Padwal, 1995). Several innovative IT based services such as Automated Teller Machines (ATM), Internet banking, Mobile and POS banking, Anywhere-Anytime banking have provided a number of convenient services to the customer so as the

service quality improves, the probability of customer satisfaction increases as the result the performance of the bank will also increase.

E-banking is an improvement over traditional banking system because it has reduced the cost of transaction processing, improved the payment efficiency, financial services and the banker-customer relationship.

2.1.4. Theory of Financial Intermediation

Financial intermediaries exist mainly because they can reduce information and transaction costs that arise from an information asymmetry between borrowers and lenders. Electronic banking has long been recognized to play an important role in economic development on the basis of their ability to create liquidity in the economy through financial intermediation between savers and borrowers. It also offers financial services and products that accelerate settlement of transactions and in the process reduce cash intensity in the financial system, encourage banking culture, and catalyses economic growth (Al-Gahtani, 2001).However, for the effective functioning of the financial system, the payment systems must be safe and efficient; otherwise they can be a channel for the transmission of disturbances from one part of the economy or financial system to others. This is why central banks have been active in promoting sound and efficient payments system and in seeking the means to reduce risks associated with the system (Al-Gahtani, 2001).

2.1.5. Innovation Diffusion Theory

According to Rogers, 1995 as cited by Juddy Maiyo (2009) new information technologies represent innovations for potential adopters: "an idea, practice, or object that is perceived as new by an individual or other unit of adoption. An innovation is an idea practice, or object that is perceived as new by an individual or other unit of adoption. One popular and enduring conceptualization of innovation adoption behavior is Rogers' theory of the diffusion of innovations. A common problem for many individuals and organizations is how to spped up the rate of diffusion of an innovation (Rogers 2003). Information about the existence of an innovation, as well as its characteristics and features, flows through the social system within which adopters are situated. Potential adopters engage in information seeking behaviors to learn about the expected consequences of using the innovation.

Diffusion is the process by which an innovation is communicated through certain channels overtime among the members of a social system. Diffusion therefore is a special type of communication in which the messages are concerned with a new idea. It the newness of idea in the message content of communication that gives diffusion its special character. In other words, diffusion is a kind of social change, defined as the process by which alteration occurs in the structure and function of a social system. Hence, diffuse an innovation into a system is a challenge.

2.1.6. Technology Acceptance Model

One of the well-known models related to technology acceptance and use is the technology acceptance model (TAM), originally proposed by Davis in 1986. Davis (1989) argues that "people adopt an application primarily because of the functions it performs and secondarily because of ease or difficulty associated with making the system perform these functions". According to (Legris, Ingham, & Collerette, 2003) as cited by Juddy Maiyo (2009), TAM has proven to be a theoretical model in helping to explain and predict user behavior of information technology. TAM provides a basis with which one traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system.

2.1.7. Benefits and Challenges of Adoption of E-Banking

E-banking provides many advantages for banks and customer's. It has made life much easier and banking much faster for both customers and banks. Okiro and Ndungu (2013) indicated that electronic serves numerous purposes in the modern financial system. The benefit for the banks offering e-banking services for its better responsiveness to the market. Those banks that offer such services would be apparently leaders in applying such technology in the banking services they deliver. To that end, self-service feature of E-Banking can greatly enhance banks operational efficiency. It is helpful on increasing banking transaction at the same time making continually lower operational costs of the bank. The main advantages of e-banking for customers are reduced costs in accessing and using the banking services and also

provide convenience and speed. The advantage of applying e-banking is able to provide much faster for both customers and banks, saves time spent, and provides ways for international banking and others. On the other hand, the challenges associated with e-banking service from among are: language Barriers, since e-payment system instruments provide a service only in a limited language. And localization efforts of banks have made tremendous costs, time and energy to invest which add up to the costs of E-banking application procurement. Due to the fact that Electronic Banking needs telecommunication services such as Mobile network connectivity and Internet service, it has made implementing the service challenging here in third world with no adequate IT Infrastructure. Also, Electric Power Interruption, Lack of Awareness and others have been challenges on delivering the service with anticipated quality.

2.1.8. Types of E-banking

The common types of e-banking include the following:

a. **Mobile Banking**

Mobile banking involves the use of mobile phone for settlement of financial transactions. At the core of such service mobile money and mobile wallet are pillars of payment services. Services availed under this product are customer account enquiry, funds transfer, air time recharge, changing of passwords and making bill payments.

b. **Electronic funds transfers (EFT)**

According to Bahia, (2007) Electronic funds transfer is the electronic exchange or transfer of money from one account to another, through computer-based systems. Electronic Funds Transfer (EFT) is also a system of transferring money from one bank account directly to another without any paper money changing hands. The growing popularity of EFT for online bill payment is paving the way for a paperless universe where checks, stamps, envelopes, and paper bills are obsolete. Electronic funds transfer (EFT) involves electronic transfer of money from one bank account to another, either within a single financial institution or across multiple institutions, via computational infrastructure, without the direct intervention of human power.

c. POS Banking

It is a system that uses a computer terminal located at the point of sales transaction so that the data can be captured immediately by the computer system. It is also a retail payment system that substitutes an electronic transfer of funds for cash, cheques or drafts in the purchase of retail goods and services (Gerlach, 2000). Furthermore, Eric Bank dated March 2018 stated that A POS system is a combination of software and devices that merchants use to record and complete sales transactions. Old-style manual cash registers have been replaced almost entirely by these automated systems at checkout registers in stores, restaurants, theaters and everywhere else that accepts debit cards.

d. Internet banking

According to Egland et al., 2008, Internet banking, sometimes called online banking, is an outgrowth of PC banking. Internet banking uses the Internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances, paying mortgages, and purchasing financial instruments and certificates of deposit. And also England et al., (2008), define a "true Internet bank" as one that provides account balances and some transactional capabilities to retail customers over the World Wide Web.

e. ATMs An automated teller machine (ATM),

An automated teller machine (ATM) is an outlet for making transaction without intervention of human casher or teller. Transactions such as cash withdrawals, deposits, transfer funds, or obtaining account information, at any time are supported. ATM is a computerized telecommunications device that provides the clients of a financial institution with access to financial transactions in a public space without the need for a cashier, human clerk or bank teller. According to Thompson (1997), authentication is provided by the customer entering a personal identification number (PIN).

2.2. Empirical literature Review

Ezekiel and Alaleaken (2016) conducted study on 'Impact of Electronic Banking on Bank Performance in Ekiti State, Nigeria' by utilizing data collected from 128 top bank management in Ekiti state who were at the supervisory level of bank branches in Ado-Ekiti Metropoilis (bank managers, operational managers, customer officers and marketing managers) and found that electronic banking such as Automated Teller Machine (ATM), Mobile banking and Internet banking influences bank performance.

As cited by Tilahun Damtew (2016): According to Simpson (2002) suggests that e-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. A comparison of online banking in developed and emerging markets revealed that in developed markets lower costs and higher revenues are more noticeable. While Sullivan (2000) finds no systematic evidence of a benefit of internet banking in US click and mortar banks. Furst, et.al. (2002) explained that federally chartered US banks had higher Return on Equity (ROE) by using the click and mortar business model and also examined the determinants of internet banking adoption and observed that more profitable banks adopted internet banking after 1998 but yet they were not the first movers. The work of Dehghan (2015) that analyzed the profit efficiency of the private banks in Mashhad results indicated that internet banking, mobile banking, telephone banking, point of sale (POS), ATM, and electronic money transfers profoundly develop the efficiency of the banks. Further the findings indicated a significant relationship between the application of internet banking and ATM and the variable of profitability while there is no significant relationship between the application of telephone banking, mobile banking, POS, and electronic money and profitability.

