DETERMINANT OF FINANCIAL PERFORMANCE ON PRIVATE COMMERCIAL BANKS IN ETHIOPIA

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DECLARATION

I, hereby declare that this research thesis work entitled; ***"Determinant Of Financial performance On Private Commercial Banks In Ethiopia "*** for the award of the Degree of Master of Science in Accounting and Finance, is my own original work carried out by myself, under the supervision and guidance of Dr Mama Sulti. Any research in this title has not been previously submitted in full or partial requirements for an equivalent or higher qualification at this or any other recognized learning institution. All sources of materials used for this study have been fully acknowledged.

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CERTIFICATION

I hereby certify that this thesis entitled; " ***"Determinant Of Financial performance On Private Commercial Banks In Ethiopia "*** submitted to the School of Graduate Studies, Harambee University for the award of the Degree of Master of science in accounting and Finance is an authentic work done by Miss. Almaz Ejara under my supervision and guidance.

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As members of the Board of Examiners of the final Master's degree open thesis defense, we certify that we have read and evaluated the thesis carried out by Almaz Ejara under the title ***"Determinant Of Financial performance On Private Commercial Banks In Ethiopia "*** *S*ubmitted to the School of Graduate Studies, Harambe University for the award of the Degree of Master of science in accounting and Finance**"** We recommend that it is accepted as fulfilling the thesis requirement for the degree of MSc in Accounting & Finance.

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LIST OF ACRONYMS

NBE: National bank of Ethiopia

ETB: Ethiopia birr

Forex: Foreign Exchange

MOT: Ministry of Trade

ROA: Return on asset

ROE: Return on equity

USD: United States dollar

PPP: purchasing power parity

GDP: Growth domestic Product

ABSTRACT

The main objective of the study was to examine determinant of financial performance on private commercial Banks in Ethiopia. Banks with 11 years of operation (service) since 2011 up to 2021; and who declared cash dividend were included. The researcher used both descriptive and explanatory research design to analyze and present data and quantitative research approach was used. Before making the regression analysis, the study went through all below listed diagnostic tests; including multicollinearity, heteroscedasticity; normality and autocorrelation. Regression Analysis was identified as the most appropriate tool for econometric analysis of financial data. On top of this the assumptions needed to be fulfilled for OLS were tested; the data was found to be homoscedastic, free of autocorrelation and free of Multicollinearity and residuals were normally distributed. The mean value of variables were 22.43 for return on asset as measurement of profitability serve as financial performance measurement, 7.078 for capital growth, 24.67 for deposit growth, 23.68 for loan growth, 0.4349 for liquidity, 5.995 for leverage, 23.94 for exchange rate, 0.067 for interest spread rate and 15.25 for inflation. According to the correlation output profitability or financial performance was positively correlated with capital growth, deposit growth, loan growth, liquidity, leverage, and size from the listed firm specific factors which means all firm specific factors are correlated with profitability. The regression analysis result shows R-squared statistics and adjusted R squared statistics value of 67.95% and 61.86% respectively. From total of nine incorporated variables, six variables are significant at different level which are capital growth, leverage, liquidity, firm size from bank specific and inflation and exchange rate from macro level determinants, whereas deposit growth, loan growth and interest rate spread were insignificant factors for financial performance. Banks also should strive to increase their capital through different mechanism such as actively involved in secondary market, to foreign market and stock dividend to increase the capital than cash dividend and cash bonus. Foreign currency exchange and inflation should be managed by policy amendments of National Bank of Ethiopia.

Key words: Financial performance, foreign currency, capital, loan, deposit and commercial banks Ethiopia

CHAPTER ONE

1. INTRODUCTION

1.1 Background of Study

The banking sector is the backbone of economy in a country. Banking industry plays a vital role for the economic development. Poor banking system cannot help the country in economic development. The rise in financial globalization since the 1990s led to significant changes in bank ownership structures around the world across both developed and developing countries the share of banks owned by foreigners increased, while at the same time government ownership of banks declined. (Milesi,2001).Financial sectors play crucial role in economic growth and industrialization via channeling funds from surplus units- the depositors, to the deficit units, the borrowers, in the process gaining from the spread of the different interest charged. Their intermediation role can be said to be a catalyst for economic growth (Funso*et al.,* 2012).

Different scholars agreed on the contribution of financial institution development for countries economic development. Financial sector is the backbone of the economy of a country. It works as a facilitator for achieving sustained economic growth through providing efficient monetary intermediation. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy the trade of goods and services. One of the sectors in the financial sector is bank. Dang (2011), stated that banking is the backbone of the nation economies. See also; Mulualem (2015), Khaled and Ghassan (2017**),** Jaspreet et.al.(2015), Rostami (2015), Ermiyas (2016), Dawit (2016), Dakito (2015).

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

Ethiopia's first bank was the Bank of Abyssinia, which was founded in 1905. By 1915, the same bank began issuing the first Ethiopian bank notes. Paper money was considered something of a revolutionary aspect and was not immediately accepted by the population at large. Many people of the time claim that as much as twenty five years after the Bank issued the first Ethiopian bank notes, most people outside the capital Addis Ababa were not even using it.Furthermore, it was noted that even the government's post office and customs offices were not using the paper money. Nevertheless, traders and others would come to realize that a 500 Thaler note was a lot easier to put in a pocket than its equivalent in coins, which would weigh close to 14 kilograms. By 1931, following the liquidation of the Bank of Abyssinia, the Bank of Ethiopia would be formed. They would issue Ethiopian bank notes based largely on the animal motifs used by the now defunct Bank of Abyssinia. By 1964, the National Bank of Ethiopia or the NBE began its operations. The role of this bank to this day is to act as the Ethiopian central bank which issues banking licenses and supervises other banks in the country.

Other responsibilities of the NBE include regulating the supply, availability, and the price of Ethiopia's credit and money; manage and administer the country's international reserves, and initiate and control foreign exchange rates. By 2017, several banks in Ethiopia were facing challenges from various aspects of the financial economy in the country. Problems such as foreign exchange associated issues as well as country wide political unrest. A testament to Ethiopia's fast growing economy can be seen in the fact that despite all these problems, the banks in Ethiopia posted their highest growth rate in 6 years, as well as acceleration in the expansion of bank branches. We prepared the following list of the top banks in Ethiopia to help you navigate and choose between the many new banks in Ethiopia that are sprouting all around. (NBE, Websites)

The banking industry is one of the most highly controlled industries in the world and is widely regarded as one of the most important industries in the world. Again banks play an important role in economic development through mobilization of funds from within and outside the country and channeling such funds to various sectors of the economy by moveable fund (Council of ministers, 2010). As the result of banks the best financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic

growth. In order to provide a sustainable intermediation services in the economy and reasonable reward for the shareholders, banks need to be profitable. They can do so, if they generate necessary income to cover their operational cost. . On the other hand, the bad or poor banking performance can lead to banking failure and crisis which has negative repercussions on the economic growth (Ongore and Kusa, 2013).The performance of commercial banks is crucial for the development of countries. Poor performance can lead to bankruptcy, which in turn leads to a recession (Panayiottis et al, 2006). The opposite is true: the high performance of commercial banks increases the profitability of shareholders and directly contributes to economic growth by expanding investment. Profitability can be determined by the financial performance of the enterprise compared to the industry.

According to Murthy and Sree (2003), financial performance refers to the ability to use business and investment decisions and strategies to achieve business financial stability. It serves as a bar to measure the Bank's financial goals based on its financial objectives and standards, and is measured in ratios such as ROA, which assesses a company's asset management capabilities and efficiency and how they are used. This is done by measuring the return on investment in total assets to make a profit.

1.2 Statement of the Problem

Like most of developing countries around the world the financial sector in Ethiopia is still under developed and requires a huge attention. The development of the banking industry (which is part of the financial institution) is at a slower pace when considering the years of the banking industry. Most of the industries in developing countries are characterized by weak administration, weak resources mobilization capacity and are also faced with other social and economic problems.

As Okoth, & Gemech, (2013); Nowadays, examining the performance of commercial banks become very crucial for their profitable survival. There are lots of researches carried out global, regional and local level regarding to the application of CAMEL model for financial performance analysis. Some of the global and regional level studies can be mentioned as follows; there are, Khald (2017), coming with the conclusion of capital adequacy, asset quality and earning ability was good in the banks under the study and but their impact to the financial performance of the bank was not significant. Jaspreet et.al. (2015), the final goal was ranking their banking sector with CAMEL rating. Sushendra (2015), Aminul (2014), Golam (2014), the finding highlighted that the position of the bank under the study is sound and satisfactory so far as their capital adequacy, asset quality, management efficiency and liquidity is concerned. Githinji (2010), the finding shows that asset quality highly affects the financial performance of the banks in measuring the profitability of banks with highly significant value, which is not consistent with the finding of Khald (2017). Echekoba et.al (2014), Parvesh and Sanjeev (2014), the finding shows that six (6) banks out of thirteen (13) banks under the study were excellent in CAMEL rating. The finding from the above studies can be concluded that: CAMEL model is effective instrument for measuring banking performance and ranking those banking under the study.

At local level, the following studies can be traced; Tadios (2016), had used for comparative analysis over the number of banks, which seems not logical since the comparative sense is reasonable for only two parties. Mulualem (2015), financial performance analysis over commercial banks, the result shows that capital adequacy, asset quality and management efficiency have negative impact for financial performance, whereas earnings ratio and liquidity ration have positive relationship with financial performance. All listed risk measurement variable have significant impact except for capital adequacy. Dawit (2016), Determinants of commercial

banks in Ethiopia by using four of the five elements of the CAMEL model except the management efficiency on commercial banks, the result shows: asset quality and earning ability have impact on financial performance of the bank where as capital adequacy and liquidity position do not have impact on financial performance; which is inconsistent from Mulualem (2015) finding with liquidity ratio and its impact on financial performance.

Exchange rates are directly affected by foreign exchange trading and foreign exchange banks. In the absence of such measures, foreign exchange rates can be indirectly affected by the impact on foreign exchange rates, interest rates, and other banking conditions. Several of studies done connected with the subject matter conducted on title effect of foreign currency exchange rate on the financial performance of private commercial banks in Ethiopia. A Study by (Tadesse, 2015) carried out to inspect impact of exchange rate on the profitability of commercial banks in Ethiopia which was failed to include inflation rate as a factor that determines bank profitability. Developing countries have over the years pursued intangible economic reform programs aimed at achieving realistic exchange rates through free interchange of market forces. Economic and monetary authorities argue that overvaluation of domestic currencies discourages inflow of foreign investments. (Leonard Onyiriuba, 2016).

Other researchers also address the issues of other macro level determinants of financial performance of commercial banks such as (Vong and Chan, 2019). The macroeconomic policy stability, Gross Domestic Product, Inflation, Interest Rate and Political instability are also other macroeconomic variables that affect the performances of banks. For instance, the trend of GDP affects the demand for banks asset. During the declining GDP growth the demand for credit falls which in turn negatively affect the profitability of banks. On the contrary, in a growing economy as expressed by positive GDP growth, the demand for credit is high due to the nature of business cycle. During boom the demand for credit is high compared to recession (Athanasoglou et al., 2015). The same authors state in relation to the Greek situation that the relationship between inflation level and banks profitability is remained to be debatable. The direction of the relationship is not clear.

Most studies conducted in relation to bank performances focused on sector-specific factors that affect the overall banking sector performances (Chantapong, 2005; Olweny and Shipho,

2011 and Heng et al., 2011). Nevertheless, there is a need to include the macroeconomic variables. Thus, this study has incorporated key macroeconomic variables (Inflation and GDP) in the analysis. New variables such as capital growth instead of capital adequacy, loan growth, capital growth and bank size are also incorporated in the current study which can differ and bring new knowledge from previously issued papers in Ethiopian context.

1.3. Objective of the Research

1.3.1. General Objective

The general objective of the study was to analyze Determinants on financial performance of selected private commercial banks of Ethiopia.

1.3.2. Specific Objectives

Specifically, the researcher tried to address the following specific objectives to support the general objective of the study.

1. Evaluate the financial performance of Selected private commercial banks in Ethiopia from 2011-2021
2. Examine the effect of bank level determinants on financial performance of Selected private commercial banks of Ethiopia from 2011-2021
3. Examine the effect of macro level determinants on financial performance of selected private commercial banks of Ethiopia from 2011-2021

1.4. Research Hypothesis

Based on the model described for this study, the following hypotheses have been developed.

H_{a1}: There is positive significant relationship between capital growth and performance of selected private commercial banks in Ethiopia.

H_{a2}: There is positive significant relationship between loan growth and performance of selected private commercial bank in Ethiopia.

H_{a3}: There is Positive significant relationship between deposit growth and performance of selected private commercial banks in Ethiopia.

H_{a4}: There is negative significant relationship between liquidity and performance of selected Private commercial banks in Ethiopia

H_{a5}: There is negative significant relationship between leverage and performance of selected private commercial banks in Ethiopia.

H_{a6}: There is positive significant relationship between bank size and performance of selected private commercial banks in Ethiopia.

Ha_7: There is positive significant relationship between interest rate spread variation and performance of selected private commercial banks in Ethiopia.

Ha_8: There is a negative significant relationship between inflation and performance of selected private commercial banks in Ethiopia.

Ha_9: There is negative significant relationship between foreign exchange rate and performance of selected private commercial banks in Ethiopia.

1.5. Significance of the Study

This study Would provide information to guide their management decisions following the changes in the exchange rate, inflation level, interest rate spread and other bank level factors such as capital growth, loan growth, deposit growth, leverage and liquidity in Ethiopia for a strong banking industry. It would equip them with the necessary knowledge for taking the necessary action to protect the performance of their organizations. This study would be of beneficial to several financial service institutions, specifically to Managers of banks, Government of Ethiopia, academicians and researchers.

For the Government of Ethiopia, the findings of this study would inform the formulation of policies and regulations for a solid and resilient banking industry. The findings of this study

would inform the fragile foreign currency reserves making it difficult for the banking industry to transact freely. For future academicians and researchers, the findings of this study would be important in providing material for their reference besides suggesting areas for further research. Future scholars would find this study important because it would identify areas for further studies which future scholars can study.

1.6. Scope of the Study

This study has tried to analyze the Determinant of financial performance on selected private commercial banks of Ethiopia in a timely manner and as much as possible. The researcher conducted this study in eleven (11) selected private commercial banks in Ethiopia Namely banks are Dashen Bank S.C (DB), Awash Bank S.C (AB), Wegagen Bank S.C (WB), Hibret Bank S.C (HB), Nib International Bank S.C (NIB), Bank of Abyssinia S.C (BOA), Zemen Bank (ZB), Oromia Bank (OB), Lion International Bank (LIB), Cooperative Bank of Oromia (CBO), and Abay Bank (AB). Commercial bank of Ethiopia was not included in this study, because CBE is the prominent and dominant and government bank in Ethiopia by its financial performance. So, the researcher believed that including CBE in this study may affect the result and it might mislead the conclusion. In this study ROA was used as a main performance measure. The reason for using ROA as the measurement of bank performance is because ROA reflects the ability of banks management to generate profits from the bank's assets.

1.7. Limitation of the Study

A study is relied only on bank level factors such as Capital, Loan and Deposit growth but not all Specific Factors such as non-performing loan asset quality, Management and Employee Commitment. The study uses numerical presentation and secondary data. Therefore, the study does not contain rich quality data that is three-dimensional and further clarifies numerical findings. In addition, the sample covers only a few private banks in Ethiopia. Despite the limitations, a study has been conducted to help achieve this goal. The study uses quantitative approach and secondary data. Consequently, the study lacks rich qualitative data that triangulate and further explain the quantitative findings. Furthermore, the sample includes only a few private banks only in Ethiopia. It would be difficult, therefore, to generalize unless this kind of study is

undertaken in some more developing countries like Ethiopia. Despite the limitations, compressive study was conducted leading to the achievement of the research objective.