On the other hand we look E-banking and ROA, the study conducted in Turkey by Onay,*et.al.* (2008) proved that the strong impact of internet banking on bank profitability. Moreover, the research indicated the estimated the effect of online banking activities on the three common determinants of bank performance, namely the return on assets, return on equity and return on the financial intermediation margin. Further, she found out that besides investment in e-banking being a gradual process, internet banking variable has had a positive

effect on the performance of the banking system in Turkey in terms of returns to equity only with a lag of two years.

The study conducted by Daneshvar & Ramesh (2012) on panel data of two public banks to examine impact of IT investments on profitability and productivity of Indian public sector indicated that investments on IT contributed to increased amount of deposits and ROA as profitability. Further the results suggested that the increasing use of internet as an additional channel of marketing banking services has significantly improved the financial performance of community banks.

Solomon (2016) investigated the Role of Electronic Banking on Financial Performance of Commercial Banks in Ethiopia by selecting ten banks for the period covering from 2013 – 2015. He has examined the roles of e-banking on return on assets and also he used secondary data employed. The study showed that increased number of ATM, POS and market share had a positive role on the financial performance of commercial banks with many banking institutions indicating that increased market share allowed a company to achieve greater scale in its operations which generally improved its profitability. However, Solomon worku 2016, does not consider the ROE in his research study. But as far as ROE is a true bottom-line profitability metric, comparing the profit available to shareholders to the capital provided or owned by shareholders it is advisable to assess its impact.

Leyouager (2015) investigated the impact of electronic banking service quality on customer service and bank performance; the case of Dashen Bank sc. The study used quantitative research approach and secondary financial data are analyzed using multiple linear regressions models for the two bank performance measures; Return on Asset (ROA) and Return on Equity (ROE.). On the basis of the regression analysis he indicated that the adoption of electronic banking significantly influenced ROA and also its finding stated that electronic banking has statistically significant contribution to return on asset. With regard to return on equity, the finding shown; ROE is not significantly influenced by electronic banking.

To the researcher knowledge there is very limited empirical evidence on the effect of electronic banking on performance of Commercial Banks in Ethiopia and also adequate research has not made on the effect of e-banking on bank performance and even the research

they conducted time is long and does not show a clear picture compared to current situation. It is simply because at the time of the research the Ethiopian banks was at infant stage with this specific service, most of the bank have not started e-banking service, the number of users and the number of transactions are incomparable with current situation. And very little research has been undertaken in Ethiopia on the subject and also the research already conducted with limited banks. Furthermore, Some of the researcher did not see the impact of e-banking performance with regard to return on equity and also they have not showed clearly the relationship between e-banking with ROA and ROE.

Conceptual Framework

A conceptual framework is necessary to develop on how the relation between e-banking and financial performance of the banking industry is correlated and the direction between the pairs.
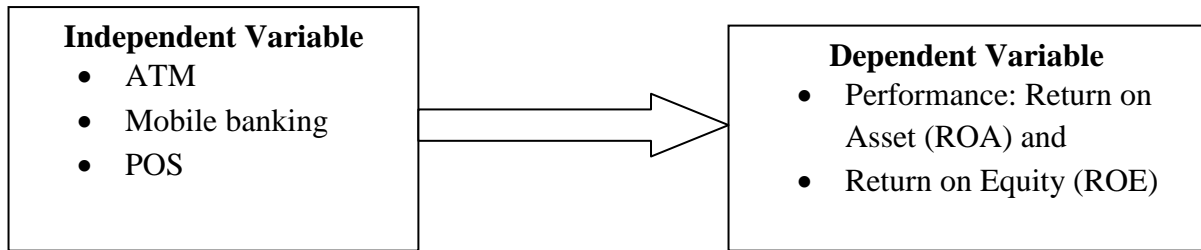
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter contains the methodology that was used to conduct the research. It describes the research design, the population, sample, data collection, model specification and how the data analysis was done.

2.3.   Research Design

A research design can be defined as a plan used for data collection and utilization in order to obtain desired information with accuracy or for a researcher to test their hypothesis sufficiently. According to Kothari (2008), research design is the conceptual structure within which research is conducted; it contains the mechanisms of data collection, variable measurement and analysis. The primary objective of this study is to examine the effect of electronic banking on bank's performance. To achieve this objective explanatory type of research design with a quantitative approach is used. The explanatory type of research design helps to identify and evaluate the causal relationships between variables under consideration Marczyk et., (2005). Hence, in this study the explanatory research design has been employed to examine the relationship of the stated variables.

The study used panel data regression model and conducted descriptive analysis, regression analysis and correlation analysis to analyze the impact of electronic banking on the performance of selected commercial banks of Ethiopia. The study employed the model indicated in the literature and used in different studies (Oyewole et al. 2013,Al-Smadi and Al-Wabel , 2011, Onay et al. 2008) to analyze the impact of electronic banking on the performance of banks.

2.4. Sampling & Sampling Techniques
2.4.1. Population of the Study

This section presents the population; sampling techniques adopted, and sample size along with the justifications.

According to Saunders et al, (2007, the whole set of the universe from which a sample taken is called the population. Target population refers to the larger population to which the researcher ultimately would like to generalize the results of the study Mugenda, (2003).

The target population of the study is 8 out of 17 commercial banks adopting e-banking service in Ethiopia. The reason for selected for these banks as sample simply because some have organized e-banking service report, availability of the required data, willingness to deliver the required information and their strong management information system.

2.4.2. Sampling Techniques

The study is by using purposive sampling technique. The reasons for selecting this method is based on the fact that the thirteen banks are the ones that have invested greatly in e-banking based on information available from their annual reports and apply ATM and POS among the seventeen commercial banks operating in Ethiopia.

2.4.3. Sample Size

The sample size is 8 of the target population. This indicates that the samples are representative enough to draw conclusion about the subject of the study. The lists of the samples are: Abay, Wegagen, Birhan, Commercial Bank of Ethiopia (CBE), Abyssinia, United, Awash, and Nib bank of which Commercial Bank of Ethiopia is state owned.

2.5. Source and Type of Data

There are two types of data, namely primary and secondary data. Researcher might use either both or one of the types of data depends on the research type and data collected by researcher Saunders et.al, (2007). Similarly, as Kothari (1990), Secondary data is data that are already available.

The study employed quantitative research approach by using secondary data gathered from audited financial statement, website of selected commercial banks, National Bank of Ethiopia periodic reports and financial reports for the period 2014/2015 - 2018/2019. This means, data on financial performance such as the size, capital, profit and liquidity and others are obtained from the audited financial statements of selected commercial banks reported on their annual report, so as to derive the required variables for the study.

2.6. Model specification

The study usedpanel data regression model to analyze the impact of electronic banking on the performance of selected commercial banks of Ethiopia. The study employed the model indicated in the literature and used in different studies (Oyewole et al. 2013,Al-Smadi and Al-Wabel ,2011, Onay et al. 2008) to analyze the impact of electronic banking on the performance of banks. The general regression model used to evaluate the relationship among dependent variable and independent variables specified as follow:

$$Y_{it} = \alpha_0 + \sum \alpha_k X_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where:

- Y_{it} represents the dependent variables (ROA and ROE) of firm *i* for time period *t*
- α is the intercept
- α_k represents the coefficients of the X_{it} variables
- X_{it} represents the explanatory variables including control variables
- ε_{it} is the error term

Using the dependent variable,return on asset (RoA) and return on equity (RoE) proxy measures of bank performance and independent variables (i.e other variables that captures electronic banking and control variables) the above model in equation (1) specified as:

$$ROE_{it} = \alpha_0 + \alpha_1 lnVATMT_{it} + \alpha_2 lnVPOST_{it} + \alpha_3 lnVMobBnkT_{it} + \alpha_4 lnSize_{it} +$$
$$\alpha_5 lnLiq_{it} + \alpha_6 \text{lnGDPg}_{it} +$$
$$\varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..(2)$$

$$ROA_{it} = \beta_0 + \beta_1 lnVATMT_{it} + \beta_2 lnVPOST_{it} + \beta_3 lnVMobBnkT_{it} + \beta_4 lnSize_{it} +$$

$$\beta_5 lnLiq_{it} + \beta_6 lnGDPg_{it} +$$

$$\varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

Where ;

1. ROE_{it} *is Return on equity of the ith bank at time t which* is measured by dividing the profit before taxation of the banks by capital of the bank and then multiplied by 100% to get a percentage return on equity.

2. ROA_{it} *is Return on assets of the ith bank at time t which* is measured by dividing the profit before taxation of the banks by their total assets and then multiplied by 100% to get a percentage return on assets.

3. $lnVATMT_{it}$ is the natural logarithm value of transaction of ATM machines of ith *bank at time t*

4. $lnVPOST_{it}$ is the natural logarithm value of the transaction of POS terminals of ith *bank at time t*

5. $lnVMobBnkT_{it}$ the natural logarithm of the value of transaction of mobile banking activities of ith *bank at time t*

6. $lnSize_{it}$ is a control variable which represents the natural logarithm of the total asset of the ith *bank at time t*

7. $lnLiq_{it}$ is a control variable which represents the natural logarithm of the ratio of total loan to total asset of thei^{th} *bank at time t*

8. $GDPg_t$ is a control variable representing Economic growth rate at time t

   $\alpha, \beta and$ are the coefficients of the explanatory variables and ε_{it} represents random error term.

2.7. Data Presentation and Analysis

Quantitative research method applied in this study to investigate the impact of electronic banking on the performance of selected banks. To analyze the collected data both descriptive statistics, correlation analysis and panel data regression analysis methods employed.

Descriptive statistic such as measures of central tendency and measures of dispersion are used to describe and to provide detailed information about the dependent and independent variables used in the study. In addition, pair wise correlation analysis used to measure the degree of linear association between the dependent variables and explanatory variables.

Moreover, panel data regression method is used to analyze the impact of electronic banking on the performance of selected banks. To decide between fixed or random effects model a Hausman test used. Further, post estimation tests such as normality test, tests for Heteroscedasticity and tests for Multi-collinearity conducted. SPSS version 23 software used to analyze the collected data.

CHAPTER FOUR

RESULT AND DISCUSSION

This chapter presents the descriptive statistics, Pearson correlation analysis, and panel data regression analysis of the study variables. The first section presents the descriptive statistics which summarizes the main features of the study variable with measures of central tendency and measure of dispersion. The second section presents the Pearson correlation analysis that shows the degree of association between the study variables. The third section presents different test results that associated to the linear regression model. The last section presents the regression analysis results of the fixed effect estimation.

4.1. Descriptive Statistics

The descriptive statistics in Table 4.1 presents the associations of the variables used in the study. The variables include the dependent, independent, and control variables. The dependent variables used in this study in order to measure the performance of banks are return on asset (ROA) and return on equity (ROE) whereas the explanatory variables are Value of ATM Transaction, Value POS Transaction and Value Mobile Bank Transaction. In addition to the main explanatory variables control variables such as Size (or Total asset), Liquidity and Economic growth are also included in the model.

Table 4.1. Descriptive statistics of variable used

Variables	Observation	Mean	Std. Deviation	Minimum	Maximum
Return on equity (ROE)	40	0.258	0.120	0.161	0.744
Return on asset (ROA)	40	0.027	0.007	0.014	0.046
Number of ATM machine	40	271	527	1	2642
Number of POS terminal	40	751	1800	0	7287
Number of Mobile Bank Users	40	272353	650017	16	3024668
Value of ATM Transaction in Eth Birr	40	1657770015	4660193628	119699	23,008,877,959
Value POS Transaction in Eth Birr	40	65915243	181244302	0	1,047,691,258
Value Mobile Bank Transaction in Eth Birr	40	471801319	1572399929	840	8,789,215,654
Number of Debt Card Issued	40	647429	1616359	0	7,996,494
Size(or Total asset in Eth Birr)	40	83789297998	173564996749	4171944423	711,963,827,023
Liquidity	40	0.22	0.06	0.08	0.41

Source: own computation using banks financial statement, 2014/15 – 2018/19

As shown in Table 4.1 above, from 17 banks that operates in Ethiopia, 8 banks that have five years (2015-2019) complete data on the variable of interest were considered. Following the eight sampled banks for five consecutive years makes the total observations 40. The average value of return on equity (ROE) for the sampled banks is 25.8 percent (mean = 0.258) with the maximum and minimum value of 74.4 and 16.1 percent respectively. The standard deviation of ROE is 12 percent from the mean value. This shows that the returns on equity of sampled banks deviated from the mean value by 12 percent. On the other hand, the average value of the sampled banks return on asset (ROA) is 2.7 percent (mean = 0.027). The value of ROE deviates by 0.7 percent from the mean value of the sampled banks.

On the sample period (i.e 2015-2019) the average number of ATM machines 271, the average number of POS terminals 751 and the average number mobile bank users is 272353. Moreover, the standard deviation of ATM machine, POS terminals and mobile bank users are 527,1800, and 650017 respectively. This means there is a large deviation between banks on the number of ATM machine, POS terminals and also on Mobile banking users.

Regarding the value of transaction with ATM, POS and Mobile Banking, the average value of ATM, POS and Mobile Banking are 1657770015, 65915243 and 471801319 birr respectively. While the standard deviation of ATM, POS and Mobile Banking is found to be 4660193628, 181244302 and 1572399929 respectively. This indicates that the Ethiopian banks are not at equal position in delivering e-banking service.

4.2. Correlation Analysis

The linear relationship of the independent variables with the financial performance (ROA and ROE) can be analyzed using Pearson correlation coefficient in order to determine the extent and direction of the linear relationship between explanatory variables and financial performance measures of the sampled banks as shown in table 4.2

Table 4.2 Correlation analysis

	ROE	ROA	lnVATMT	lnVPOST	lnVMobBakT	lnSize	lnLiqdty	GDPg
ROE	1							
ROA	0.400[*]	1						
lnVATMT	0.374[*]	-0.369[*]	1					
lnVPOST	0.493[**]	-0.270	0.889[**]	1				
lnVMobBakT	0.057	-0.131	0.437[**]	0.472[**]	1			
lnSize	0.527[**]	-0.350[*]	0.903[**]	0.903[**]	0.406[**]	1		
lnLiqdty	0.466[**]	-.0315[*]	0.875[**]	0.885[**]	0.415[**]	0.979[**]	1	
GDPg	0.155	0.226	-.0312[*]	-0.289	-0.482[**]	-0.273	-0.288	1

* significant at the 0.05 level (2-tailed)

** significant at the 0.01 level (2-tailed)

Source: Own computation using banks financial statement, 2014/15 – 2018/19

As shown in Table 4.2 above ROE and the explanatory variables have positive and significant linear relationship. The correlation coefficient 0.374 which is significant at 5 percent level of significance indicates the positive association between the value of ATM transaction and return on equity (ROE). Similarly, the correlation coefficient 0.493 which is significant at 1 percent level of significance indicates the positive association between the value of POS terminal transaction and return on equity (ROE). However, the correlation between the value of mobile bank transaction and return on equity (ROE) is insignificant.

On the other hand, the Return on Asset (ROA) and value of ATM have negative and significant linear relationship, as indicated by the correlation coefficient of (-0.369) at 5% level of significance. The implication is that, an increase in the value of ATM factor lead in the decrease in ROA. However, the relationship between value of POS transaction and mobile banking with return on asset (ROA) is found not significant.