1.8. Operational Definition

- **Risk:** A probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action.
- **Risk-Free Rate Of Return:** The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time (Kritzman, 1993)
- **Volatility**: This is a measure for variation of price of a financial instrument over time. Historic volatility is derived from time series of past market prices. An implied volatility is derived from the market price of a market traded derivative (Bianchi, 1988).
- **Asset:** In financial accounting, assets are economic resources. Anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value is considered an asset. Simply stated, assets represent value of ownership that can be converted in to cash (Ahmad, 2007).
- **Commercial Bank:** An institution which accepts deposits, makes business loans, and offers related services. Commercial banks also allow for a variety of deposit accounts, such as checking, savings, and time deposit.
- **Economy:** The wealth and resources of a country or region, intuition in terms of the production and consumption of goods and services.
- **Exchange Rate:** Current market Price for which the currency of a country can be exchanged for another countries currency.
- **Capital:** the capital from owner's contribution in stock and also from the earning retained both for future investment and reserve of national bank.
- **Loan:** includes advances, short term loans and long term loans given to borrowers, to institution and to government.
- **Deposit:** includes fixed, current, and saving account from household, from government and from other institution.

- **Liquidity**: measures the ability of banks to pay outstanding expenses and current liability.

1.9 Organization of the Study

This paper include five organized chapters: The chapter one (1) deals with background of the study, statement of the problem, the research objectives, and significance of the study, the limitations of the study, scope of the study, Operational Definition and organization of the study. Chapter two (2) is emphases on literary review of theoretical and practical research. Here literatures are the sources of the concepts. Chapter three (3) is emphasize about the research design and the methodologies used in the research. The data collection methods, the method of the data analysis and other procedural issues would be raised. Chapter four (4) presents the results of the analysis and the findings of the study. Chapter five (5) minimizes the implications of the findings, completes the investigation, and outlines areas for future researcher's recommendations followed by the conclusion will be presented.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Introduction

This chapter presents literature reviewed in order to provide a basis for the study and the concepts. In addition, the chapter highlights theories guiding the study, determinants of financial performance; empirical studies thereby illustrating the research gap after which it presents the summary of empirical literature.

2.2. Theoretical Review

Various theories are presented in the arguments leading up to this study. These theories include the yield interest parity theory, the purchasing power parity theory, the foreign exchange vulnerability theory and the results of international fishermen.

According to Shapiro (2003), the theory of foreign exchange exposure, that exchange rate fluctuations affect the cost of MNC, must be mainly in foreign currency receipts and foreign exchange in the parent company. Despite this study, previous imperial studies on the subject say that it is important to pay attention Companies with large overseas operations have not been able to make a significant impact on the volatility of MNC stock prices (Lev, 2009, Jorion, 2009; Amihud, 2009). Recent studies have shown that proportional changes in net assets and sales prices affect a company's value (Jongen et al., 2006).

Fiscal influence theory, on the other hand, shows that the price difference between the two countries is equal to the difference in inflation (Shapiro, 2007). Interest-free interest rates include real interest rates and predictable inflation. Therefore, if all investors from different republics want the same return, the interest rate difference between nations will be the result of the expected inflation difference (Staikouras & Wood, 2004). (Adler & Lehman, 1983) They argue that the difference between inflation and exchange rate is significant. Hakio (1986), on the other hand, recognizes that inflation and exchange rate relations are not long-term, but use inflation differences to predict long-term changes. Regarding uniformity, as Gustav (1918) put it, the first two theories claim that the same goods must have the same value in a suitable market. Basically,

it opposes the exchange rate and implements the idea of similarly priced goods in different countries. When all the deposits offer an equal return, then the foreign exchange market is taken into balance. Exchange rate fluctuations tend to be explained by nominal interest rate differentials between two countries, this is the International Fisher effect as explained by Giddy &Dufey (2007). According to Irving Fisher, it is closely related to the results of fishing. 12 Price increase has led to a decrease in the value of the FX exchange rate. The theory is that the FX exchange rate fluctuations are proportional to the price indexes, which is a rule of thumb. According to one pricing law, in the competitive markets, the same commodities are traded in the same amount when they use the same currency to measure their value. According to Irving Fisher, it is closely related to the effects of fishing. 12 Price increase causes the FX to depreciate. The concept is that the FX exchange rate fluctuation is proportional to the price indexes, which is the main rule. According to one pricing law, in competitive markets, the same goods are traded in the same amount when they use the same currency to measure their value The second uniformity condition was developed by Keynes (1923) to link the exchange rates, interest and inflation. It's basically a condition that explains how disparities in rates of interest in two different nations is harmonized and matched by the changes in their monetary FX(Huang, 2009). It then adjusts interest rates and FX rates and FX rates (Roll and Yan, 2000). Other convincing economic theories, such as Hatch and Townsend (1981) and Messie and Rogoff (1983), such as purchasing equity and monetary model, add little to no forecast in less than a year. The study reported that it had strongly rejected unsecured interest rates. A series of studies have confirmed these results. This study is found on two key theories including Purchasing Power Parity Theory and the International Fischer Theory. These theories are discussed in details below.

2.2.1 The Purchasing Power Parity Theory

The purchasing power parity (PPP) theory originated from the writings of the Swedish economist Gustav (Menon&Viswanathan, 2005). The theory states that homogeneous goods in different countries cost the same in the very same countries when measured in terms of the same currency. This implies that exchange rates between currencies are in equilibrium when their purchasing power is the same in each of the two countries. The willingness to pay a certain amount for foreign money must ultimately and essentially be due to the fact that this money possesses a

purchasing power against goods and services in that country (Reid & Joshua, 2004). Any variance from this statement implies that a country's currency is incorrectly valued. According to Yin-Wong and Kon (1994) "PPP

The main challenge of this belief is in measuring Purchasing Power Parity constructed from price indexes given that different countries use different goods to determine their price level (Reid, 2005). Due to these limitations in the absolute PPP, another form of PPP has evolved, the relative PPP which acknowledges market imperfections such as transport costs, tariffs and quotas. Relative PPP defines what determines change in exchange rate over time, rather than what determines absolute level of the exchange rate.

2.2.2 The International Fisher Effect

The international Fisher Effect states that the difference in returns between two countries is just equal to the difference in inflation rates (Shapiro, 2007). According to International Fisher Effect, nominal risk-free interest rates contain a real rate of return and anticipated inflation. This means if all investors of all countries require the same real return, interest rate differentials between countries may be the result of differential in the expected inflation. The theory suggests that foreign currencies with relative high interest rates would depreciate because the high nominal interest rates reflect expected inflation. The nominal interest rate would also incorporate the default risk of an investment (Staikouras and Wood, 2004).

2.3. Bank Level Determinants of Financial Performance

As per Ibrahim (2015), the central objective of the paper has been to conduct a comparative performance of two banks in United Arab Emirates for the period of 2002-2006. Five groups of parameters have been used to measure liquidity level, profitability level, management capacity, capital structure and share performance. The findings show that both banks are financially viable as both have used the appropriate financial tools and policies to manage their organization and to adapt to their dynamic environment, resulting in a modest maximization of their profits. The liquidity level in Dubai Islamic bank is lower than that of its rival bank.

The research findings also show that bank of Sharjah possesses high level of profitability but cautions that this is accompanied with a high level of instability as well. As far as management capacity ratios, the analysis declared that bank of Sharjah managed its operations with a lower level of expenditure than its rival bank. In addition, the analysis showed that bank of Sharjah has a stronger financial structure than its competitor. Finally, the analysis of the share performance and the z-scores showed that Dubai Islamic bank is in a stronger position than the bank of Sharjah in terms of overall stability.

As per Hasan Dincer et al. (2011); As a result of analysis data, it is observed that positive developments were seen in terms of the performance of State-owned, Privately-owned and Foreign Banks after 2001 and 2008 crisis. Especially after 2001 crisis, various regulations such as banking law amendments, capital adequacy, effective internal control and functions created crucial effects on restructured banking sector. By these regulations, financial ratios in the banking sector during the global crisis in 2008 indicated that successful results were obtained substantially. The equity ratio which was assigned for respective risks of banks after the crisis varied in parallel to macro-economic developments under the condition of banking rule about being above the ratio of 8%. Additionally, it had a tendency to increase in the effect of crisis period. This situation showed that Turkish Banking sector provided sufficient capital stock against risks as a whole. Besides, the investment to financial assets within total assets increased under the leadership of state-owned banks after the global crisis. In Turkish banking sector after global crisis an important credit decrease was not seen generally in total assets, except for Private Capital Deposit Banks. However foreign banks, in terms of their investment to fixed assets within total assets, had a tendency to decrease except for the increase provided by merging transactions in 2006. As public sector was foreground in the interest income and interest expenses of banking sector within total income and expenses in the period of crisis, a decrease tendency dominated in general banking sector. While a rational similarity was seen in terms of the ratio of total income to total expenses in all banking groups, the increase in the ratio of total expense ratio in total assets took great attention after the global crisis in the general banking sector. Before global crisis, the ratio of liquidity assets which showed variability in banking groups, made crucial progress in all banking groups as a whole by the period of global economic crisis.

This situation can be seen as one of the most important lessons for the banking sector acquired from 2001 crisis. In terms of active and profit capital, a crucial increase was observed in whole banking groups after global economic crisis. By this way, banking sector created a serious increase in profitability ratio by converting crisis to opportunity. Private Capital Deposits Banks which had the biggest share about credits and deposits in terms of total assets, credits and deposits of banking sector, protected its size in related analysis period, and a partial slowing down emerged in the crisis period. However, credit share within total sector of state-owned banks increased. Especially after 2005, increment of total assets, credits and deposits share of foreign banks was related to merging and take-over transactions in the banking sector substantially. To sum up, Turkish Banking sector taking lesson from 2001 crisis, and being restructured showed a positive attitude especially in terms of profitability as it was affected from the effects of 2008 global crisis less than other developed markets.

According to Dawit (2016), research conducting on identifying the determinant factor of financial performance, using internal factors such as Capital adequacy, asset quality, earning ability, liquidity management and bank size with the external variable foreign exchange rate this study examined the determinants of financial performance of commercial banks in Ethiopia over the period 2000-2014, which were analyzed using descriptive statistics, and multiple linear regression analysis. The analyses were made in line with the specific research objectives and stated hypotheses formulated in the study. Thus, panel data of seven banks for fifteen years was used for the analysis purpose. Data used for the bank specific factors were obtained from each bank audited financial reports, whereas data of external factors were obtained from NBE.

Capital adequacy and performance: The primary reason why banks hold capital is to absorb risk – including the risk of liquidity crunches, protection against bank runs, and various other risks, most importantly credit risk. Although the reason why banks hold capital is motivated by their risk transformation role, recent theories suggest that bank capital may also affect banks' ability to create liquidity. These theories produce opposing predictions on the link between capital and liquidity creation.

The "financial fragility-crowding out" theories predicts that higher capital reduces liquidity creation. (Raditya & Sari, 2016), 2001) focus on financial fragility. They model a relationship

bank that raises funds from investors to provide financing to an entrepreneur. The entrepreneur may withhold effort, which reduces the amount of bank financing attainable. More importantly, the bank may also withhold effort, which limits the bank's ability to raise financing. A deposit contract mitigates the bank's holdup problem, because depositors can run on the bank if the bank threatens to withhold effort – and therefore maximizes liquidity creation. Providers of capital cannot run on the bank, which limits their willingness to provide funds, and hence reduces liquidity creation. Thus, the higher a bank's capital ratio, the less liquidity it will create. Moreover, the negative effect of capital on liquidity creation as suggested by (Raditya & Sari, 2016) depends crucially on deposit insurance coverage being incomplete. If deposit insurance were complete, depositors have no incentive to run on the bank, and a deposit contract does not mitigate the bank's holdup problem.

Furthermore, Gorton and Winton (2000) show that a higher capital ratio may reduce liquidity creation through another effect: the crowding out of deposits. They consider that deposits are more effective liquidity hedges for agents than investments in bank equity. Indeed, deposits are totally or partially insured and withdraw able at par value. By contrast, bank capital is not eligible and with a stochastic value that depends on the state of bank fundamentals and on the liquidity of the stock exchange. Consequently, higher capital ratios shift investors' funds from relatively liquid deposits to relatively illiquid bank capital. Thus the higher is the bank's capital ratio; the lower is its liquidity creation. Under the alternative "risk absorption" hypothesis, which is directly linked to the risk transformation role of banks, higher capital enhances banks' ability to create liquidity. This insight is based on two strands of the literature. One strand consists of papers that argue that liquidity creation exposes banks to risk (e.g., Diamond and Dybvig 1983, Allen and Gale 2004). The more liquidity that is created, the greater is the likelihood and severity of losses associated with having to dispose of illiquid assets to meet the liquidity demands of customers. The second strand consists of papers that posit that bank capital absorbs risk and expands banks' risk-bearing capacity (e.g., Repullo 2004 and Thadden 2004). Combining these two strands yields the prediction that higher capital ratios may allow banks to create more liquidity.

Bank size and bank performance: - According to the "too big to fail" argument, large banks would benefit from an implicit guarantee, thus decrease their cost of funding and allows them to

invest in riskier assets (Iannotta, Nocera, & Sironi, 2007). Therefore, "too big to fail" status of large banks could lead to moral hazard behavior and excessive risk exposure. If big banks are seeing themselves as "too big to fail", their motivation to hold liquid assets is limited. In case of a liquidity shortage, they rely on a liquidity assistance of Lender of Last Resort. Thus, large banks are likely to perform higher levels of liquidity creation that exposes them to losses associated with having to sale illiquid assets to satisfy the liquidity demands of customers. Hence, there can be positive relationship between bank size and illiquidity.

Loan growth and bank performance: - Comptroller's Handbook (1998), states that lending is the principal business activity for most commercial banks. The loan portfolio is typically the largest asset and the predominate source of revenue. As such, it is one of the greatest sources of risk to a bank's safety and soundness. Since loans are illiquid assets, increase in the amount of loans means increase in illiquid assets in the asset portfolio of a bank. According to (Pilbeam, 2005) in practice the amount of liquidity held by banks is heavily influenced by loan demand that is the base for loan growth. If demand for loans is weak, then the bank tends to hold more liquid assets (i.e. short term assets), whereas if demand for loans is high they tend to hold less liquid assets since long term loans are generally more profitable. Therefore, a growth in loans and advances has negative impact on banks liquidity.

2.4. Macro Determinants of Bank Financial Performance

Financial performance refers to the ability to use business decisions and strategies to achieve business financial stability. In other words, financial performance is a percentage of the organization's goals or objectives. A bank measures its financial goals by being guided by its financial objectives and standards. Profit is the ultimate goal of all banks. The ratios used to measure profitability are the return on assets, return on equity, and net interest margins. (Mueni, 2016). The performance of an organization can be determined by a number of factors; these factors are internal or external. Factors influencing the management of the board of directors are internal factors and affect the profitability of the organization and are unique variables of the bank. Internal conditions vary from one bank to another and are within the scope of bank fraud. These include information technology, capital size, labor productivity, deposit debt, management quality, credit portfolio, interest rate policy, bank size and ownership. External factors affecting

the Bank's performance are mainly GDP, macroeconomic policy stability, exchange rate, inflation, political instability and interest rates (Athanasogluo et al. 2005).

This study focuses on three factors that affect the financial performance of banks: one of the three external factors (exchange rate, interest rate distribution and inflation).

2.4.1 Exchange Rate

Foreign exchange rate is the price at which a foreign currency can be obtained. Different factors determine the exchange rate between two currencies; unfortunately, for people engaged in international trade, the exchange rate may fluctuate over time. Countries have different policies regarding their currencies. According to Hoyle et al. (2011) there are three major exchange rate systems: the floating exchange rate system, the exchange rate of the foreign exchange rate is allowed to fluctuate freely in supply and demand, and the government intervenes in the fixed exchange rate system to keep the exchange rate constant and floating. A system that falls in the middle is a change in currency supply and demand and a manageable floating exchange rate system. Under the floating exchange rate system, the exchange rate was allowed to fluctuate following supply and demand fluctuations, but the government intervened to stabilize the exchange rate and prevent the exchange rate fluctuating in the short term.