4.3. Tests Associated to Linear Regression Model

Various diagnostic tests must carry out to ensure the validity of the basic assumptions of classical linear regression model and panel model estimation. For valid hypothesis testing and to make data available for reliable results, the test of assumption of regression model is required. Accordingly, the study has gone through the most critical regression diagnostic tests consisting of Normality, Multicollinearity, heteroskedasticity, and Hausman Specification test as presented in the following sub sections below.

4.3.1. Normality test

The Kolmogorov-Smirnov and Shapiro-Wilk tests used separately for the model ROE and ROA models to determine whether the distributions of the error terms were significantly different from that of the theoretical normal distribution. The result below shows the Kolmogorov-Smirnov and Shapiro-Wilk test for normality, if the test is not significant, then the data are normal. Hence, the p-value for both models is quite above the standard 5 percent level of significance indicating that the data is normally distributed.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Residual for ROE	.113	40	.200[*]	.962	40	.191
Standardized Residual for ROE	.113	40	.200[*]	.962	40	.191

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Residual for ROA	.129	40	.094	.971	40	.377
Standardized Residual for ROA	.129	40	.094	.971	40	.377

4.3.2. Tests for Hetroscedasticsity

To test the assumption for classical linear regression model is that the disturbances appearing in the population regression are homoscedastic that means the variance of the error term is constant. Both the Breusch-Pagan Test and the White Test for Heteroskedasticity conducted separately for the two models of this study. The result obtained from Breush- Pagan test confirmed there is no

Hetroscedasticsity but White's test result shows existence of Heteroskedasticity in the model ROE and ROA use d as dependent variable. To overcome the problem of Heteroskedasticity robust standard error estimation method used as observed in the table 4.3a and table 4.3b.

Breusch-Pagan Test for Heteroskedasticity

Chi-Square	Df	Sig.
34.204	13	.001

a. Dependent variable: ROE

White Test for Heteroskedasticity

Chi-Square	df	Sig.
40.000	39	.426

a. Dependent variable: ROE

Breusch-Pagan Test for Heteroskedasticity

Chi-Square	Df	Sig.
6.244	1	.012

a. Dependent variable: ROA

White Test for Heteroskedasticity

Chi-Square	df	Sig.
40.000	39	.426

a. Dependent variable: ROA

4.3.3. Tests for Multicollinearity

To diagnose the existence of multicollinearity problem, Variable Inflation Factor (VIF) technique is employed. The variance inflation factor (VIF) is a measure of the reciprocal of the inter-correlation among the predictors: VIF=1/(1-R-squred) .A variable whose VIF values are greater than 10 indicate the possible problem of multicollinearity. Thus, the results of VIF prevails that there is no multicollinearity problem.

4.3.4. Hausman Specification test for Fixed Effect Verses Random Effect Model

The Hausman specification test is the conventional test of whether the fixed or random effects model should be used. According to the Hausman specification test, fixed-effect model is most appropriate (i.e chi2(6) = 13.46, Prob > chi2 = 0.0363, in this case we reject the null hypothesis at 5 percent significance level and conclude the fixed effect is appropriate) for analyzing the impact of electronic banking on the performance of banks.

4.4. Regression Analysis

This section presents the results and discussions of the regression output that obtained from the two models. In order to examine the impact of electronic banking on the sampled banks financial performance, two panel data regression models were estimated. The fixed-effect panel data regression model is used in order to analyze the impact of explanatory variables on financial performance measures of selected banks in Ethiopia. Accordingly, Table 4.3a and Table 4.3b present regression results of the model that uses ROE and ROA as dependent variable respectively.

Table 4.3a Regression results when ROE is dependent variable

Parameter	B	Robust Std. Error	t-value	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
The dependent variable is Return on equity(ROE)						
Intercept	-1.205	2.720	-0.443	0.661	-6.797	4.387
lnVATMT	0.012	0.037	0.326	0.747	-0.064	0.089
lnVPOST	0.038**	0.011	3.370	0.002	0.015	0.062
lnVMobBakT	-0.031**	0.008	-3.667	0.001	-0.048	-0.013
lnSize	0.214*	0.096	2.216	0.036	0.016	0.412
lnLiqdty	-0.165*	0.073	-2.251	0.033	-0.315	-0.014
GDPg	1.940	1.846	1.051	0.303	-1.855	5.736
Abay bank	0.185**	0.066	2.827	0.009	0.051	0.320
Abyssinia bank	-0.210*	0.093	-2.258	0.033	-0.400	-0.019
Awash bank	-0.073	0.127	-0.580	0.567	-0.334	0.187
Birhan bank	0.216**	0.084	2.583	0.016	0.044	0.388
CBE	-0.009	0.317	-0.028	0.978	-0.660	0.642
NIB int.bank	0.012	0.030	0.389	0.700	-0.050	0.073
United bank	0.094**	0.040	2.336	0.027	0.011	0.177
Wegagen bank	0^b			.	.	.
R _Squared =	0.742					
AdjusR _ Squared	0.612					
F _statistics	5.739**			0.000		

0^b is reference category

* Significant at the 0.05 level

 ** Significant at the 0.01 level

Source: own computation using banks financial statement, 2014/15 – 2018/19

As shown in table 4.3a above, the overall explanatory power of the regression is 74.2 percent, which means the variables in the model explains 74.2% of variation in the ROE of the sampled banks for the sample period (2015-2019).The remaining 25.8 percent variations on return on equity (ROE) of banks which is not explained by the variables included in regression is explained by factors that are not included in the model.

Moreover, the overall significances of the models that indicated in the F statistics confirm that the overall significance of the regression estimation model. It indicates that the model is significant in explaining the relationship between profitability and e-banking at a 1% level of significance.

As revealed in the regression result, which indicated in table 4.3a above, there exists significant and positive effect of the value POS transaction on the performance of banks, which is measured by ROE, at 1 percent level of significance, which suggests that an increase in POS terminals associated with increase in ROE of commercial banks in Ethiopia. But there is a negative and significant effect of the value of mobile banking transaction on the financial performance of banks, that measured by ROE, which is significant at 1 percent level.

This result is consistent to the finding of (Hannington Odhiambo Ogare, (2013), there is positive effect of POS on financial performance of profitability of commercial banks of Kenya. This result is inconsistent with the finding of (OGUTU Mary* & FATOKI Olanrewaju Isola ,2019) POS has affected financial performance of commercial banks strongly and positively.

This result is consistent to the finding of (Hannington Odhiambo Ogare, (2013), there is positive effect of mobile banking on financial performance of profitability of commercial banks of Kenya. This result is inconsistent with the finding of (OGUTU Mary* & FATOKI Olanrewaju Isola ,(2019) mobile banking has affected financial performance of commercial banks strongly and positively.

Moreover, the coefficients of the control variables also prevailed mixed results, bank size that is measured by total assets of bank and ROE have positive and significant effect on ROE at 5% level of significance.

Table 4.3b Regression result when ROA is dependent variable.

Parameter	B	Robust Std. Error[a]	t-value	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
The dependent variable is Return on asset (ROA)						
Intercept	-0.162	0.212	-.0764	0.452	-.598	.274
lnVATMT	0.001	0.003	0.223	0.825	-.006	.008
lnVPOST	0.001	0.001	1.169	0.253	-.001	0.003
lnVMobBakT	-0.001**	0.000	-2.894	0.008	-.002	0.000
lnSize	0.007	0.008	0.924	0.364	-.009	0.024
lnLiqdty	7.223E-5	0.004	0.020	0.984	-.007	0.007
GDPg	0.252***	0.123	2.047	0.051	-0.001	0.506
Abay bank	0.015*	0.005	3.079	0.005	0.005	0.025
Abyssinia bank	-0.013*	0.007	-1.955	0.061	-0.027	0.001
Awash bank	-0.009*	0.009	-1.084	0.288	-0.027	0.008
Birhan bank	0.015***	0.008	2.045	0.051	-7.683E-5	0.031
CBE	-0.028	0.023	-1.221	0.233	-0.074	0.019
NIB int.bank	-0.002	0.003	-0.546	0.590	-0.007	0.004
United bank	-0.003	0.004	-.727	0.474	-.010	0.005
Wegagen bank	0[b]	.	.	.	.	.
R _Squared =	0.588					
AdjusR _ Squared	0.383					
F _statistics	2.859*			0.011		

0[b] is reference category

* is is significant at the 0.05 level

** is is significant at the 0.01 level

*** is is significant at the 0.1 level

Source: own computation using banks financial statement, 2020

As shown in table 4.3b above, the overall explanatory power of the regression is 58.8 percent, which means the variables in the model explains 58.8% of variation in the ROA of the sampled banks for the sample period (2014/15-2018/19). The remaining 41.2 percent variation on return on asset (ROA) of banks which is not explained by the variables included in regression is explained by other factors that are not included in the model. Moreover, the overall significances of the models that indicated in the F statistics confirm that the model is well fitted at 5 percent significance level.

The regression result indicated in table 4.3b above reveals that there exists a significant negative effect of the value of mobile transaction on the performance of banks which is measured by ROA at 1 percent level of significance. This implies that an increase in number mobile transaction associated with decrease in ROA of commercial banks in Ethiopia.

This result is consistent to the finding of (Muta, 2010) which stated that there is a weak negative effect of mobile banking on the financial performance of commercial banks which is measured by ROA, in the study conducted at commercial banks of Kenya. However, this result is inconsistent with the finding of (Teka Mekuanent, 2019) mobile banking and financial performance of commercial banks as measured by ROA was strongly and positively related.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The objective of the study was to investigate the effect of e-banking on performance of selected commercial banks in Ethiopia. Using purposive sampling method, a total of 13 commercial bank in Ethiopia were selected for measuring their performance for the period covering from 2014/15 – 2018/19. A panel data regression method used to analyze the impact of electronic banking on the performance of selected banks. To decide between fixed or random effects model a Hausman test used. Further, post estimation tests such as normality test, tests for Hetroscedasticsity and tests for Multicolliniarity conducted. SPSS version 23 software used to analyze the collected data. To analyze the collected data both descriptive statistics, correlation analysis and panel data regression analysis method employed.

Accordingly, the effect of e-banking service which are the value of ATM transaction, the value of POS transaction and the number of point of sale terminal as an independent variable on financial performance, as measured by return on Equity (ROE)and return on Asset (ROA) (dependent variable) on commercial bank of Ethiopia were carefully analyzed. The next section presents the findings and conclusions reached based on the results of analysis.

5.2. FINDINGS & CONCLUSION

The regression result showed that there exists significant positive relationship between the value of POS transaction and performance of banks as measured by ROE, which suggests that an increase in POS terminals associated with increase in ROE. But there is a negative relationship between value of mobile banking transaction and financial performance that was measured by ROE which is significant at 1 percent level.

On the other hand, with regard to ROA, it reveals that there is a significant negative relationship between the value mobile banking users and performance of banks at 1 percent level of significance, which suggests that an increase in number mobile banking users

associated with decrease in ROA. But there is no significant relationship between value of ATM and POS banking transaction, and financial performance as measured by ROA, as opposed to the results of correlation analysis.

As far as the correlation analysis is concerned, it was observed that except mobile banking under ROE, the results indicated positive relationship. However, negative correlation has been observed in all e-banking service scenarios in ROA case. On the other hand, under regression result, except ATM, POS & mobile banking have positive and negative impact on the performance of ROE at 1 percent significance level respectively. Besides, we found that both POS & ATM have weak impact on the performance banks as measured by ROA at 1 percent significance level. Moreover, mobile banking has negative impact on the performance of banks as measured by both ROE and ROA. This means the effect of mobile banking on ROE and ROA in all scenarios has negative relationship at 1% percent significance level.

As stated on the data analysis, it is found that all commercial bank operated in Ethiopia have the huge gaps on their size, transaction value, and the number of e-banking service products and the corresponding transactions. Hence, most of the result deviates from the mean.

5.3.   Recommendations

Based on the above facts, it is observed that there is a positive correlation between the performance of most of e-banking services (POS & ATM) and ROE of selected commercial banks in Ethiopia. Hence, this trend must be maintained and needs due attention in the future. However, there is a need to improve on the performance of mobile banking so as to enhance their contribution to the ROE. On the other hand, for all e-banking services products (value of ATM, number of POS terminals and number of mobile banking users), it was observed that they have negative correlation relationship with performance of commercial banks as measured by ROA, indicating the investment made on these products not as such worthy enough.

Therefore, this study recommends that the commercial banks in Ethiopia should continue with the popularization of these e-banking services in the industry as it has appositive effect on their financial performance as well as future investment on these service/products. The

study recommends that commercial banks should come up with ways of improving the transactions through these platforms as this has a positive impact on their earnings and thus financial performance. The study also recommends banks management who are not preemptive in taking the initiatives when it comes to adopting new innovations, to be proactive to set up and embrace the different kinds of innovation in their banking operations, as they will boost their profitability and future competitive advantage. This means whenever profitability increases, the return on asset may increase. However, the management should give equivalent emphasis in promoting such services, to create awareness and sensitization of their customers in adopting the services, as they are worthwhile in determining the performance and investment on such services both in the short and long term. The study further recommends that all commercial banks should use the e-banking service products appropriately and must make them easily accessible to the users so as to get the required return. Last, but not least, the study recommends that the banks should strive their best so as to maintain a balance between the investment on their e-banking service/products and the return that might thereof be.

5.4. Implication for Future Research

The study was limited on the sample size as well as type of e-banking services, as it relied on data on the banks that have significant, if not all inclusive investment on all e-banking services. Accordingly, it was observed that all the sampled banks are not found at equal footing in terms of their investment as well as services related to all the explanatory variables. Hence, the inclusion of all other e-banking services, increasing the sample size by incorporating other banks as well as incorporating other variables to measure the performance of the banks is left for future research endeavor.

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Annex

1. **Abay Bank**

Year	ATM	POS	Mobile bankin g users	Internate banking users	No. of debit

	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	Card issued to customers
2018/19	69	827,471,924.00	76	165401	128,798.00	29,346,477.88	3654	1,117,688.28	131,737.00
2017/18	50	336,119,540.00	76	82111	72,029.00	8,568,326.75	2521	996,637.28	76,729.00
2016/17	35	133,546,810.00	71	71846	40,963.00	4,567,674.26	1921	972,892.28	48,212.00
2015/16	20	29,790,915.00	32	37500	16,139.00	2,101,756.22	1068	972,892.28	16,927.00
2014/15	10	3,457,215.00	13	45400	4,158.00	605,845.34	675	573,850.00	4,723.00

2. Abyssinia Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	146	2453117.00	113	746294.00	116028	13724.00	3128	3682.00	121945
2017/18	90	1728149.00	103	412749.00	98216	8401.00	1450	2720.00	111000
2016/17	84	975289.00	71	207276.00	60598	3179.00	78	126.00	73954
2015/16	51	342788.00	78	10389.00	29412	1695.00	---	---	39
2014/15	16	119699.00	61	6075.00	11096	840.00	---	---	---