2.4.2 Inflation

Many scholars use the term inflation to describe the general inflation rate of the economy, but the inflation rate is a percentage change from the previous period, and it is also a measure of the use of the consumer price index. Total cost of goods and services from a regular consumer. (Spoon, 2003)

Inflation refers to the fact that the value of a particular currency is greatly reduced (Biller, 2007). An increase in commodity prices can also be seen in one country. Inflation affects all sectors of the economy, from international trade to civilian life. High prices make it worse in many transactions than ever before. Since inflation is seen as an economic crisis, every government will ensure that inflation is relatively low. However, inflation can have a positive effect on an organization that invests heavily before inflation and then exploits it during inflation. However,

inflation is not easy to predict, and in most cases it can have negative effects. Therefore, banks need to have a way of forecasting or controlling inflation in order to be consistent.

2.4.3 Interest rates

Interest is the amount that the borrower pays to the borrower or the financial institution and the percentage specified in one year and at the same time this is the main income of the banking sector. Interest rates, inflation and exchange rates are all closely linked. By controlling interest rates, central banks affect both inflation and exchange rates, and by changing interest rates, they affect inflation and exchange rates. High interest rates give lenders in the economy higher profits than other countries. Thus, high interest rates have attracted foreign capital and caused the exchange rate to rise. The impact of higher interest rates will be reduced, but if inflation in the country is higher than others or additional factors are used to bring the money down. There is a reciprocal relationship to lower interest rates - lower interest rates lower exchange rates (Bergen 2010).

High interest rates make people choose to borrow more and invest more, while low interest rates encourage more loans. This can be used by regulators to increase or decrease the cash flow of banks. Similarly, interest rates can determine exchange rates. Interest rates are directly related to demand, which in turn tends to increase interest rates. It is well known that interest rates are the main source of income for the banking sector, but direct expenditure has a fixed interest rate, so the researchers used interest rate distribution (Lender Reduced Deposit Rate).

2.4.4 Bank Size

The size of the bank is a private entity and one of the best determines the financial performance of the enterprise. Bank size plays an important role in banking performance. Larger banks are more efficient compared to smaller companies because they use a larger economy (Wild, 2010). Ahmed, (2015) large banks tend to be more efficient than smaller banks because they can use the balance and scope of many economies. This allows large banks to get more customers and make more transactions that can be translated into multiple returns. In addition, the larger banks become more trustworthy with their customers, and this shows that many customers prefer to invest as opposed to smaller ones. Also, in the event of a disaster, the larger banks are in a

position to minimize the risk and may be slightly affected, while the smaller banks are more likely to disintegrate and sue. This has seen many small banks strive to expand their business and market value. The amount can be determined by a net premium, which the bank receives after deducting premiums. It provides policy insurers' basis for policy debts (Teece, 2009).

2.5. Empirical Review

This section reviews various international and domestic studies on the exchange rate fluctuations and financial performance of commercial banks. It is divided into international and domestic studies.

2.5.1 International studies

Isaac (2015) examines the impact of exchange rate risk on Nigeria's banking performance. The study uses secondary data sources and uses a conditional model as an automatic return measure to risk. The model describes the conditional difference as a function of determining the square footage. According to the study, the rise in exchange rates is due to the increase in post-tax profits. As an effective strategy to control the exchange rate risk of the Bank, it is an institutional strategy that seeks to create a centralized body in its implementation. It is also important to be careful about the exchange rate risk that a bank or company is exposed to, as well as the associated risk exposure, which is a prerequisite for effectively controlling foreign exchange risk. Wong et al (2008) examines the foreign exchange vulnerability of Chinese banks. Using capital market data and equity pricing data from 14 Chinese banks, this study shows a positive relationship between bank size and foreign exchange vulnerability. And their significant indirect foreign exchange exposure is due to fluctuations in the value of their currencies. Evidence shows that the average foreign exchange risk of Chinese state-owned and stock-traded commercial banks is higher than in Hong Kong, but their participation in international banking is still limited compared to their Hong Kong counterparts. In addition, negative foreign exchange vulnerabilities have spread to large Chinese banks, suggesting that appreciation of their interests tends to undermine their equity values and could hamper the banking sector's performance. Another study by Ahmed (2015) shows the impact of foreign exchange exposure on the financial performance of commercial banks in Kenya. The overall objective of the study was to determine

the impact of foreign exchange exposure on the performance of a commercial bank. The study used both secondary and primary data. The study first; Interest rates have a significant positive impact on the performance of commercial banks. The study called on regulators, including the Central Bank of Kenya, to monitor the country's interest rates to ensure a stable exchange rate in Kenya and to continue to improve foreign exchange risk management techniques in commercial banks in Kenya.

Bergen (2010) examined the factors influencing the exchange rate and found that interest rates, inflation and exchange rates are all closely linked. According to Bergen (2010), central banks can influence both inflation and exchange rates by controlling interest rates, and changing interest rates will affect inflation and exchange rates. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates, that is, lower interest rates tend to decrease exchange rates.

Thai (2013) examines exchange rate fluctuations and banking performance in Nigeria. This study examines the impact of unstable exchange rates on banking in Nigeria on two proxies for banking performance: credit loss for gross growth ratio and capital deposit ratio. Government expenditures, interest rates, real GDP are added to the exchange rate as independent variables. The two models illustrated that the impact of exchange rates on banking performance is a factor in the proxies of the bank. Loss of loan repayment rate shows that fluctuations in currencies can affect lenders' ability to control large amounts of bad loans, but the capital deposit ratio has little to do with exchange rates. The main recommendation of this study is that a stable exchange rate is needed to improve the banking sector's ability to deliver loans to the economy. In contrast, C. Lagat and M. Nyandema (2016) examined the effect of foreign exchange fluctuations on the financial performance of commercial banks listed in the Nairobi Securities Exchange. Their article is based on a study that seeks to understand the relationship and impact of commercial banks on the financial performance of the Kenya Nairobi Securities Exchange, which is listed in the Nairobi Nairobi Securities Exchange. All of the commercial banks listed in the Nairobi Securities Index between 2006 and 2013 used a series of time-to-time link design research. The information came from the Central Bank of Kenya and published the annual accounts of the

listed banks. The study used Multivariate Linear Regressions to establish the relationship between foreign exchange fluctuations, inflation, interest rates and bank performance indicators. Pearson product instantaneous link (r) is applied to establish the relationship between variables. The study found that there is a strong positive relationship between foreign exchange rates and financial performance indicators. The positive relationship between exchange rates and financial performance may reflect fluctuations in the profitability of banks. The study recommended that the government take further steps to boost the country's exports. And another study by Addael, Nyarko-Baasil and Tetteh (2014) examined the effect of exchange rate fluctuations on Ghanaian banks. A.D. It looks at the exchange rates of some of the listed banks on the Ghana Stock Exchange (GSE) between 2005 and 2010. Accepts both size and quality approaches. Economic models are employed to deal with both currency fluctuations and to ensure the vulnerability of banks' exchange rates. The study found that all banks have benefited from activities such as forex trading. In addition, with the exception of the pound sterling, which were exposed to foreign exchange threats from the Commercial Bank of Ghana and Standard Chartered Bank, the rest of the banks were not exposed to any trading risks. On the other hand, all banks have risk management structures to minimize the risks involved in their operations. Financial investments that cross international boundaries, and require exchanging currency, are often divided into two categories. Foreign direct investment (FDI) refers to purchasing a firm (at least ten percent) in another country or starting up a new enterprise in a foreign country For example, in 2008 the Belgian beer-brewing company In Bev bought the U.S. beer-maker Anheuser-Busch for $52 billion. To make this purchase of a U.S. firm, In Bev would have to supply euros (the currency of Belgium) to the foreign exchange market and demand U.S. dollars.

The other kind of international financial investment, portfolio investment, involves a purely financial investment that does not entail any management responsibility. An example would be a U.S. financial investor who purchased bonds issued by the government of the United Kingdom, or deposited money in a British bank. To make such investments, the American investor would supply U.S. dollars in the foreign exchange market and demand British pounds. (John Hill,2018).

2.5.2. Local Studies

A study by Tadesse (2015) examines the impact of ROE on the commercial profitability of commercial banks in 2000¬2014. The study also looked at the impact of foreign exchange rates on bank lending as one of the major impacts of bank lending. The findings of this study show that the exchange rate has a statistically negative impact on the profitability of commercial banks. But it could not include inflation in the model. Since inflation is one of the main factors affecting interest rates and other variables of the micro-economy, this study uses inflation to determine the profitability of banks. Lake (2013) examines the impact of financial risks over 2000-2011 on the profitability of commercial banks in a total of eight commercial banks. Findings: Credit risk and financial risk have a negative and statistically significant effect on bank profits. And the relationship between interest rates and foreign exchange rates is statistically significant. This study shows that the profitability of commercial banks in Ethiopia is inversely proportional to that of Tadesse (2015).

Biruk (2012) tried to examine the impact of exchange rate volatility on the agricultural exports of 29 selected Sub Saharan African countries using 13 years data (1996-2008) data. The results of the study show that exchange rate fluctuations have a negative and significant impact on the agricultural exports of SSA countries in various estimation techniques. According to the researcher, trade policies designed to increase exports could create uncertainty over the exchange rate and ultimately reduce exports. Therefore, this study suggests that SSA countries should have a stable exchange rate policy.

Again Amezenech (2018) investigated the effect exchange rate volatility on Ethiopian coffee export by using annual time series data (1980/2015) collected from the country's different institution. Descriptive statistical tools were used to analyze the data and understand the variables involved in the analysis. The findings show that coffee exports have a negative and significant effect on foreign exchange earnings. However, since agricultural production is very different from the banking sector, it is important to understand the impact of exchange rate fluctuations on the financial performance of a bank to minimize financial risk.

2.5.3. Banks in Ethiopia

Bank of Abysinia which was the first bank of Ethiopia was established in 1905 based on the contract signed between the National bank of Egypt, which was owned by British and Ethiopian Government (Habtamu, 2012). Under the terms of the agreement, the bank is allowed to operate in a commercial bank (sell shares, receive deposits and make payments by check) and issue bank notes. In addition, the contract prohibits the establishment of any bank in Ethiopia, giving the Bank of Abyssinia a monopoly right. According to Lakew (2000) cited in Ebisa (2012) the Bank, which started operation a year after its foundation agreement was signed, opened branches in Dire Dawa, Harar,Dembi- Dolo and Gore as well as an agency office in Gambela and a transit office in Djibouti. Even though the Bank could not attract deposits from Ethiopian nationals who were not familiar with banking services, it serves foreigners living in Ethiopia and holds government accounts (NBE, 2012). During the reign of Emperor Haile Selassie,

The Ethiopian government closed the Bank of Abyssinia, paid compensation to its shareholders, and paid 7 750,000 in capital. The bank was established in 1932 by the emperor and current political leaders of the Bank of Ethiopia. The bank is allowed to combine the functions of the Central Bank (issuance of notes and coins) with the Commercial Bank. Bank of Ethiopia opens branches in Dire Dawa, Gore, Dessie, Debre Tabor and Harar. During the Italian occupation of Ethiopia (1936-1941) the Bank of Ethiopia ceased operations, but many Italian financial institutions operated in the country. These were Banco de Naples, Banca Naziodaledale Lavora and Banco de Roma. It should be noted that Barclay Bank opened a branch in Ethiopia in 1942-43. A.D. ESOPA and the Ethiopian Investment Bank have been established. Later, Ethiopian Development Corporation S.C. In the same year, Savings and Credit Manufacturing Company Founded (NBE, 2012).

With the withdrawal of the Italians and the restoration of the reign of Emperor Haile Selassie, the Bank of Ethiopia was established in 1943 with a total capital of 1 million Maria Theresa Dollar, published in Charter 18/1993 (EC). Like the Bank of Ethiopia, the State Bank of Ethiopia has merged the Central Bank's operations with the Commercial Bank to open 21 branches, including one in Khartoum (Sudan) and a transit office in Djibouti. A.D.

In 1963, the State Bank of Ethiopia, the National Bank of Ethiopia, and the Commercial Bank of Ethiopia S.C. Central bank functions are divided into commercial banks. The new banks were launched in 1964 (NBE, 2012). According to NBE (2012), Addis Ababa Bank S.C., which started its private operations in 1964, is owned by Ethiopian shareholders, expatriates living in Ethiopia, and National and Grend Bank of London. The bank has done our usual business of commercial banking. Banco de Roma and Banco de Naples also continue operations.

Thus, by the end of 1974, there were state, foreign and Ethiopian banks in Ethiopia. The banks were established for various purposes: Central Bank, Commercial Bank, Development Bank and Investment Bank. Such differences in practice, lack of widespread banking experience, unbalanced branch network, and inequitable banking have made the competition issue between banks almost irrelevant (NBE, 2012). According to NBE (2012), following the proclamation of socialism in 1974, the government took full control of the entire economy and nationalized all large corporations. As a result, the existing private banks and 13 insurance companies will be merged with the state-owned banks,

It is coordinated, supervised and supervised by the National Bank. The three private banks Banco de Roman, Banco de Napoli and Addis Ababa Bank S.C. formed a new bank. Finally, in 1980, the bank merged with the Commercial Bank of Ethiopia S.C. The Ethiopian Investment and Savings S.C. was established in 1976 by merging with the Ethiopian Government Savings and Mortgage Company and the Housing and Savings Bank. As a result, from 1975 to 1994, four state-owned banks and one government insurance company: the National Bank of Ethiopia (CBE), the Commercial Bank of Ethiopia, the Housing and Savings Bank, the Development Bank of Ethiopia, and the Ethiopian Insurance Corporation (Habtamu, 2012) followed the fall of the Derg regime. He said there are opportunities to invest in financial institutions with a policy that encourages private investors to invest in banks, MFA and insurance companies. Although the history of private commercial banks in the country is very short, the banks have managed to contribute their part in provision of banking services and sharing the monopolies enjoyed formerly by the state owned Commercial Bank of Ethiopia (Ebisa, 2012). Accordingly, in Ethiopia the lists of private commercial banks include Awash Bank, which is the first private commercial bank in the country and others followed like Dashen Bank, Hibret Bank, Wegagen Bank, Bank of Abyssinia, and Cooperative Bank of Oromia, Lion International Bank, Oromia

Bank, Zemen Bank, Bunna Bank, Nib International Bank, Berhan Bank, Enat Bank, Addis Bank, Debub Global Bank, Abay bank, and others under formation are included. Currently, the banking industry of Ethiopia is dominated by the three state owned banks namely, commercial bank of Ethiopia, National bank of Ethiopia and development bank of Ethiopia. Due to the existence of these three dominant state owned banks, the private commercial banks play a minimal role in the financial system of the country. However the state owned banks were comparatively inefficient relative to private banks (Ebisa, 2012).