3. Awash Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	267	257554450.00	618	503452462.00	378392	323682.00	48928	83812.00	625254
2017/18	261	306123650.00	386	210626424.00	192984	141112.00	15294	18804.00	479160
2016/17	214	183046800.00	380	48781782.00	82814	53617.00	2273	3993.00	300446
2015/16	116	146758550.00	385	6013885.00	23344	64807.00	---	---	193648
2014/15	---	---	---	---	---	---	---	---	---

4. Birhan Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	40	203,434,250.00	159	195,903.00	52,063	102,390,033.55	---	---	54,649
2017/18	17	100,033,550.00	54	1,513.00	50,197	66,477,203.82	---	---	45,246
2016/17	12	80,085800.00	35	201,441.00	33,198	15,337,161.63	---	---	43,093
2015/16	12	366,88,,350.00	20	102,645.00	1,876	2,608,293.82	---	---	19,816
2014/15	1	157,20,100.00	---	---	16	22,594.00	---	---	7,951

5. Bunna bank sc.

Year	ATM	POS	Mobile bankin g users	Internate banking users	No. of debit

	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	Card issued to customers
2018/19	49	189,366,308.39	37	13,229.84	28,432	3,530,845.58	26,430	658,669.74	26,801
2017/18	48	96,181,229.46	21	20,114.79	64	12,510	64	11,692.00	10,681
2016/17	33	65,779,843.34	16	5,717.32	---	---	---	---	11,722
2015/16	16	1,548,104.54	---	---	---	---	---	---	2,640
2014/15	---	---	---	---	---	---	---	---	---

6. Commercial Bank of Ethiopia

Year	ATM		POS		Mobile banking		Internate banking		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	2642	23,008,877,959.00	2,885	1,047,691,258.17	3,024,668	8,789,215,654.09	77,566	4,902,975,360.54	7,996,494
2017/18	1671	18,740,862,993.20	7,287	80,151,523.85	2,116,895	3,853,701,692.25	51,512	2,164,354,703.02	4,476,549
2016/17	1501	3,937,033,345.41	6,883	58,413,940.65	1,974,243	3,316,030,812.13	41,506	517,873,453.60	4,735,276
2015/16	889	694,3458,947.16	5,929	90,004,938.54	1,168,018	1,272,757,714.45	26,544	343,919,671.20	2,928,079
2014/15	644	4,532,738.20	1,886	727,889.74	458,909	194,536.65	6,338	24,013.92	1,604,363

7. Debub Global Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	15	60217946.00	---	---	---	---	---	---	3,280
2017/18	10	22219801.00	---	---	---	---	---	---	3,449
2016/17	5	6414177.00	---	---	---	---	---	---	1,925
2015/16	---	---	---	---	---	---	---	---	---
2014/15	---	---	---	---	---	---	---	---	---

8. Enat Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	19	112,991,820.00	---	---	---	---	---	---	5,461
2017/18	10	100,943,925.00	---	---	---	---	---	---	3,218
2016/17	10	44,253,340.26	---	---	---	---	---	---	2,782
2015/16	10	5,308,200.00	---	---	---	---	---	---	986
2014/15	---	---	---	---	---	---	---	---	---

9. Lion Bank sc.

Year	ATM	POS	Mobile bankin g users	Internate banking users	No. of debit

	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	Card issued to customers
2018/19	49	350,946,948.00	---	---	203,275	314,719,836.00	---	---	48,896
2017/18	29	163,851,945.00	---	---	143,962	157,763,123.31	---	---	25,953
2016/17	16	36,605,930.00	---	---	74,494	69,002,134.26	---	---	11,545
2015/16	---	---	---	---	35,824	33,675,586.00	---	---	---
2014/15	---	---	---	---	5,002	5,554,646.55	---	---	---

10. NIB International Bank sc.

Year	ATM		POS		Mobile banking		Internate banking		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	170	898,629,395.00	171	61,392,177.03	75,995	23,632,635.00	1,182	2,600,181.00	53,086
2017/18	170	293,155,885.00	63	50,463,984.54	35,106	1,358,237.00	1,167	2,790,102.00	49,806
2016/17	163	224,829,500.00	77	2,155,007.86	24,748	9,843,551.83	772	1,728,242.89	54,651
2015/16	103	222,093,415.00	20	686,432.34	14649	3,903,555.05	581	465,828.42	26,604
2014/15	64	114,565,160.00	6	316,467.16	10178	842,515.67	382	543,262.00	24,435

11. Oromia Coperative Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	188	267,455,250.00	64	672,707.77	586,000	35,160,000.00			24,769
2017/18	88	208,185,150.00	---	---	---	---	---	---	182,116
2016/17	39	34,116,750.00	---	---	---	---	---	---	106,320
2015/16	39	32,461,850.00	---	---	---	---	---	---	75,796
2014/15	25	17,230,154.00	---	---	---	---	---	---	54,964

12. United Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	118	1,020,827,650.00	244	118,249,522.83	58,331	618,760,085.10	4,288	169,225,996.85	205,824
2017/18	69	758,303,600.00	223	83,276,180.45	35,428	401,074,004.91	2,146	132,904,602.50	171,677
2016/17	69	813,853,694.00	156	37,365,076.85	44,284	217,232,087.98	2,580	46,482,542.72	134,684
2015/16	69	817,954,265.00	89	17,912,161.13	37,199	18,085,041.21	4,035	32,798,989.80	93,137
2014/15	68	529,689,083.00	82	6,266,463.22	27,659	9,990,576.12	3,914	10,463,579.31	61,478

13. Wegagen Bank sc.

Year	ATM		POS		Mobile bankin g users		Internate banking users		No. of debit Card issued to customers
	No. installed	Value of transaction	No. installed	Value of transaction	users	Value of transaction	users	Value of transaction	
2018/19	243	2,087,562,311.00	279	68,300,000.00	267,219	54,630,000.00	---	---	284,363
2017/18	198	1,263,327,950.00	271	54,400,000.00	94,724	8,600,000.00	---	---	220,301
2016/17	196	850,096,565.00	282	30,100,000.00	11,860	18,700,000.00	---	---	155,410
2015/16	148	532,893,893.00	199	25,100,000.00	8,643	14,500,000.00	---	---	113,374
2014/15	97	525,586,169.00	174	30,400,000.00	6,485	6,340,000.00	---	---	90,633

14.Name of Bank: Abay Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	15,106,297,000.00	12,325,060,000.00	8,692,402,000.00	6,186,768,422.67	4,582,190,822.00
ROE	27.42%	22.96%	31.12%	19.89%	24.32%
ROA	3.66%	3.02%	4.26%	2.72%	3.23%
profit	501,589,000.00	316,958,000.00	316,985,000.00	146,505,042.19	125,450,997.00
total capital	2,083,349,000.00	1,575,187,000.00	1,185,794,000.00	851,097,506.99	622,337,326.00
total loans	7,597,183,000.00	5,898,455,000.00	4,259,998,000.00	3,073,686,624.12	2,311,339,480.00
total deposits	11,598,383,000.00	9,566,089,000.00	6,832,357,000.00	4,832,579,980.30	3,623,808,240.00
liquidity	28.13%	30.51%	26.81%	23.34%	24.61%
average assets	13,715,678,500.00	10,508,731,000.00	7,439,585,211.34	5,384,479,622.34	3,889,485,411.00
average capital	1,829,268,000.00	1,380,490,500.00	1,018,445,753.50	736,717,416.50	515,863,663.00
liquidit assets	3,262,993,000.00	2,918,932,000.00	1,831,811,000.00	1,127,906,153.41	891,798,673.00

15.Name of Bank: Abyssinia Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	39,294,425,000.00	31,983,036,000.00	25,882,043,000.00	16,828,069,220.00	13,667,558,642.00
ROE	20.85%	18.62%	23.00%	21.80%	19.88%
ROA	2.18%	1.95%	2.39%	2.46%	2.31%
profit	777,014,000.00	562,800,000.00	510,778,000.00	374,781,181.00	287,806,706.00
total capital	4,006,188,000.00	3,446,553,000.00	2,597,404,000.00	1,843,789,624.00	1,595,115,550.00
total loans	23,421,247,000.00	17,780,964,000.00	13,936,474,000.00	8,011,609,504.00	5,905,224,880.00
total deposits	32,146,449,000.00	25,794,540,000.00	20,801,900,000.00	13,634,965,513.00	11,118,167,865.00
liquidity	13.91%	17.41%	16.54%	22.76%	24.70%
average assets	35,638,730,500.00	28,932,539,500.00	21,355,056,110.00	15,247,813,931.00	12,471,779,321.00
average capital	3,726,370,500.00	3,021,978,500.00	2,220,596,812.00	1,719,452,587.00	1,447,557,775.00
liquidit assets	4,472,202,000.00	4,491,584,000.00	3,440,128,000.00	3,103,743,187.00	2,746,203,101.00

16.Name of Bank: Awash Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	74,635,373,000.00	55,268,107,000.00	44,974,865,174.00	31,147,684,666.00	25,210,501,454.00
ROE	43.80%	35.04%	27.98%	25.36%	27.64%
ROA	3.78%	2.97%	2.64%	2.64%	2.73%
profit	2,456,315,000.00	1,488,120,000.00	1,002,939,134.00	743,765,868.00	645,337,629.00
total capital	6,632,134,000.00	4,582,977,000.00	3,911,653,460.00	3,258,310,469.00	2,606,972,969.00
total loans	45,855,080,000.00	31,049,058,000.00	22,246,582,944.00	15,215,052,070.00	12,268,977,656.00
total deposits	59,616,052,000.00	43,451,378,000.00	30,590,921,635.00	22,832,028,706.00	18,520,420,245.00
liquidity	19.07%	26.77%	22.88%	25.37%	20.96%
average assets	64,951,740,000.00	50,121,486,087.00	38,061,274,920.00	28,179,093,060.00	23,658,423,973.50
average capital	5,607,555,500.00	4,247,315,230.00	3,584,981,964.50	2,932,641,719.00	2,334,660,785.50
liquidit assets	11,370,601,000.00	11,632,312,000.00	7,000,483,298.00	5,792,311,922.00	3,881,989,328.00

17. Name of Bank: Birehan Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	19,172,555,000.00	14,067,978,000.00	10,488,873,242.00	7,196,302,723.00	4,171,944,423.00
ROE	19.85%	17.09%	27.95%	34.25%	18.45%
ROA	2.65%	2.53%	3.94%	4.58%	2.99%
profit	440,775,000.00	311,120,000.00	348,619,148.00	260,194,327.00	104,549,682.00
total capital	2,422,871,000.00	2,017,440,000.00	1,623,592,015.00	870,932,186.00	648,389,562.00
total loans	10,033,356,000.00	7,067,044,000.00	5,254,245,964.00	3,701,651,929.00	1,875,485,234.00
total deposits	14,981,134,000.00	10,889,003,000.00	7,592,400,777.00	5,296,522,721.00	3,067,896,501.00
liquidity	20.88%	24.99%	31.61%	29.39%	40.52%
average assets	16,620,266,500.00	12,278,425,621.00	8,842,587,982.50	5,684,123,573.00	3,493,102,662.00
average capital	2,220,155,500.00	1,820,516,007.50	1,247,262,100.50	759,660,874.00	566,525,016.00
liquidit assets	3,128,716,000.00	2,720,820,000.00	2,399,877,939.00	1,556,432,238.00	1,243,216,691.00

18. Name of Bank: Bunna Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	14,494,776,000.00	13,021,152,000.00	9,820,013,967.00	6,820,959,469.00	4,499,695,787.00
ROE	23.66%	20.88%	19.89%	26.45%	25.40%
ROA	3.43%	2.73%	2.42%	3.30%	3.58%
profit	472,487,000.00	311,651,000.00	201,285,408.00	187,046,906.00	134,503,018.00
total capital	2,211,718,000.00	1,782,285,000.00	1,202,588,092.00	821,462,445.00	592,976,679.00
total loans	8,149,331,000.00	6,841,603,000.00	5,201,673,951.00	3,631,844,755.00	2,417,941,350.00
total deposits	10,586,649,000.00	9,947,374,000.00	7,479,586,045.00	5,384,603,762.00	3,501,041,459.00
liquidity	21.58%	26.84%	27.58%	23.27%	23.41%
average assets	13,757,964,000.00	11,420,582,983.50	8,320,486,718.00	5,660,327,628.00	3,755,847,893.50
average capital	1,997,001,500.00	1,492,436,546.00	1,012,025,268.50	707,219,562.00	529,503,339.50
liquidit assets	2,284,780,000.00	2,669,835,000.00	2,062,916,738.00	1,252,902,247.00	819,487,008.00

19.Name of Bank: Commercial Bank of Ethiopia

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	711,963,827,023.00	668,772,347,932.00	485,760,586,592.00	384,535,561,306.00	303,636,671,497.00
ROE	26.43%	17.40%	40.60%	64.77%	74.40%
ROA	1.83%	1.35%	2.80%	2.74%	3.23%
profit	12,651,210,061.00	7,799,311,033.00	12,185,556,183.00	9,430,417,922.00	8,789,090,478.00
total capital	49,937,817,509.00	45,801,709,785.00	43,824,340,028.00	16,205,872,670.00	12,911,770,365.00
total loans	196,839,657,662.00	173,247,720,061.00	154,124,041,287.00	134,993,832,916.00	108,480,116,930.00
total deposits	541,015,110,342.00	451,297,168,606.00	364,607,028,501.00	288,604,992,602.00	241,550,604,662.00
liquidity	19.95%	16.34%	20.38%	8.37%	8.87%
average assets	690,368,087,477.50	577,266,467,262.00	435,148,073,949.00	344,086,116,401.50	272,022,335,748.50
average capital	47,869,763,647.00	44,813,024,906.50	30,015,106,349.00	14,558,821,517.50	11,813,885,182.50
liquidit assets	107,913,133,299.00	73,762,021,278.00	74,316,385,886.00	24,146,901,625.00	21,436,688,058.00

20.Name of Bank: Debub Global Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	5,487,509,000.00	3,260,693,000.00	2,062,905,410.00	1,291,959,979.00	1,143,591,688.00
ROE	30.58%	20.63%	15.19%	21.07%	8.85%
ROA	5.16%	3.98%	3.03%	4.24%	1.63%
profit	225,796,000.00	105,886,000.00	50,839,955.00	51,691,380.00	17,197,560.00
total capital	835,744,000.00	640,961,000.00	385,769,534.00	283,836,471.00	206,888,738.00
total loans	2,401,169,000.00	1,553,712,000.00	780,769,241.00	591,284,491.00	334,912,701.00
total deposits	3,523,440,000.00	2,153,322,000.00	1,431,531,701.00	871,760,128.00	819,343,358.00
liquidity	44.92%	38.31%	47.71%	28.65%	61.91%
average assets	4,374,101,000.00	2,661,799,205.00	1,677,432,694.50	1,217,775,833.50	1,056,479,844.00
average capital	738,352,500.00	513,365,267.00	334,803,002.50	245,362,604.50	194,386,869.00
liquidit assets	1,582,784,000.00	824,901,000.00	682,996,288.00	249,759,688.00	507,252,957.00