2.6. Research Gap

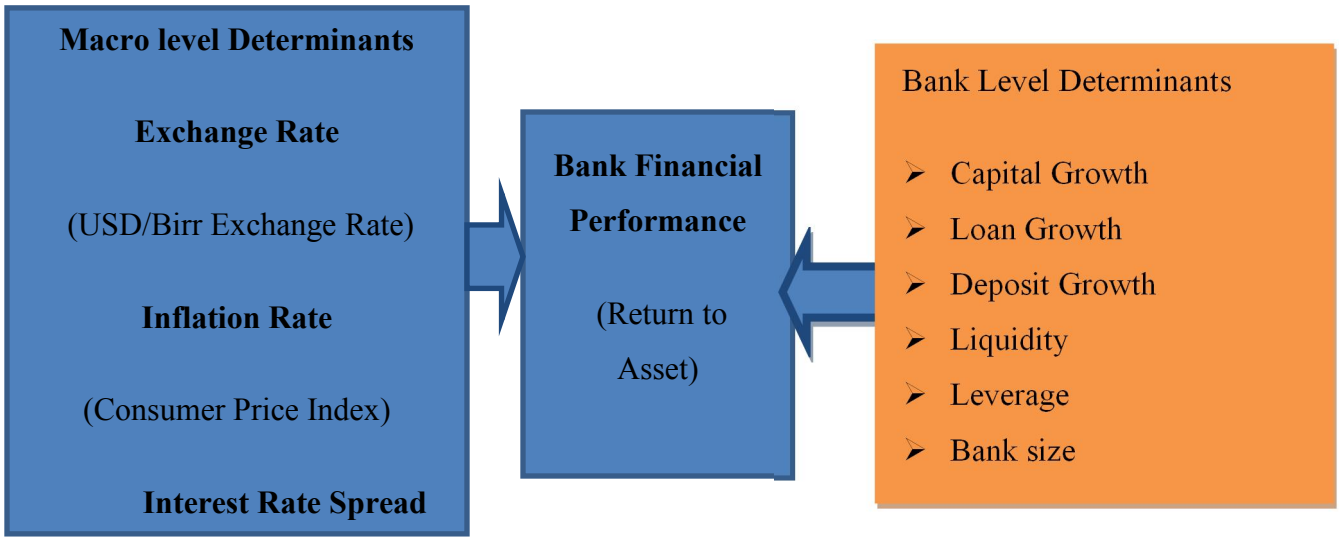
This chapter reviews material that is important for the study. In particular, he reviewed the theories leading up to the study: contraction foreign exchange vulnerability theory, currency origin theory, purchasing party theory, interest rate parity theory, and global fishery results. Explain the value of foreign exchange in organizations involved in international trade. The study reviewed concrete findings from both external and internal perspectives. (Isaac) (2015), Wong et al. (Ahmed) (2015); Bergen (2010); Addael, Nyarko-Baasil and Tetteh (2014): Opaluwa et al (2010) and Rutto and Ondiek (2014)'s findings on globalization in countries where it is not applicable to Ethiopian companies. Changes in the Financial Performance of Commercial Banks in Ethiopia (2015) Banda (2012) attempted to investigate the effect. Exchange rate fluctuations in coffee and agricultural exports. However, since agricultural production is very different from the banking sector, it is important to understand the impact of exchange rate fluctuations on the financial performance of a bank to minimize financial risk.

The impact of foreign exchange rates on the profitability of the financial sector and the profitability of other sectors is inconsistent. Other researchers such as C. Lagat and M. Nyandema (2016), Adel, Niarko-Basil and Teteh (2014) have strong positive and significant correlations between foreign exchange rates and financial performance indicators, while the findings of other researchers such as Tadesse 2015 (Ahmed) (2015), Opaluwa, Umeh and Ameh (2010) and Amezenech (2018) have a statistically negative impact on statistical and for-profit organizations and researchers such as Lake (2013) have a significant impact on profitability. Commercial Banks. Thus, this study examines the impact of foreign exchange rates on the

financial performance of private commercial banks in Ethiopia and seeks to provide concrete evidence that can contribute to correcting this imbalance.

2.7 Conceptual Framework

Banks are experienced different profitability rate in different years due to both macro-economic factors such as inflation, exchange rate, interest rate spread and bank specific factors such as capital growth, loan growth, deposit growth, liquidity, and leverage and bank size. Since all commercial banks in Ethiopia operate domestically, fluctuations in foreign exchange rates can have both positive and negative effects. There is some concrete evidence of the impact of foreign exchange rates on the financial performance of commercial banks in Ethiopia. The conceptual framework is a graphical representation of the relationship between two or more variables in a study (Mugenda and Mugenda, 2008).King and Levine (1993), Abdi (2010), Dang (2011) are some of the authors described the banking and its importance in economic development of the country. Pankrust (1968), Mulugeta (1998), Geda (2006), Tigabu (2009), are some of the scholar's deeply analyzed Ethiopian Banking sector on their researches. Sahajwala and Bergh (2000), Gilbert et.al, (2002), Sarker (2005), Khan (2006), Ehrhardat and Brigham (2011), Babar and Zeb (2011), are some of the scholars conducted researches on Financial analysis and its role in assessment of financial performance of the banks. They concluded that there is significant relationship between financial performance and determinant factor like ROA.



Source: Researcher Own design from Empirical Research, 2022

CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

This chapter describes the research design and methodology of the study it sights the research design, the full description of the research design, the research variables and provides a comprehensive view of the description and selection of the sample population. Research tools, data collection techniques, and data analysis procedure are also indicated.

3.2 Research Design

Research design is about organizing events to collect and analyze data in relation to the purpose of the research and in relation to the ongoing economy. Research design requires a wide range of research activities to be carried out efficiently, thus making research as efficient as possible and providing significant information with minimal effort, time and money. (Kotari, 2004)

This study received an explanatory form of research design. This type of research design helps to identify and evaluate the ordinary relationship between the various variables under consideration (Creswell, 2014). In addition, descriptive research design is used to test the relationship between dependent and independent variables. The study used a numerical analysis method. According to Chriswell, the 2014 numerical survey is an approach to examining hypotheses and theories by examining the relationships between variables. These variables, in turn, can be measured on devices, so large amounts of data can be analyzed statistically. This article is appropriate for the study of the relationship between dynamic numerical approaches. The design was appropriate because it allows the description and interpretation of existing relationships as well as the variables under study. In this study, the relationship between the foreign exchange rate and financial performance of private commercial banks is determined. Dependent variables in this regard are represented by financial performance, while independent variables are represented by foreign exchange rates, interest rate distribution, and inflation.

3.3. Research Approach

Research Approach is the plan and Procedure that Consists of Steps of broad assumptions to detailed method of data collection analysis and Interpretation. The main purpose of this research is to examine determinants factors on the financial performance of selected private commercial banks in Ethiopia for the period of 2011 to 2021. The study adopting descriptive research that using a quantitative research design through the use of secondary data. Descriptive research considers traits like the size of the sample in relation to the target population, the study variables, the methodologies to the research and the methods that were busy in data collection. For these reasons explanatory research design is more suitable since the study aims to analyzing the determinants factors on the financial performance.

3.4 Sample Size and Sampling Procedure

Population in statistics is the specific population about which information is desired. According to Kothari (2004), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The target population comprised all 20 commercial banks operating in Ethiopia as at 2021. In this study the sample population was private commercial banks registered by National Bank of Ethiopia (NBE) and operate in Ethiopia, and for this study 11 years data from 2011-2021 from audit financial reports will be uses. Eleven private commercial banks was selected as sample from 20 private commercial banks, because 11 years data was need for the study and all the other private commercial banks have not have Eleven years data.

Table 3.1 List of Private Commercial Banks in Ethiopia

No.	Name of commercial banks	Year of establishment
1.	Bank of Abyssinia	1996
2.	Awash Bank	1994
3.	Dashen Bank	1995
4.	Wegagen Bank	1997
5.	United Bank	1998
6.	Nib International Bank	1999
7.	Cooperative Bank of Oromia	2005
8.	Lion International bank	2006
9.	Oromia Bank	2007
10.	Zemen Bank	2009
11.	Buna Bank	2009
12.	Berhan Bank	2010
13.	Abbay Bank	2010
14.	Debub Global Bank	2012
15.	Enat bank	2013
16.	Addis Bank	2011

Source; National Bank of Ethiopia, 2021

To investigate the determinants of financial performance of private commercial banks and achieve objectives stated; banks with 11 years of operation (service) since 2011 up to 2021; and who declared cash dividend were included. Accordingly; banks who satisfy the above criteria were only 11 banks. These banks are Dashen Bank S.C (DB), Awash Bank S.C (AB), Wegagen Bank S.C (WB), Hibret Bank S.C (HB), Nib International Bank S.C (NIB), Bank of Abyssinia S.C (BOA), Zemen Bank (ZB), Oromia Bank (OB), Lion International Bank (LIB), Cooperative Bank of Oromia (CBO), and Abay Bank (AB) Thus, it is possible to describe, forecast and draw conclusion using 121 observations (11 years X 11 Banks). The output of both correlation and

regression analysis were measured in terms of 1%, 5%, and 10% significance level of confidence interval.

Table 3.2 List of Sampled commercial Banks as of June 30, 2021

S/n	Name of the Bank	Years of Establishment	Owner Ship
1	Awash Bank	1994	Private
2	Dashen Bank	1995	Private
3	Bank Of Abssinia	1996	Private
4	Wegagen Bank	1997	Private
5	United Bank	1998	Private
6	Nib International Bank	1999	Private
7	Cooperative Bank Of Oromia	2005	Private
8	Lion International bank	2006	Private
9	Zemen Bank	2009	Private
10	Oromia Bank	2007	Private
11	Abay Bank	2010	Private

3.4. Data source and Data Collection tools

Data collection method is a phrase used to describe a method or method by which a researcher collects useful information to answer research questions. A secondary source of data was preferred by the researcher since it is less expensive in terms of time and money while collecting. And also, it affords an opportunity to collect high quality data (Saunders et al., 2007) cited in (Gadise, 2014). Accordingly, secondary data were obtained from the annual financial statements audited by private commercial banks in Ethiopia. This information includes both bank special and macroeconomic conditions. Bank-based information is obtained from the annual reports and financial statements of the selected banks. Data on macroeconomic fluctuations (inflation and exchange rate fluctuations) were collected from annual reports published by the National Bank and the Ministry of Trade (MOT), formerly known as the Ministry of Finance and Economic Development.

3.5. Data Analysis

As noted by (Kothari, 2004), after completion of collection and sorting, data has to be analyzed in line with the purpose of the research plan. Accordingly, secondary data was collected from annual financial statements of the concerned commercial banks in Ethiopia: NBE and Ministry of Trade. The data was then analyzed using the Eview Version 9, 2022 Software to assess the Determinants of Financial performance on private commercial banks in Ethiopia. A multi-linear regression model and a specification test were used to determine the relative significance of each independent variable affecting ROA. The multi-line regression model was developed and OLS was developed using the Eview Version 9, 2022 statistical software package, to test the simple relationship between a company's profitability and its determinants and to identify the most important and influential variables influencing personal business profitability Banks. This study analyzed data based on private commercial banks operating in Ethiopia from 2011-2021. Examining Determinants of financial performance on Private Commercial Banks in Ethiopia to this end, the researcher used a panel data method to examine the Factor Determinants of financial performance on Private Commercial Banks in Ethiopia

3.6. Model Specification

Modeling is based on panel data techniques. Comprises of both cross sectional elements and time series elements; the cross sectional element is reflected by the 11 selected commercial banks and the time series element is reflected the period of study (2011-2021). Panel data is favored over time series or cross sectional data because it can control for individual heterogeneity and there is a less degree of multi-linearity between variables. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Brooks, 2008)

To comply with the objective, the study was primarily based on panel data, which was collected through structured document review. As noted in (Baltagi, 2005) the advantage of using panel data is that it controls for individual heterogeneity, less collinearity among variables and tracks trends in the data something which simple time series and cross- sectional data cannot provide. Thus, the collectable panel data was analyzed by using descriptive statistics, correlations, and

linear regression analysis. Mean values and standard deviations used to analyze the general trends of the data from 2006-2018. A multiple linear regressions model and t-static was used to determine the relative importance of each indicators of liquidity management.

According to (Brooks, 2008) the general multivariate regression model with 'X' independent variables can be written as follows:-.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_{8+} e$$

Where;

- Y= Financial performance (ROA Dependent Variable)
- α is the value of the intercept.
- βi is the coefficient of the explanatory x variables.
- è is the error term assumed to have zero mean and independent across time period.
- X_1 is the capital adequacy ratio abbreviated as CA
- X_2 is the Loan to deposit ratio abbreviated as Ln/Dep
- X_3 is loan growth abbreviated as LnGr
- X_4 is the deposit growth abbreviated as DepGr
- X_5 is the Foreign Exchange rate abbreviated as ExcR
- X_6 is Interest rate spread measured Lending interest rate minus depositor interest rate and abbreviated as Intsp
- X_7 is Inflation measured by Annual change in Consumer Price Index and abbreviated as Inf
- X_8 is bank size measured by the natural logarithim of total asset and abbreviated as BnkSz

3.7. Definition of Research Variables.

3.7.1 Dependent variables

- **Return On Assets(ROA)**

The Return on asset measures the organizations profit obtained in relations to the assets that are used. Liquidity on the other hand refers to the firm's ability to be to cater for its financial

obligations without affecting its financial capability. While net on profits is the total amount gain obtained in company less the expenses made to obtained the level of profit. (Farah, 2014)

Return on Assets (ROA) Profitability is the goal of all business ventures. Without it the business will not survive in the long run. Profitability is measured with income and expenses. Income is money generated from the activities and the investments in assets. Increasing profitability is one of the most important tasks of the business managers. Managers look for ways to change the business to improve profitability. These potential changes can be analyzed with a pro forma income statement or a Partial Budget. Partial budgeting allows you to assess the impact on profitability of a small or incremental change in the business before it is implemented. A variety of Profitability Ratios can be used to assess the financial health of a business. These ratios, created from the financial statement.

3.7.2 Independent variables

A. **Loan to deposit ratio:** Is majorly used statistic for assessing banks' ability to meet its obligations by dividing the banks total loans by its total deposits. It's expressed as a percentage. A higher ratio shows a higher liquidity risk and vice versa.

   Loan/ deposit = $\frac{total\ loan}{total\ deposit}$

B. **Capital adequacy** the primary reason why banks hold capital is to absorb risk – including the risk of liquidity crunches, protection against bank runs, and various other risks, most importantly credit risk. Although the reason why banks hold capital is motivated by their risk transformation role, recent theories suggest that bank capital may also affect banks' ability to create liquidity. These theories produce opposing predictions on the link between capital and liquidity creation. The "financial fragility-crowding out" theories predicts that higher capital reduces liquidity creation. (Diamond & Rajan, 2005) focus on financial fragility. They model a relationship bank that raises funds from investors to provide financing to an entrepreneur. The entrepreneur may withhold effort, which reduces the amount of bank financing attainable. More importantly, the bank may also withhold effort, which limits the bank's ability to raise financing. A deposit contract mitigates the bank's holdup problem, because depositors can run on the bank if the bank threatens to withhold effort – and therefore maximizes liquidity creation. Providers of capital cannot run on the bank, which limits their

willingness to provide funds, and hence reduces liquidity creation. Thus, the higher a bank's capital ratio, the less liquidity it will create. Moreover, the negative effect of capital on liquidity creation as suggested by (Diamond & Rajan, 2005) depends crucially on deposit insurance coverage being incomplete. If deposit insurance were complete, depositors have no incentive to run on the bank, and a deposit contract does not mitigate the bank's holdup problem. Furthermore, (Gorton & Winston, 2000) show that a higher capital ratio may reduce liquidity creation through another effect: the crowding out of deposits. They consider that deposits are more effective liquidity hedges for agents than investments in bank equity. Indeed, deposits are totally or partially insured and withdraw able at par value. By contrast, bank capital is not eligible and with a stochastic value that depends on the state of bank fundamentals and on the liquidity of the stock exchange. Consequently, higher capital ratios shift investors' funds from relatively liquid deposits to relatively illiquid bank capital. Thus the higher is the bank's capital ratio; the lower is its liquidity creation. Under the alternative "risk absorption" hypothesis, which is directly linked to the risk transformation role of banks, higher capital enhances banks' ability to create liquidity. This insight is based on two strands of the literature. One strand consists of papers that argue that liquidity creation exposes banks to risk. The more liquidity that is created, the greater is the likelihood and severity of losses associated with having to dispose of illiquid assets to meet the liquidity demands of customers. The second strand consists of papers that posit that bank capital absorbs risk and expands banks' risk-bearing capacity. Combining these two strands yields the prediction that higher capital ratios may allow banks to create more liquidity. Hence, the proxy of capital adequacy will be shown as

$$\textbf{Capital Adequacy} = \frac{total\ capital}{total\ asset}$$

C. **Loan growth**: - Provision of loan is one of the major functions of banks by which banks create liquidity to the external public. Generally loans are considered as illiquid assets and generate higher revenue to banks. Therefore, the increase in loan means increase in illiquid assets and decrease in short term/liquid assets. As it was made by various empirical studies as well as the above argument the study expected negative relationship between bank's loan growth and liquidity. Lending is the principal business activity for most commercial banks.

The loan portfolio is typically the largest asset and the predominate source of revenue. As such, it is one of the greatest sources of risk to a bank's safety and soundness. Since loans are illiquid assets, increase in the amount of loans means increase in illiquid assets in the asset portfolio of a bank. According to (Pilbeam, 2005) in practice the amount of liquidity held by banks is heavily influenced by loan demand that is the base for loan growth. If demand for loans is weak, then the bank tends to hold more liquid assets (i.e. short term assets), whereas if demand for loans is high they tend to hold less liquid assets since long term loans are generally more profitable. The proxy for loan growth was annual growth rate of gross loans and advances to customers.

Therefore it is calculated as:

Loan growth = $\frac{current\ year\ total\ loan - previous\ year\ total\ loan}{previous\ year\ total\ \ loan}$

D. Deposit Growth: total deposit is compressed of three main components such as; current deposit, saving deposit and fixed deposit. Each are discussed as below;

I. **Current deposit** is a deposit generally used by businessman, industrialist, and others to settle debts. These current deposit, on which cheques are issued are also known as cash deposit or demand deposits. They are mostly non-interest bearing.

II. **Saving deposit**: most people as a form of savings maintain these deposits so as to earn interest from the banks. The saving deposits are not only held to meet the needs of the present or the near future but are also kept by individuals as a part of their total stock of wealth.

III. **Term (fixed) deposits**: in this deposit deposited money will be kept by bank for some specified terms to mature with predetermined or negotiated interest rate .The money can be withdrawn only after a given period of time or term. Total deposit growth of the bank enhances the liquidity of the bank as it helps the bank to meet their obligation. Hence, the proxy of the deposit growth is expressed as:

Deposit growth= $\frac{current\ year\ deposit - previous\ year\ deposit}{previous\ year\ deposit}$

E. Foreign exchange rate

For this study, the researcher used foreign exchange rates as an independent variable to measure the financial performance of private commercial banks in Ethiopia. The official exchange rate ETB to USD is the major trading currency used in international trade for this study. Data obtained from NBA, Annual Average Exchange Rate ETB to USD Report. Some domestic researchers have concluded that foreign exchange rates have a negative impact on the performance of commercial banks. Banduk (2012), Like Lake (2013),(Tadesse (2015), Amazenech (2018), and The impact of foreign exchange rates on performance banks is not insignificant.

F. Interest rate spread

Interest rates as an independent variable to measure the impact of foreign exchange rates on the financial performance of private commercial banks in Ethiopia. Calculate the interest rate distribution of each bank by subtracting the maximum loan amount from the minimum deposit amount. According to Literary Review Lake (2013) and (Tadesse (2015)), interest rates have been shown to have a significant negative impact on Statistics E-statistics and Ethiopia's Bank Profitability.

G. Inflation rate

For this study, the researcher used inflation as an independent variable to measure the financial performance of private commercial banks in Ethiopia. The researcher uses the Consumer Price Index to measure inflation because the Consumer Price Index is the total cost of goods and services per consumer. (Mankow, 2003) and data from MOT, Annual Average CPf Report. For example, Ahmed (2015) concludes that inflation has a negative impact on bank performance.

H. Bank Size

For this study, the researcher used bank size as an independent variable to measure the impact of foreign exchange rates on the financial performance of private commercial banks in Ethiopia. Natural logarithm is a general resource used to measure the size of each bank because banks hold more resources than deposits. Larger banks, such as Wildwood (2010) and Ahmed (2015), are

more efficient compared to smaller enterprises because they use more resources. In other words, bank size has a positive effect on bank performance.

Table 3.3: Operational Definition of Variable

Symbol	Variables name	Measurement	Nature	Expected sign*
RoA	Return on Asset	$\frac{Net\ Income}{Average\ Total\ Asset}$	Continuous	Dependent
LR	Liquidity Ratio	$\frac{Current\ Asset - Inventory}{Current\ Liability}$	Continuous	No relation
CA	Capital growth	$\frac{current\ year\ capital - previous\ year\ c}{previous\ year\ capital}$	Continuous	No relation
Ln Gr	Loan growth	$\frac{current\ year\ loan - previous\ year\ loan}{previous\ year\ loan}$	Continuous	No relation
Dep Gr	Deposit Growth	$\frac{current\ year\ deposit - previous\ year\ d}{previous\ year\ deposit}$	Continuous	No relation
BnkSz	Bank size	The natural logarithm of total asset	Continuous	No relation
ExcR	Exchange Rate	Annual exchange rate of USD to ETB.	Continuous	No relation
Inf	Inflation	Annual change in Consumer Price Index.	Continuous	No relation
Intsp	Interest rate spread	Lending interest rate minus depositor interest rate.	Continuous	No relation

CHAPTER 4

4. DATA ANALYSIS AND PRESENTATION

4.1. Introduction

This chapter deals with the data presentation, analysis, and interpretation. It is organized in three parts; first descriptive statistics, then correlation analysis and finally CLRM regression results were presented with their OLS assumptions.

To investigate the determinants of financial performance of private commercial banks and achieve objectives stated; banks with 11 years of operation (service) since 2011 up to 2021; and who declared cash dividend were included. Accordingly; banks that satisfy the above criteria

Were only 11 banks. These banks are Dashen Bank S.C (DB), Awash Bank S.C (AB), Wegagen Bank S.C (WB), Hibret Bank S.C (HB), Nib International Bank S.C (NIB), Bank of Abyssinia S.C (BOA), Zemen Bank (ZB), Oromia Bank (OB), Lion International Bank (LIB), Cooperative Bank of Oromia (CBO), and Abay Bank (AB) Thus, it is possible to describe, forecast and draw conclusion using 121 observations (11 years X 11 Banks). The output of both correlation and regression analysis were measured in terms of 1%, 5%, and 10% significance level of confidence interval.

4.2 Descriptive Statistics

The main idea of descriptive statistics for a given study is calculating (measuring) the variability and location. Variability is measured by standard deviation to the variation of each observation from the mean and the mean of the observation is used to measure the location.

(Brooks, 2014); stated that; if the number of observations is the same for all observation; the result is identical for both 'common sample and individual sample'. According; (Brooks, 2014) in order to describe the series describing only 'mean and standard deviation' is sufficient enough if the information for a given data follow a normal distribution. For the sake of elaboration, the

researcher included the ‘min and max’ value of the observation in addition to the aforementioned ‘mean and standard deviation.

Table 4.1: Summary of descriptive statistics for dependent and independent variables

	ROA	CAPGR	DEPGR	LONGR	LIQ	LEV	SIZE	Exc rate	spread	INF
Mean	22.43	7.078	24.67	23.68000	0.4349	5.995	3.9976	23.94	0.067	15.25
Median	21.50	6.755	24.0	24.65500	0.388793	6.066	4.0456	20.09	0.069	13.54
Maximum	42.43	9.930	46.5	33.50000	1.182876	9.410	4.8729	48.52	0.083	34.14
Minimum	10.72	5.120	8.06	10.88000	0.147434	2.113	2.5588	12.89	0.025	7.400
Std. Dev.	6.745	1.443	8.01	5.581441	0.206616	1.512	0.4674	10.52	0.012	7.778
Jarque-Bera	13.37	9.252	1.63	5.0859	24.10810	1.474	5.2645	40.42	54.73	28.04
Probability	0.001	0.009	0.440	0.078631	0.000006	0.478	0.0719	0.00	0.000	0.000
Obs	120	120	120	120	120	120	120	120	120	120

Source; Review Version 9, 2022

Table 4.1 shows a mean value of 22.43% for return on asset indicating that the private banks in Ethiopia has generated 22.43 cents from 1 birr investment in total asset as return on asset or profitability with 6.745 variability ups and downs for the period from year 2011 to 2021. The figure indicated that Ethiopian banking industry is a one of the large sector which has high profit level looking at average. On average, they distribute can earn 22.43 birr from 100 birr total investment. The maximum return from total asset scored in Ethiopian private banking was 42.43 birr from total investment and the minimum score was 10.72 birr from 100 birr investment in total asset. The standard deviation confirmed that there was high variability in profitability range of private commercial banks in Ethiopia.

The capital growth of private Ethiopian banking industry is registered at a mean of 7.07% from year to year within the period of 2011-2021 as evidenced from sampled private commercial banks with less variability among them which is only 1.43 units. It may be since banks are issued subsequent capital after establishment only for their outstanding stakeholders. The maximum capital growth within private commercial banks in Ethiopia was 9.9 percent and the minimum was 5.1 percent.

Deposit growth was measured by the ratio of (current year deposit-previous year deposit)/previous year deposit. The mean value of deposit growth was 24.67%. It indicated that during the period from 2011 to 2021, the listed private commercial banks in Ethiopia could increase the total deposit growth at the average of 24.67%. The range of Deposit Growth was a maximum of (46.56%) and a minimum of (8.06%). That means the most successful bank among the sampled scored (46.56%) and the least performed bank scored 8.06%. The value of the standard deviation for Deposit Growth is 8.01; this implies that the deposit growth of Ethiopian Commercial banks varies from the mean by 8.01 times. Which indicate that there high variation from the mean, the high standard deviation is indication that most of the observations are not concentrated around the mean.

The loan growth was measured by the ratio of (current year loan - previous year loan)/previous year loan. The mean value of loan growth was 23.68%. It indicated that during the period from 2011 to 2021, the listed commercial banks could increase the total loan growth at the average of 23.68%. The range of loan growth was a maximum of 33.5% and a minimum of 8.06%. That means the most successful bank among the sampled scored (33.5%) and the least performed bank scored 10.88%. The value of the standard deviation for loan Growth is 5.58; this implies that the loan growth of Ethiopian Commercial banks varies from the mean by 5.58 times.

Ethiopian private banks have on average 43.49% liquidity position measured by current asset divided by current liability. This means that for a one-birr current liability or current obligation there is an available 43.49 cents on average on current assets, a maximum liquidity position of 118% and minimum of 14.74% with a dispersion of 20.66% ups and downs. Thus, it can be concluded that private Ethiopian commercial banks are in problem of liquidity adequacy, which will disturb other function of private commercial banks, perhaps which will be the reason of cash reserve ratio or lending ration of private commercial banks in Ethiopia. It is believed a company is solvent if it has a minimum of one-to-one proportion between current asset and current liability, where for every one-birr current liability there is a minimum of one birr in current asset. But the nature of the banking industry is highly dependent on deposit, which is a debt, to finance their operation, where they receive deposit from the public, mainly has a nature of short term, and extend loan to borrowers both for short and long period of time. Receiving short term deposit and providing long term loan, create a gap on banks liquidity management but

evaluating the above figure based on National bank of Ethiopia liquidity requirement of a minimum of 15% shows Ethiopian private banks have maintained a liquidity position of more than 2 times above the minimum requirement and it can be said they are solvent.

In the leverage ratio which is the debt to total equity shows how much the debt has a share from the capital. As it is clearly depicted from the above table the debt is 5.99 times larger than the total equity structure in Ethiopian private banking experience for the given period on average. The maximum observation or the largest debt composition was 9.41 or approximately 9 times greater than the equity composition. The variation among banks is to the extent of 1.51 units which seems no more deviation is observed among banks experience.

Bank size was at average of 3.99 percent which is measured by natural logarithm of total asset of commercial banks. The maximum log of total asset in selected banks was 4.87 units and the minimum was 2.55 units. The mean observation was with minimum deviation among banks which is only 0.46 units. Over the selected period, bank size was increasing at alarming rate which is evidenced from result of natural log of total asset.

Interest Rates (leading rate- saving rate) spread has a minimum of 2.5%, and a maximum of 8.3% with standard deviation of 1.22%, and a mean of 6.73%. This means on average Ethiopian private commercial banks got 6.35 percent of profit for each birr they lend. The lower interest spread from the expected may be due to the lower exchange rate for lending of entrepreneurs and the higher interest rate for fixed deposit.

Foreign exchange rate (USD in respect of ETB) variable has a mean value of 23.94 in the study period. The maximum foreign exchange rate 48.52 was registered in the last year of this study (2021) and minimum 12.89 in the early days of this study (2011). The Ethiopian birr was devaluated many times by demand and supply force and also decision of national bank of Ethiopia to strengthen export of Ethiopia as a nation. This definitely increase the return of commercial banks from proceed of foreign currency buying and selling and from commission of issuing letter of credit to large scale traders. Thus, this is one of the basic determinants of commercial banks financial performance.

Inflation rate is a variable which measures the variability of the price level in the economy. The

average CPI rate 15.25% of the country over the last ten years from year 2011 to 2021 was more than the average Real Gross Domestic Products growth rate (GDP). The rate of inflation was highly dispersed over the periods under study towards its mean with standard deviation of 7.78%. The maximum and minimum inflation rate was 34.14% and 7.4% respectively. When inflation has increased, the birr amount or return in birr will increase even if the benefit of the return will decrease, thus private Ethiopian banks were also suffered from it.

4.3. Correlation Analysis

The correlation between the dependent variable (return on asset as a measurement of financial performance through profitability) and independent variable showed in the above table. According to the correlation output profitability or financial performance was positively correlated with capital growth, deposit growth, loan growth, liquidity, leverage, and size from the listed firm specific factors which means all firm specific factors are correlated with profitability.

The positive correlation between capital growth and return on asset is resulted because when capital increase the investment tends will increase and the return will be also increased. Thus when capital increase, the return and return on asset will increase definitely. But the correlation degree between return on asset and capital growth is weak. The positive correlation between return on asset and loan growth and deposit growth is also as expected even if the degree of association is too weak. The leverage and liquidity have highest correlation coefficient and the size has too weak correlation coefficient with return on asset.

The surprising result is the positive correlation between liquidity and financial performance measured by return on asset. Logically it is unexpected because when liquidity increase, the cash retained at the bank and prohibited from long term investment will be high, which will reduce the return of the bank. But, this may be due to the mathematical or statistical relationship between the two variables since the denominator for both return on asset and liquidity is total asset or asset section. From the macro level determinants of financial performance of private commercial banks of Ethiopia, only inflation has a positive correlation with return on asset, as a result of the inflation, the price of good and service will increase which will defiantly boost revenue and also profit level as a result when inflation increase the return on asset or profitability.

The remaining two macro level determinants which are foreign currency exchange and interest spread have a negative effect on financial performance. The foreign currency exchange will reduce profitability since firms are not actively import goods in return reduce the borrowing effort of firms from banks. Not only this, when foreign currency exchange rate increase, the shortage will occur, again which will reduce the profitability of the banks.

The negative correlation of interest spread and financial performance measured by return on asset is also expected. The interest spread increase either of decreasing the borrowing rate which will reduce the number of depositors and as a result fund for loan will reduce or increasing the lending rate which will reduce the number of borrowers from bank as a result funds available for fund will be idle. Thus, in any case when interest spread increase, the marginal effect will be reducing profitability. Regarding to their correlation coefficient, inflation is highly correlated with return on asset followed by exchange rate while the correlation coefficient for interest rate spread is relatively weak from the view of macro level determinants.

Table 4.2 Correlation Matrix of Dividend Payout Ratio with Firm Level Determinants

	ROA	CAP GR	DEP GR	LON GR	LIQ	LEV	SIZE	Exch. R	SPR EAD	INF
ROA	1.0000									
CAPGR	0.147	1.0000								
DEPGR	0.025	0.2169	1.000							
LONG R	0.1256	0.022	0.0279	1.0000						
LIQ	0.239	0.325	-0.0094	0.0530	1.0000					
LEV	0.311	-0.083	-0.0598	0.1215	-0.1872	1.0000				
SIZE	0.076	-0.252	0.0648	0.1172	-0.6303	0.5124	1.00000			
EXCH_	-0.1295	-0.131	0.1936	0.2092	-0.5329	0.2165	0.59098	1.000		
SPREA D	-0.101	-0.120	-0.0135	-0.1690	-0.3865	0.0583	0.36454	0.381	1.00	
INF	0.226	-0.053	0.0148	0.1252	0.3693	-0.0345	-0.2376	-0.01	-0.24	1.00

Source: E-view 9, computation 2022

4.4. Regression Analysis

4.4.1 The five OLS Assumptions (for Fixed effect Panel Regression Model).

Conducting diagnostic test for any violation of CLRM assumptions is very important in order to check whether OLS estimators have the desirable property. Is the error terms have zero mean, co-variances between the error terms are zero, the variation of error terms are zero, is all explanatory variables are not correlated each other? And the error terms are normally distributed? Are the five OLS assumptions used here in this study to verify the overall result of the regression?