21.Name of Bank: Enat Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	9,201,547,000.00	6,482,374,000.00	4,875,673,000.00	3,248,190,000.00	2,209,440,000.00
ROE	16.07%	16.12%	15.35%	15.65%	15.75%
ROA	2.57%	2.80%	2.76%	2.90%	2.92%
profit	201,619,000.00	158,875,000.00	112,203,000.00	79,000,000.00	53,000,000.00
total capital	1,394,498,000.00	1,114,488,000.00	856,563,000.00	605,345,000.00	404,341,000.00
total loans	5,093,548,000.00	3,313,951,000.00	2,450,484,000.00	1,615,515,000.00	1,133,607,000.00
total deposits	7,441,141,000.00	5,090,526,000.00	3,852,008,000.00	2,389,270,000.00	1,565,220,000.00
liquidity	22.77%	25.69%	28.18%	27.93%	32.08%
average assets	7,841,960,500.00	5,679,023,500.00	4,061,931,500.00	2,728,815,000.00	1,813,390,000.00
average capital	1,254,493,000.00	985,525,500.00	730,954,000.00	504,843,000.00	336,600,500.00
liquidit assets	1,694,669,000.00	1,307,717,000.00	1,085,418,000.00	667,431,000.00	502,188,000.00

22.Name of Bank: Lion Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	20,391,532,000.00	14,319,598,000.00	10,963,718,000.00	8,119,231,644.00	5,859,362,240.00
ROE	28.68%	27.65%	22.07%	25.97%	25.24%
ROA	3.11%	3.09%	2.43%	2.81%	3.18%
profit	539,034,000.00	390,766,000.00	231,629,000.00	196,155,996.00	150,571,040.00
total capital	2,175,650,000.00	1,583,526,000.00	1,242,781,000.00	856,000,000.00	654,651,761.00
total loans	11,622,376,000.00	7,374,041,000.00	5,434,319,000.00	4,303,387,848.00	2,830,566,767.00
total deposits	16,396,666,000.00	11,639,588,000.00	8,810,827,000.00	6,333,564,240.00	4,457,396,806.00
liquidity	22.01%	25.94%	30.40%	28.95%	34.45%
average assets	17,355,565,000.00	12,641,658,000.00	9,541,474,822.00	6,989,296,942.00	4,736,181,120.00
average capital	1,879,588,000.00	1,413,153,500.00	1,049,390,500.00	755,325,880.50	596,565,880.50
liquidit assets	3,608,699,000.00	3,018,746,000.00	2,678,906,000.00	1,833,811,944.00	1,535,438,014.00

23.Name of Bank: Nib International Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	33,717,427,000.00	26,688,922,000.00	21,112,094,000.00	15,830,321,762.00	13,256,124,481.00
ROE	20.69%	18.21%	20.80%	18.04%	19.38%
ROA	2.39%	2.15%	2.67%	2.45%	2.81%
profit	720,746,000.00	514,853,000.00	493,739,000.00	356,678,952.00	337,072,879.00
total capital	3,917,571,000.00	3,048,324,000.00	2,607,225,000.00	2,140,644,528.00	1,814,297,290.00
total loans	19,250,471,000.00	13,498,652,000.00	10,672,415,000.00	7,511,984,948.00	6,894,044,536.00
total deposits	27,663,710,000.00	21,619,236,000.00	16,557,953,000.00	12,423,022,987.00	9,774,115,874.00
liquidity	14.21%	17.97%	19.82%	23.97%	18.39%
average assets	30,203,174,500.00	23,900,508,000.00	18,471,207,881.00	14,543,223,121.50	12,001,702,240.50
average capital	3,482,947,500.00	2,827,774,500.00	2,373,934,764.00	1,977,470,909.00	1,739,223,645.00
liquidit assets	3,931,025,000.00	3,884,986,000.00	3,281,916,000.00	2,977,980,347.00	1,797,686,198.00

24.Name of Bank: Oromia Co-operative Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	41,790,805,000.00	29,888,033,000.00	17,766,303,000.00	10,687,348,107.00	11,462,067,034.00
ROE	25.66%	29.39%	26.19%	3.36%	31.84%
ROA	1.84%	2.20%	2.38%	0.35%	3.32%
profit	657,762,000.00	523,416,000.00	338,186,000.00	39,116,730.00	312,438,109.00
total capital	2,955,037,000.00	2,172,408,000.00	1,389,854,000.00	1,192,429,496.00	1,136,766,966.00
total loans	21,404,500,000.00	14,711,523,000.00	9,503,388,000.00	5,851,657,783.00	6,566,040,876.00
total deposits	36,168,291,000.00	25,807,590,000.00	14,295,920,000.00	8,488,327,234.00	7,368,004,706.00
liquidity	19.82%	29.75%	24.75%	25.14%	31.53%
average assets	35,839,419,000.00	23,827,168,000.00	14,226,825,553.50	11,074,707,570.50	9,406,533,517.00
average capital	2,563,722,500.00	1,781,131,000.00	1,291,141,748.00	1,164,598,231.00	981,347,983.00
liquidit assets	7,169,649,000.00	7,676,779,000.00	3,537,671,000.00	2,133,870,835.00	2,322,975,836.00

25.Name of Bank: United Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	35,736,079,000.00	28,030,918,000.00	22,007,039,000.00	17,269,872,962.00	14,360,871,959.00
ROE	26.31%	22.70%	19.19%	20.59%	20.01%
ROA	2.42%	2.19%	1.98%	2.14%	2.14%
profit	770,180,000.00	546,779,000.00	388,586,000.00	339,015,308.00	281,319,314.00
total capital	3,269,935,000.00	2,585,370,000.00	2,231,038,000.00	1,818,227,850.00	1,475,250,186.00
total loans	21,611,563,000.00	14,869,893,000.00	12,000,956,000.00	8,423,375,110.00	6,776,210,845.00
total deposits	29,079,839,000.00	23,065,798,000.00	17,803,852,000.00	13,601,735,740.00	11,804,362,549.00
liquidity	13.17%	19.63%	17.90%	21.46%	23.07%
average assets	31,883,498,500.00	25,018,978,500.00	19,638,455,981.00	15,815,372,460.50	13,118,620,273.50
average capital	2,927,652,500.00	2,408,204,000.00	2,024,632,925.00	1,646,739,018.00	1,405,583,818.50
liquidit assets	3,829,708,000.00	4,526,836,000.00	3,186,500,580.00	2,918,710,179.00	2,723,416,315.00

26.Name of Bank: Wegagen Bank

Description	years				
	2018/19	2017/18	2016/17	2015/16	2014/15
total assets	29,770,016,000.00	27,390,907,000.00	20,949,168,439.00	16,189,764,130.00	13,711,365,059.00
ROE	17.49%	24.42%	19.41%	16.07%	17.38%
ROA	2.19%	3.21%	2.87%	2.51%	2.79%
Profit	625,706,000.00	775,425,000.00	532,162,590.00	375,617,514.00	352,445,215.00
total capital	3,760,637,000.00	3,394,102,000.00	2,957,503,926.00	2,524,960,478.00	2,150,039,100.00
total loans	16,095,886,000.00	14,785,041,000.00	10,235,072,882.00	7,506,215,842.00	6,071,915,798.00
total deposits	23,545,276,000.00	20,506,129,000.00	15,624,033,170.00	11,865,847,653.00	10,217,747,441.00
liquidity	18.18%	19.74%	24.99%	26.10%	23.46%
average assets	28,580,461,500.00	24,170,037,719.50	18,569,466,284.50	14,950,564,594.50	12,620,067,486.00
average capital	3,577,369,500.00	3,175,802,963.00	2,741,232,202.00	2,337,499,789.00	2,027,711,948.00
liquidit assets	4,281,066,000.00	4,048,855,000.00	3,904,382,538.00	3,097,487,537.00	2,396,697,604.00