The diagnostic tests were undertaken to ensure that the assumptions of classical linear regression model are concerned, the coefficient estimators of both α (constant term) and β (independent variables) that are determined by ordinary least square (OLS) will have a number of desirable properties, and usually known as Best, Linear, Unbiased and Estimators (BLUE). When we say the regression model is fit the assumptions underlying in CLRM must be appropriate. The diagnostic tests should be conducted before the regression analysis is carried out which means the test of assumption of regression model is required. Hence, the following sections discuss results of the diagnostic tests (i.e., heteroscedasticity, autocorrelation, multicollinearity, and normality tests) that were conducted to ensure whether the data fits the basic assumptions of classical linear regression model or not. The implication of the test, decision rules therein, test results and their discussion are discussed in the upcoming sub sections.

Assumption one: Error Terms Have Zero Mean: Based on this assumption the error terms have zero mean. But if the regression has a constant term this assumption will never be violated. Because this study has a constant term it is not going to be a problem.

Assumption Two: the Variation of Error Terms are Zero

According to **(Brooks, 2014);** the error terms are termed as ‘homoscedastic’ if they don’t have constant variance and heteroscedasticity if they have constant variance. There are a number of methods to test this assumption: like graphical method, (Goldfeld Quandt, 1965) and (White’s, 1980) are the common ones. Because of the subjectivity of the decision on the graphical method and the difficulty of the choice where to split on Goldfeld Quandt method; this research used

White's 1980 method. The homoskedasticity is one of the assumptions of the CLRM which states that the variance of the errors must be constant. If the errors do not have a constant variance, they are said to be heteroskedastic (Brooks, 2008). As noted in (Brooks, 2008) Homoskedasticity fails whenever the variance of the unobservable changes across different segments of the population, which are determined by the different values of the explanatory variables. The Breusch-Pagan-Godfrey test for heteroskedasticity was used to test the presence of the heteroskedasticity.

Table 4.3 Heteroscedasticity; White's test

Heteroskedasticity Test White			
F statistic	**2.175832**	**Prob F (9,120)**	**0.3466**
Obs'R-Squared	**16.25811**	**Prob Chi-Squared (9)**	**0.3833**
Scaled Explained SS	**21.10998**	**Prob Chi-Squared (9)**	**0.1686**

Source; own computation on EViews 9, 2022

From the above table we can understand that; there is no evidence for the presence of heteroskedasticity because the probability of both F-statistics and chi-square are considerably above 5%

Assumption Three; co-variances between the error's terms are zero

The errors are called auto-correlated (Serially correlated); if the errors are uncorrelated each other (Brooks, 2014). DW and BG tests are the common and widely used methods of testing the existence of autocorrelation. Accordingly, both methods were applied in this study. The DW test statistics value from the regression result is 1.81. The relevant critical values for the test even based on 150 observations (T) and 8 explanatory variables (K'); Lower and upper 1% critical values for Durbin–Watson statistic were dL = 1.515, dU = 1.737, so 4 − dU = 2.263 and 4 − dL = 2.485 (Brooks, 2014) and (Gudjrati, 2009).

The Durbin Watson test reports as a test statistic, with a value from 0 to 4, where

1. If the value is 2, there is no autocorrelations
2. If the value is between 0 to less than 2, there is positive autocorrelation
3. If the value is in between greater than 2 and less than 4, there is negative autocorrelation.

But according to the rule of thumb, the Durbin Watson test value in between 1.5 and 2.5 shows a relative normal data or it depicts as there is no autocorrelation. Or on the other hand, there is no any evidence to reject the null hypothesis which state as there is no autocorrelation between data.

Test	**Result**
Durbin Watson test	1.88

The result shows that the DW result is presented between the upper critical value and four mines critical value; thus, the hypothesis of no autocorrelation is not rejected. According to (Brooks, 2014) DW assumption regresses are not stochastic; which is mostly applied for the fixed values in a repeated sampling. Unless the result is not valid for other type of samples; infinite of small or large group. Since in the model, the Durbin Watson test is 1.88 there is no problem of autocorrelation.

Assumption 4: All explanatory variables are not correlated each other

Multicollinearity assumption is assessed by checking the linear relationship between all explanatory variables in the study. Generally, it is possible to find out the existence of it perfect or near collinearity by looking their matrix. Multicollinearity means the existence of a “perfect” or exact, linear relationship among some or all explanatory variables (Gujarati D. , 2004). As noted in (Gujarati D., 2004) if multicollinearity is perfect, the regression coefficients of the explanatory variables are indeterminate and their standard errors are infinite. If multicollinearity is less than perfect, the regression coefficients, although determinate, possess large standard errors (in relation to the coefficients themselves), which means the coefficients cannot be estimated with great precision or accuracy.

A correlation matrix used to ensure the correlation between explanatory variables. Cooper & Schindler (2009) suggested that a correlation coefficient above 0.8 between explanatory variables should be corrected for because it is a sign for multicolinearity problem. Mashotra (2007) argued that the correlation coefficient can be 0.75. Lastly, Hair et al. (2006) argued that correlation coefficient below 0.9 may not cause serious multicolliniarty problem.

Table 4.4 the correlation matrix between explanatory variables for firm level determinants

	DEPGR	CAPGR	LONGR	SIZE	LIQ	LEV	INTSPERD	INF	exch
DEPGR	1.000	0.213	0.028	0.062	-0.008	-0.059	-0.0131	0.014	0.193
CAPGR	0.213	1.000	0.011	-0.288	0.292	-0.088	-0.1347	-0.042	-0.145
LONGR	0.028	0.011	1.000	0.130	0.061	0.123	-0.1600	0.120	0.213
SIZE	0.062	-0.288	0.130	1.000	-0.543	0.496	0.3400	-0.245	0.588
LIQ	-0.008	0.292	0.061	-0.543	1.000	-0.179	-0.3688	0.354	-0.510
LEV	-0.059	-0.088	0.123	0.496	-0.179	1.000	0.0614	-0.036	0.218
INTSPERD	-0.013	-0.1346	-0.161	0.375	-0.365	0.061	1.0000	-0.250	0.387
INF	0.014	-0.0424	0.120	-0.245	0.354	-0.036	-0.250	1.000	-0.017
Exch rate	0.193	-0.145	0.213	**0.588**	-0.510	0.218	0.3870	-0.017	1.000

Source; own computation on EViews

The cutoff point of near multicollinearity between variable is very controversial; but the minimum tolerable matrix by a number of scholars is 0.70 (Kennedy, 2008) and (Malhotra, 2007). According to the result in the above table; the largest correlation matrix value is 0.588; which is between exchange rate and the size of the ebank; and most of the time those two variables have strong relationship. Thus, the result shows that there is no even near collinearity between any two explanatory variables included in the research. .

Assumption five: the error terms are normally distributed

Test for normality require checking whether the disturbances are normally distributed or not. According to Brooks (2008), one of the most commonly applied tests for normality is the Bera-Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire

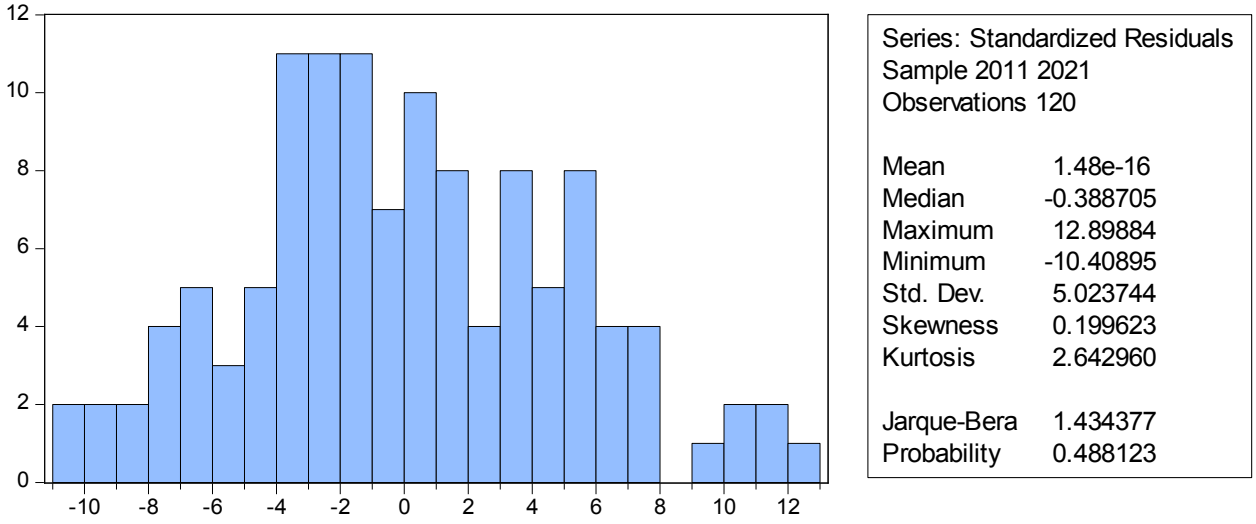
distribution is characterized by the first two moments, the mean and the variance. If the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. This means that the p-value given at the bottom of the normality test screen should be bigger than 0.05 to not reject the null of normality at the 5% level.Brooks (2008), noted that the Jarque-Bera statistic will not be significant for disturbance to be normally distributed around the mean. The hypothesis for the normality test was formulated as follow:

H0: Error term is normally distributed H1: Error term is not normally distributed $\alpha = 0.05$

Decision Rule: Reject H0 if P value of JB less than significant level 0.05. Otherwise, do not reject H0.

Normality Test for Dependent Variable (ROA)

Figure **4.1 Normality Test**



Thus, as it can be confirmed from the graphs given above, the Jarque-Bera shows a probability of 0.48 for dependent variable which is return on asset. The result suggests that data used for the model construction is normal i.e. meets the property of normal distribution. Thus the null hypothesis which state as the error term is normally distributed at 5% level of significance. There is no ground to reject the null hypothesis as it can be depicted in the graph presented above.

Model selection Criteria

There are two types of panel estimator approaches that can be employed, namely: fixed effects models (FEM) and random effects models (REM) Brooks, (2008). The simplest types of fixed effects models allow the intercept in the regression model to differ cross-sectionally but not over time, while all of the slope estimates are fixed both cross-sectionally and over time. The random effects approach proposes different intercept terms for each entity and again these intercepts are constant over time, with the relationships between the explanatory and explained variables assumed to be the same both cross-sectionally and temporally (Brooks, 2008).

To identify which method is effective from random vs fixed effect panel regression model, the most common test is Husman test. In the husman test, the null hypothesis is Random effect is the appropriate and the alternative hypothesis is fixed effect is the appropriate method. The null hypothesis will be accepted if the probability of t-test and chi-square of the Husman test is greatert than 5%. But in model the result for the test shows that the probability value is 0.034 which tell us we have to reject the null hypothesis and accepting the alternative hypothesis. Thus, for both model, fixed effect panel regression model is the appropriate model.

Huasman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.410795	9	0.034

The researcher supports using of fixed effect by the argumentative point explained by Gujirati (2004); This is appropriate if we strongly believe that the individual, or cross-sectional, units in our sample are not random drawings from a larger sample. In that case, FEM is appropriate. However, if the cross-sectional units in the sample are regarded as random drawings, then ECM is appropriate, for in that case statistical inference is unconditional. In this research the samples are selected purposively for which banks that can avail the nearest six years audited financial data.

4.4.2 Regression result

To examine the relationship between financial performance measured by return on asset and explanatory variables which are both the mixture of bank specific factors such as capital growth, deposit growth, loan growth, leverage, liquidity and size and from macro level determinants such as exchange rate (USD $ from Ethiopian Birr), interest spread and inflation as independent variables. The data are in percentage except for bank size, but it is in log of total asset. The regression is done using fixed effect panel regression model with 121 observations.

Table 4.5: Regression Result

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section weights)				
Date: 06/24/22 Time: 23:08				
Sample: 2011 2021				
Periods included: 11				
Cross-sections included: 11				
Total panel observations: 121				
Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAPGR	0.515448	0.295058	1.746941	0.0837
DEPGR	0.049893	0.047771	1.044422	0.2988
LONGR	-0.003837	0.069341	-0.055341	0.9560
LIQ	12.39849	3.553133	3.489454	0.0007
LEV	1.996399	0.488116	4.090014	0.0001
SIZE	6.062401	2.782441	2.178807	0.0317
INTSPERD	-52.87701	44.69406	-1.183088	0.2396
INF	0.175850	0.055883	3.146762	0.0022
EXCHANGE_RATE__BIRR_PER_	-0.113296	0.064133	-1.766583	0.0803
C	-20.36333	11.01879	-1.848055	0.0675
	Weighted Statistics			
R-squared	0.679568	Mean dependent var		29.27682
Adjusted R-squared	0.618686	S.D. dependent var		14.25696
S.E. of regression	5.086086	Sum squared resid		2586.827
F-statistic	11.16204	Durbin-Watson stat		1.883905
Prob(F-statistic)	0.000000			

Source: regression result from Eviews, 2022

To examine the determinants of financial performance of Ethiopian private commercial banks and explanatory variables the regression analysis was made. The regression analysis result shows R-squared statistics and adjusted R squared statistics value of 67.95% and 61.86% respectively. The result indicates that the change in the independent variable explain 61.68% of the change in the dependent variable. The remaining 38.32% of change was explained by other factors which are not included in the model. Thus, the financial performance measured by return on asset is explained 61.68% by incorporated variables which are capital growth, deposit growth, loan growth, leverage, liquidity, firm and firm size from bank specific and inflation, interest spread, and exchange rate from macro level determinants.

P-value: in a two-tail p-values test the hypothesis that each coefficient is different from 0. To reject this, the p-value has to be lower than 0.05 (95%, researcher could choose also an alpha of 0.10), if this is the case then researcher can say that the variable has a significant influence on the study‘s dependent variable (y), accordingly as shown in table 4.7 above the p-values of the independent variables namely liquidity, leverage and inflation rate were 0.00007, 0.0001, and 0.0022, were statistically significant at 1% significance level, bank size was statistically significant at 5 percent with the probability of 0.0317 and the remaining significant variables were significant at 10 percent namely capital growth (p=0.0837), and exchange rate (p=0.0803). Whereas the independent variables; deposit growth, loan growth, and interest rate spreads were found to be insignificant.

F-test: According to Brooks (2008), the F-test is an analysis of the variance of a regression. It can be used to test for the significance of a group of variables or for a restriction, meaning that joint hypothesis can be tested by the analysis of variance (ANOVA).The Null hypothesis for joint significance of a model; H0:$\beta 2=\beta 3=0$, is a joint hypothesis that $\beta 2$ and $\beta 3$ are jointly or simultaneously equal to zero. Accordingly, the joint F statistical probability of this study was 0.0000 and the statistic tests criteria earlier the null hypothesis that all the regression coefficients are equal to zero. Therefore, based on the decision criteria the probability of F stat 0.0000 this study confirmed that overall or jointly the model was reliable and valid and statistically also significant.

1. Capital Growth and Financial Performance

The capital is important in banking operations and realization of investment. On the other hand, financial performance demonstrates the ability of the bank to make high profits and face the systemic shocks. Indeed, the capital of the bank has always been a central issue in the context of the health and financial security of the bank. Resistance to failure by the bank is linked to its own funds, given their importance as a tool to meet obligation in the event of financial crisis and against the vagaries of the market. It was measured by current year capital less previous year capital divided by previous year capital.

The results in the regression table 4.7 indicate that loan growth is positively related to financial performance from the view of profitability measured by return on asset (net income after tax/total asset) of private commercial banks in Ethiopia. The coefficient of correlation is 0.515 which indicates that the relationship relatively quite strong. This means that other independent variables are holding constant when one percent change in capital growth, there will 51.54 percent change in profitability. To explore more, when one percent increase in capital growth is maintained, there will be 51.54 percent increase in profitability of private commercial banks in Ethiopia during the study period and the reverse is true.

When we come to the significance test of the selected variable; the t-statistic value is 1.74 which is less than the t-critical value of 2.57 to the alpha level of 0.1 which leads the researcher to reject the null hypothesis which stated that there is no statistically significant relationship between the capital growth and financial performance measured by return on asset of listed private commercial banks in Ethiopia during the study period. The capital growth is significant factor for the financial perfromance of listed commercial banks.

2. Deposit Growth and Financial Performance

All types of the main and largest source of financing for the bank are represented by the deposits, as they allow banks to create credit in a unique manner and due to the ability of the bank, to provide credit facilities. This does not stop at the amount deposited to it after the legal reserve is raised, but in the same proportion of each deposit amount. In addition, this is the most important form of savings that contribute significantly to support investment in

countries and to support the movement of investment and project financing by contributing to the formation of fixed capital with banks while encouraging and supporting customers to increase savings across benefits.

The results in the regression table 4.7 indicate that deposit growth (which is measured by the current year deposit minus the previous year divided by the previous year) is positively related to financial performance of private commercial banks in Ethiopia. The coefficient of correlation is -0.04989 which indicates that the relationship relatively quite weak from other variables. This means that other independent variables are holding constant when one percent change in deposit growth, there will 4.98 percent change in financial performance measured by return on asset. To explore more, when one percent increase in deposit growth is maintained, there will be 4.98 percent increase in financial performance (return on asset) of private commercial banks in Ethiopia during the study period and the reverse is true.

These results provide reasonable evidence to the consistent view that, the higher the deposit growth would be made if banks are more in need of extending the loan amount means the positive association is existed because, if banks are increasing their deposit fund, they can simply earn more interest from the loan able fund. When we come to the significance test of the selected variable; the t-statistic value is 1.044 with the probability of 0.2988 which enable researcher not to reject the null hypothesis which was stated as there is no significant relationship between deposit growth and financial performance measured by return on asset. The deposit growth is insignificant factor for the financial of listed commercial banks in Ethiopia during the study period.

3. Loan Growth and Financial Performance

Increasing source of income could help banks reduce risks compared to banks depending mainly on interest income. The finding also provides implications and suggests for research to explore the cross-selling effectiveness of banking products derived from the bank's lending expansion. The lending expansion of banks will generally cause better profitability measured by ROA. But in the current research, the lending growth is negatively associated with profitability, perhaps this may be due to the increasing level of non-performing loan in some recent years due to fire

accident, political instability and bankruptcy of borrowers, as a result the loan may not be collected efficiently which will damage the profitability of banks.

The results in the regression table 4.7 indicate that loan growth (which is measured by the current year loan minus the previous year loan divided by the previous year loan) is negatively associated to financial performance of private commercial banks in Ethiopia. The coefficient of correlation is -0.003837 which indicates that the relationship relatively very weak from other variables. This means that other independent variables are holding constant when one percent change in deposit growth, there will 0.3 percent change in financial performance. The variable is insignificant since the probability of the t-statistic for this variable is 0.9560 which means it is very insignificant.

4. Liquidity and Financial Performance

Liquidity of the bank can be explained through the ability of the bank to absorb the liquidity shocks, the ability of the bank to cope with a high liquidity demand in the short term and the ability of the bank to face risk in the presence of large non-liquid assets, each tested individually, with the dependent variables on the performance of banks: return on assets (ROA), had a strong and significant link between them resulting in meeting the second objective set in this research. Positive correlation between the bank's ability to absorb liquidity shocks and the performance of banks confirms that the greater the ability of the banks to absorb liquidity shocks the higher the performance of the banks. Also a positive correlation with high statistical significance was confirmed between the bank's ability to withstand liquidity risk in the short term and the bank's ability to face risks in the presence of large non-liquid assets, with the banks' performance. This confirms that the higher the ability of banks to withstand liquidity risk in the short term and the risk from the presence of large non-liquid assets, the higher the performance of banks

It was measured by TL/TD and has positive and significant relationship with DPR of Ethiopian private commercial banks. Accordingly, return on asset (profitability) of selected private commercial banks increases by 12.39 units on average as a result of a unit increase in TL/TD and their relationship is statistically significant even at 1% significant level (p=0.0007). Liquidity has positive significant relationship with profitability of Ethiopian private commercial banks. This

indicates that Ethiopian private banks are not required to maintain high liquidity in order to increase profitability due to large sum of their liquid assets is made up from deposit and this deposit could be withdrawal at any time, to avoid this problem banks should always make sure that they have enough liquidity to entertain huge number of withdrawals from deposit due to different reasons.

5. Leverage and Financial Performance

The degree of financial leverage leads to a decrease in return on assets The impact of leverage on financial success of firms is still a puzzle in finance literature. Various scholars have divergent views on the topic and there is no clear stand on whether leverage impacts positively or negatively on a firm's financial performance. Modigliani and Miller (1963) argue that there is an advantage on gearing as a result of tax shield. The tax shield, due to tax deduction of interest expenses, advantage is cumulative; the more highly geared a company is the more tax relief it gets and the higher the firm value due to reduced costs.

As shown in table 4.7, the effect of leverage on DPR with a coefficient of 1.99 which means when private commercial banks increase their leverage amount by one birr leads to the increase of ROA by 1.99 units on average; and their relationship is statistically significant at 1% significant level (p=0.0001). Leverage has positive significant relationship with financial performance measured by return on asset of Ethiopian private commercial banks. This implies that Ethiopian private banks are not highly levered firm by their nature because they extend loan to borrowers mainly from the deposit collected from the public. The increase in deposit will lead to the increase in loan to be granted to borrowers as a result will lead to increase in profit, and the amount of dividend to be distributed to shareholders' increases.

The possible reason for this could be the nature of banking industry, where most of their asset comprises deposit, which is a debt. When banks collect more and more deposit, they will have a chance to extend more and more loans which in turn brings more profit to the banks. Therefore, a positive relationship between leverage and profit is possible. Second possible reason, firms could use debt to make a dividend payment. Thus, leverage has positive significant relationship with profitability.

6. Firm Size and Financial Performance

Most of the studies measuring the effect of firm size on profitability have found positive trend between firm size and profitability. These studies have used total assets, total sales, total deposits, number of employees, and number of branches as the indicator of firm such as Kioko (2018), Dogan (2019), Pervan &Visic (2012) and Loderer and Waelchli (2021). The firm size can be measured by the number of employees, total asset, total branches, total production, and other measurements. In the current study, firm size is measured by natural log of total asset.

The coefficient of firm size is positive and statistically significant at 5 percent leve (p=0.003), suggesting that firm size have a positive effect on profitability measured by return on asset of private commercial banks of Ethiopia. This shows that when size increases by one unit, dividend payout of private commercial banks increases by 6.06 units other factors remain constant. In other words, size of the bank influences private commercial banks to earn more profit. Moreover, when size increased the company may have better access to external capital and hence this will enable the company to pay high dividend. These results support the hypothesis and are inconsistent with the findings of Al-Malkawi (2008), Mollah (2011), Hamill & Al-Shattarat (2012) and Patra, et al., (2012).

7. Inflation and Financial Performance

One of the three macro variables hypothesized in this research is inflation measured by CPI. From the above table we can easily understand that; the effect on profitability measured by return on asset is positive and statistically significant. That means; holding other things remain constant, when there is increase on CPI by one percent the amount of profitability will increaseon average by 17 percent; their relationship is statistically insignificant at 1% significant level (p=0.0022).

It was hypothesized that Inflation Rate (CPI) has no significant impact on profitability (Return on Equity) of private commercial banks, the result of this empirical study showed that Inflation Rate (CPI) has insignificant and positive effect on profitability (ROE). Therefore, the researcher rejects the null hypothesis that Inflation Rate has a significant and negative relationship to ROE. The possible reasons for inflation rate being insignificant and positive with Return on Equity of sampled commercial private banks in Ethiopia could be the same as above on interest spread; when the purchasing power of money decreased (inflated) banks adjusted the effect by increasing the interest rate to depositor. When adjusted cash flow of the banks will increase as a result of this the earning of banks will increase.

8. Foreign exchange Rate and Financial Performance

The aim of study was to determine what effects do foreign exchange rates have on the financial performance of the private banking industry in Ethiopia. To accomplish this, Fixed effect regression analysis was used. The results obtained showed that Exchange Rate had coefficient of -0.1133 and p-value of 0.08. Holding other independent variables constant this finding implied that at their average value, the Exchange Rates do not only have a negative effect on the financial performance, it is also statistical significant at 10% significance level.

This negative relationship implied that holding other things constant a 1 unit increase in foreign exchange rate (depreciation of the Ethiopia Birr against the United States Dollar) on average results in a -0.1133 (P-value, 0.000) unit decrease in financial performance of private commercial banks which measure by ROE and statistical significant at 10% level. Therefore, there is significant negative relationship between with foreign exchange rate (usdbirr) and ROE of Ethiopian private commercial banks.

It was hypothesized that Foreign exchange Rate volatility (Ethiopia Birr changes against the United States Dollar) has no significant effect on profitability (Return on Asset) of private commercial banks, the result of this empirical study showed that foreign exchange rate has significant and negative impact on profitability (ROA). Therefore, the researcher reject the null hypothesis that Foreign Exchange Rate has negative and significance effect on ROE. The finding of this result was in line with Tadesse (2015), Ahmed (2015),Opaluwa, Umeh and

Ameh (2010) and Amezenech (2018). The possible reason for the significant negative relationship between foreign Exchange Rate and Rate of Return on Equity of sampled commercial banks is that when the value of local currency depreciated, which means that in many private commercial banks of Ethiopian there was a deficit of foreign currency, this is due to low amount of export taken from their customer, income generated form remittance of foreign currency was very low by banks and earnings from service charges of foreign transaction like Letter of credit(LC) and Cash against document was minimum.

9. **Interest Rates Spread (Lending Interest Rate-Deposit Interest Rate)**:

Interest Rates spread is average lending interest rate minus average deposit interest rate which indicates a net interest price which is the borrower has to pay for loan and other debt services. As per the Fixed effect regression analysis results, the Interest rate spread has coefficient of -52.87 and p-value of 0.2396, meaning that holding other independent variables constant at their average value, one unit increase in interest rates spread (lending interest rates-Deposit interest rates) on average results in 52.87 units decrease in (ROA) financial performance of private commercial banks but this was statistical insignificant. This means Interest rate spread has a negative effect on the ROE (performance of private commercial banks) and statistically insignificant (p=0.2396).

Therefore, the researcher rejects the earlier estimated null hypothesis that there is positive and significant relationship between interest rates spread and ROA. Because of the result of this empirical study showed that interest rates spread had insignificant and negative effect on profitability (ROA). The possible reason for the insignificant negative relationship between interest rates spread and Rate of Return on Equity of sampled commercial private banks in Ethiopia could be the outcome of the last nineteen year‘s devaluation of the local currency ETB which continues to depreciate relative major foreign hard currency (USD).This is a major cause for the current interest rate and inflation rate values. So when purchasing power of money (ETB) declined the lending rate would increase. This implies that interest rates are high in Ethiopia Banking Sector as a result of this borrowing became expensive to customers. High interest rates tend to discourage people from borrowing. The lower interest spread from the expected may be due to the lower exchange rate for lending of entrepreneurs and the higher interest rate for fixed

deposit. The interest spread increase either of decreasing the borrowing rate which will reduce the number of depositors and as a result fund for loan will reduce or increasing the lending rate which will reduce the number of borrowers from bank as a result funds available for fund will be idle. Thus, in any case when interest spread increase, the marginal effect will be reducing profitability.

4.5. Summary Analysis

The researcher issued the following table for summarizing the expected relationship, actual relationship, the significance level, and the decision regarding to the acceptance or rejection of the hypothesis.

Table 4.6: Summary and Comparison of Test Result with the Expectation

Dependent variable		**Liquidity Risk**		
variable	Expected relationship	Actual relationship	α level	Decision
Capital Gr	No significant	Significant	10%,	Reject the null
Deposit Gr	No significant	Insignificant		Fail to reject
Loan Gr	No significant	Insignificant		Fail to reject
Liquidity	No significant	Significant	1%,	Reject the null
Leverage	No significant	Significant	1%,	Reject the null
Bank Size	No significant	Significant	5%	Reject the null
Interest spread	No significant	Insignificant		Fail to reject
Inflation	No significant	Significant	1%,	Reject the null
Exchange rate	No significant	Significant	10%	Reject the null

Researcher's Own computation, 2022

As generated by regression analysis, shown in table 4.8 above, the established regression equation is:

LogLR = -20.36 +0.5154CAPGR +12.398LIq+ 1.99Lev+6.06Size+0.17Inf -0.11ExchR +€i,

CHAPTER FIVE:

5. SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter consists of three sections, namely summary, conclusions, and recommendations following that order. The first section provides a summary of the important elements of the study which includes the study objectives, methodology, and the findings. The second section discusses the major findings of the study with regards to the specific objectives. The third section discusses the conclusions based on the specific objectives, while using the findings and results which are obtained in the fourth chapters.

5.1. Summary of Findings

The main objective of the study was to examine the relationship between firm level determinants and also macro level determinants of financial performance of private commercial banks in Ethiopia. The firm level determinants incorporated in the study were capital growth, loan growth, deposit growth, leverage, liquidity, and bank size. Interest rate spread, inflation and exchange rate were variables incorporated from macro level determinants of financial performance of banks.

To investigate the determinants of financial performance of private commercial banks and achieve objectives stated; banks with 11 years of operation (service) since 2011 up to 2021; and who declared cash dividend were included. Accordingly; banks who satisfy the above criteria were only 11 banks. These banks are Dashen Bank S.C (DB), Awash International Bank S.C (AIB), Wegagen Bank S.C (WB), United Bank S.C (UB), Nib International Bank S.C (NIB), Bank of Abyssinia S.C (BOA), Zemen Bank (ZB), Oromia International Bank (OIB), Lion International Bank (LIB), Cooperative Bank of Oromia (CBO), and Abay Bank (AB) Thus, it is possible to describe, forecast and draw conclusion using 121 observations (11 years X 11 Banks). The output of both correlation and regression analysis were measured in terms of 1%, 5%, and 10% significance level of confidence interval.

The researcher used both descriptive and explanatory research design to analyze and preset data and quantitative research approach was used. Only secondary data were used for analysis

purposes which are audited financial statements of banks for the period of 2011-2021 and the Eview software version 9 has been used for regression correlation and other descriptive statistics. Before making the regression analysis, the study went through all below listed diagnostic tests; including multicollinearity, heteroscedasticity; normality and autocorrelation. Through these tests the classical linear regression model and OLS assumptions has been checked by using eview 9 software application. Regression Analysis was identified as the most appropriate tool for econometric analysis of financial data. The descriptive statistics revealed all the statistical values of the collected secondary data. On top of this the assumptions needed to be fulfilled for OLS were tested; the data was found to be homoscedastic, free of autocorrelation and free of Multicollinearity and residuals were normally distributed.

From the descriptive statistics, the mean value of variables were 22.43 for return on asset as measurement of profitability serve as financial performance measurement, 7.078 for capital growth, 24.67 for deposit growth, 23.68 for loan growth, 0.4349 for liquidity, 5.995 for leverage, 23.94 for exchange rate, 0.067 for interest spread rate and 15.25 for inflation.

From the correlation based relationship between financial performance and dependent variables, the following findings are outlined;

- The positive correlation between capital growth and return on asset is resulted because when capital increase the investment tends will increase and the return will be also increased.
- The surprising result is the positive correlation between liquidity and financial performance measured by return on asset. Logically it is unexpected because when liquidity increase, the cash retained at the bank and prohibited from long term investment will be high, which will reduce the return of the bank.
- From the macro level determinants of financial performance of private commercial banks of Ethiopia, only inflation has a positive correlation with return on asset, as a result of the inflation, the price of good and service will increase which will defiantly boost revenue and also profit level as a result when inflation increase the return on asset or profitability.
- The foreign currency exchange will reduce profitability since firms are not actively import goods in return reduce the borrowing effort of firms from banks.

- The negative correlation of interest spread and financial performance measured by return on asset is also expected. The interest spread increase either of decreasing the borrowing rate which will reduce the number of depositors and as a result fund for loan will reduce or increasing the lending rate which will reduce the number of borrowers from bank as a result funds available for fund will be idle.

From the diagnostic tests of the model, the following findings are revealed

- There is no evidence for the presence of heteroskedasticity because the probability of both F-statistics (0.344) and chi-square (0.3833) are considerably above 5%.
- Since the Durbin Watson test of the model is 1.88, there is no problem of autocorrelation.
- The largest correlation matrix value is 0.588; which is between exchange rate and the size of the bank; and most of the time those two variables have strong relationship.
- The probability of Jarque-Bera statistics was 0.488, there is no ground to reject the null hypothesis as it can be depicted in the graph presented above.
- The result for the test shows that the probability value is 0.034 which tell us we have to reject the null hypothesis and accepting the alternative hypothesis. Thus, for both model, fixed effect panel regression model is the appropriate model.

From regression Analysis the following results are summarized

- The regression analysis result shows R-squared statistics and adjusted R squared statistics value of 67.95% and 61.86% respectively. The result indicates that the change in the independent variable explain 61.68% of the change in the dependent variable.
- The p-values of the independent variables namely liquidity, leverage and inflation rate were 0.00007, 0.0001, and 0.0022, were statistically significant at 1% significance level, bank size was statistically significant at 5 percent with the probability of 0.0317 and the remaining significant variables were significant at 10 percent namely capital growth (p=0.0837), and exchange rate (p=0.0803). Whereas the independent variables; deposit growth, loan growth, and interest rate spreads were found to be insignificant.
- The joint F statistical probability of this study was 0.0000 and the statistic tests criteria earlier the null hypothesis that all the regression coefficients are equal to zero. Therefore,

based on the decision criteria the probability of F stat 0.0000 this study confirmed that overall or jointly the model was reliable and valid and statistically also significant.

- As generated by regression analysis, shown in table 4.8 above, the established regression equation is: **LogLR = -20.36 +0.5154CAPGR +12.398LIq+ 1.99Lev+6.06Size+0.17Inf -0.11ExchR +Ɛi,**

5.2. Conclusion

The main objective of the study was to examine the relationship between firm level determinants and also macro level determinants of financial performance of private commercial banks in Ethiopia. Banks with 11 years of operation (service) since 2011 up to 2021; and who declared cash dividend were included. The researcher used both descriptive and explanatory research design to analyze and preset data and quantitative research approach was used. Before making the regression analysis, the study went through all below listed diagnostic tests; including multicollinearity, heteroscedasticity; normality and autocorrelation. Regression Analysis was identified as the most appropriate tool for econometric analysis of financial data. The descriptive statistics revealed all the statistical values of the collected secondary data. On top of this the assumptions needed to be fulfilled for OLS were tested; the data was found to be homoscedastic, free of autocorrelation and free of Multicollinearity and residuals were normally distributed.

The mean value of variables were 22.43 for return on asset as measurement of profitability serve as financial performance measurement, 7.078 for capital growth, 24.67 for deposit growth, 23.68 for loan growth, 0.4349 for liquidity, 5.995 for leverage, 23.94 for exchange rate, 0.067 for interest spread rate and 15.25 for inflation. According to the correlation output profitability or financial performance was positively correlated with capital growth, deposit growth, loan growth, liquidity, leverage, and size from the listed firm specific factors which means all firm specific factors are correlated with profitability.

The regression analysis result shows R-squared statistics and adjusted R squared statistics value of 67.95% and 61.86% respectively. The result indicates that the change in the independent variable explain 61.68% of the change in the dependent variable. Total of nine incorporated

variables, six variables are significant at different level which are capital growth, leverage, liquidity, firm size from bank specific and inflation and exchange rate from macro level determinants, whereas deposit growth, loan growth and interest rate spread were insignificant factors for financial performance.

5.3. Recommendation

From the research findings, the researcher made recommendation for different responsible bodies mainly for three basic stakeholders such as National Bank of Ethiopia, Selected Private Commercial Banks, and future researchers.

The following recommendations with regards to the foreign exchange rate, and inflation rate for National Bank of Ethiopia.

a. **Foreign exchange rate**: from the finding of this empirical study it has been found that foreign exchange rate has Negative and significant effect on the financial performance of banks measured by ROA, in order to tackle this significant effect: the government of Ethiopia should encourage foreign direct investment so as to shoot the economic growth and as a result local currency to appreciate.
    - ☞ One way to encourage and attract FDI is through monitoring of the exchange rate, which attracts foreign investors and their investment. The NBE shall adequately put some measures to safeguard the value of the local currency, to ensure the value of the local currency not fluctuate much on the daily basis. Further in order to have a stable foreign currency exchange rate this county should have enough forex reserve by encouraging exports of value added products to the global market the nation can have enough forex reserve that can be used as a tool to manage the fluctuation of exchange rate.
    - ☞ The national bank should also re-assed the foreign exchange policy specifically related with the commission asked by private banks which leads investors to black market for seeking foreign exchange and to be complaint with banking service and should increase the flow of

- ☞ Controlling over parties involved in black market for foreign currency exchange to have smooth and less costly forex rate which will increase profitability of commercial banks specially private commercial banks which are suffered from forex problem.
- ☞ Finally banks management in Ethiopia shall adopt appropriate strategies so as to militate against foreign exchange risks since it affects the performance of the banks in Ethiopia.

b. **Inflation Rate:** The inflation rates have been increasing yearly over the entire study period. The relationship however between inflation and returns on equity was insignificant but positively affected financial performance of commercial banks. It was generally assumed that inflation rate were negative major drivers of financial performance of commercial banks. However, the finding of this study shows that inflation rate have positive and insignificant effect On ROA. That means in the case of the result of this study as the inflation rate increase the financial performance of commercial banks also increased but insignificantly. Based on this the researcher recommended that, thought inflation rates have insignificant effect on ROA, it should be minimized to the lowest possible. One way to achieve this is through the action of the National Bank; if the inflation rate tend to increase above two digit level NBE must devise a mechanism to stabilize the level of general price by executing increasing interest rate through reserve or/and increasing reserve requirement on the amount of money banks are legally required to keep on hand to withdraw or indirectly reduce the Money supply by enacting policies, because as inflation rate decrease the purchasing power of the local currency increases, this in turn has an effect on stabilizing the foreign exchange rate.

c. **Size of the Bank:** From the findings of the random effect regression model analysis it was revealed that bank size has a positive and significant effect on financial performance of private commercial banks which was measured by ROA, implying that as the size of the bank increases the financial performance of the same also increases. In light of this finding the researcher in general recommends that all the stake holders of commercial banks including BOD, high level, middle level and lower level managements should develop and implement an objective that enables the size of the banks to increase, as a

result when the size of banks became very large more business with large international corporations of which competitiveness and profitability are sensitive to exchange rate movements. From the finding of this empirical study it was concluded that as the size of commercial banks increase the financial performance of the same also increases which was quantified by ROA.

Recommendation for Selected Private Commercial Banks

To make an informed decision on investment options, investors need to look the banks performance in the following factors; liquidly, leverage and capital growth. Because these factors have a significant impact on financial performance in Ethiopian private commercial banks. Management and banks board of directors should give considerable attention for the following variables when deciding the profitability decision for their banks because profit and liquidity have positive statistically significant impact on dividend paid out while inflation has negative statistically significant impact on dividend paid out of Ethiopian private commercial banks. So, board of directors needs to consider this variable while deciding their dividend payout policies. Firms should efficiently increase profitability in order to maintain dividend payment to their shareholders

Banks also should strive to increase their capital through different mechanism such as actively involved in secondary market, to foreign market and also through payment of stock bonus and stock dividend to increase the capital than cash dividend and cash bonus. They have also strive to maintain adequate level liquidity and leverage since they are very strongly significant factors of financial performance. Increasing loan collection performance should be also the focus of private commercial banks through re amending their loan provision strategies.

Recommendation for future Researchers

To achieve the objective of the study, the researcher concentrated on three main macro-economic variables which included interest rates spread, exchange rates, and inflation and one banks specific factor which is bank size. But not sufficient to the entire phenomenon, so additional variables such as GDP growth, market capitalization, and others should be investigated in future studies. Additionally, the study focused purely on the banking industry. Further studies can be

done on other sectors and not entirely the banking industry for instance firms in manufacturing, agriculture, tourism and other sectors. This would provide a wide pool of research findings that can be compared across the business fraternity for optimal policy formulation. Also, further studies should be done at a different time frame and on

- Insurance sector
- Manufacturing sectors and
- On credit and saving institution.

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APPENDIX

Descriptive statistics

	ROA	CAPGR	DEPGR	LONGR	LIQ	LEV	SIZE	Exc rate	spread	INF
Mean	22.4305	7.078000	24.67342	23.68000	0.434906	5.995360	3.9976	23.9481	0.06731	15.25
Median	21.5050	6.755000	24.05500	24.65500	0.388793	6.066111	4.0456	20.0956	0.06900	13.54
Maximum	42.4302	9.930000	46.56000	33.50000	1.182876	9.410919	4.8729	48.5200	0.08300	34.14
Minimum	10.7207	5.120000	8.060000	10.88000	0.147434	2.113814	2.5588	12.8909	0.02500	7.400
Std. Dev.	6.74595	1.443246	8.016186	5.581441	0.206616	1.512470	0.4674	10.5278	0.01222	7.778
Jarque-Bera	13.3774	9.252665	1.638691	5.085983	24.10810	1.474105	5.2645	40.4277	54.7301	28.04
Probability	0.00124	0.009791	0.440720	0.078631	0.000006	0.478522	0.0719	0.00000	0.00000	0.000
Obs	120	120	120	120	120	120	120	120	120	120

Correlation

	ROA	CAPGR	DEPGR	LONGR	LIQ	LEV	SIZE	Exc_PER	spread	INF
ROA	1.000000	0.147498	0.025676	0.125625	0.2393	0.3114	0.076046	-0.129518	-0.1018	0.22680
CAPGR	0.147498	1.000000	0.216952	0.022289	0.3251	-0.0839	-0.252919	-0.131923	-0.12076	-0.0538
DEPGR	0.025676	0.216952	1.000000	0.027981	-0.0094	-0.0598	0.064853	0.193638	-0.0135	0.0148
LONGR	0.125625	0.022289	0.027981	1.000000	0.0530	0.1215	0.117208	0.209286	-0.1690	0.1252
LIQ	0.239397	0.325112	-0.009431	0.053026	1.0000	-0.1872	-0.630360	-0.532935	-0.3865	0.3693
LEV	0.311418	-0.083958	-0.059865	0.121522	-0.1872	1.0000	0.512459	0.216501	0.05836	-0.0345
SIZE	0.076046	-0.252919	0.064853	0.117208	-0.6303	0.5124	1.000000	0.590982	0.36454	-0.2376
exc_	-0.129518	-0.131923	0.193638	0.209286	-0.5329	0.2165	0.590982	1.000000	0.38122	-0.0118
spread	-0.101884	-0.120760	-0.013552	-0.169042	-0.3865	0.0583	0.364543	0.381220	1.0000	-0.2460
INF	0.226809	-0.053893	0.014848	0.125228	0.3693	-0.0345	-0.237601	-0.011817	-0.24606	1.0000

Regression

Dependent Variable: ROA

Method: Panel EGLS (Cross-section weights)

Date: 06/24/22 Time: 23:08

Sample: 2011 2021

Periods included: 11

Cross-sections included: 11

Total panel (unbalanced) observations: 121

Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAPGR	0.515448	0.295058	1.746941	0.0837
DEPGR	0.049893	0.047771	1.044422	0.2988
LONGR	-0.003837	0.069341	-0.055341	0.9560
LIQ	12.39849	3.553133	3.489454	0.0007
LEV	1.996399	0.488116	4.090014	0.0001
SIZE	6.062401	2.782441	2.178807	0.0317
INTSPERD	-52.87701	44.69406	-1.183088	0.2396
INF	0.175850	0.055883	3.146762	0.0022
EXCHANGE_RATE__BIR R_PER_	-0.113296	0.064133	-1.766583	0.0803
C	-20.36333	11.01879	-1.848055	0.0675

Weighted Statistics

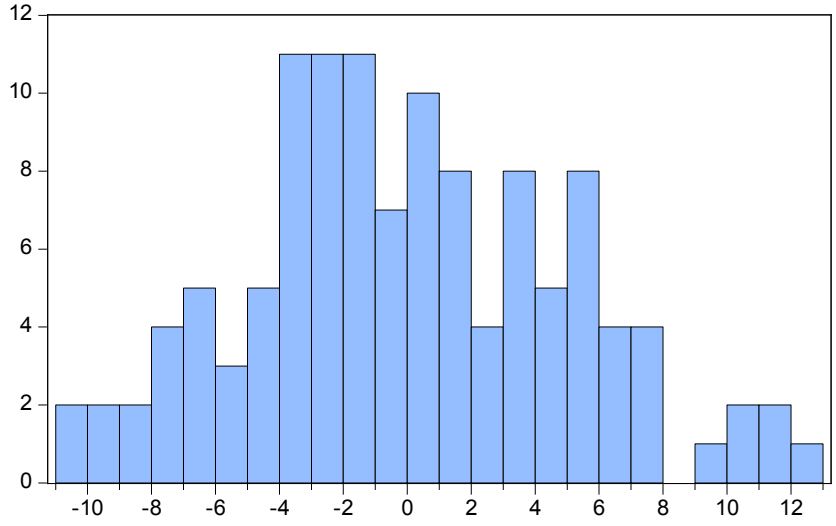
R-squared	0.679568	Mean dependent var	29.27682
Adjusted R-squared	0.618686	S.D. dependent var	14.25696
S.E. of regression	5.086086	Sum squared resid	2586.827
F-statistic	11.16204	Durbin-Watson stat	1.883905
Prob(F-statistic)	0.000000		

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.410795	9	0.5944



Series: Standardized Residuals
Sample 2011 2021
Observations 120

Mean	1.48e-16
Median	-0.388705
Maximum	12.89884
Minimum	-10.40895
Std. Dev.	5.023744
Skewness	0.199623
Kurtosis	2.642960
Jarque-Bera	1.434377
Probability	0.488123

	DEPGR	CAPGR	LONGR	SIZE	LIQ	LEV	INTSPERD	INF	EXCH
DEPGR	1.000000	0.213449	0.028155	0.062655	-0.008779	-0.059701	-0.013121	0.014577	0.193105
CAPGR	0.213449	1.000000	0.011917	-0.288430	0.292997	-0.088443	-0.134697	-0.042465	-0.145123
LONGR	0.028155	0.011917	1.000000	0.130488	0.061479	0.123355	-0.161800	0.120726	0.213810
SIZE	0.062655	-0.288430	0.130488	1.000000	-0.543734	0.496583	0.375400	-0.245459	0.588084
LIQ	-0.008779	0.292997	0.061479	-0.543734	1.000000	-0.179946	-0.365688	0.354823	-0.510444
LEV	-0.059701	-0.088443	0.123355	0.496583	-0.179946	1.000000	0.061477	-0.036697	0.218695
INTSPERD	-0.013121	-0.134697	-0.161800	0.375400	-0.365688	0.061477	1.000000	-0.250774	0.387064
INF	0.014577	-0.042465	0.120726	-0.245459	0.354823	-0.036697	-0.250774	1.000000	-0.017942
Exchange _Rate	0.193105	-0.145123	0.213810	0.588084	-0.510444	0.218695	0.387064	-0.017942	1.000000

ID	YEAR	ROA	**LIQ**	**Lev**	**SIZE**	**CAPGR**	**LONGR**	**DEPGR**	**Exchange**	**INF**	**Int.Spre**
DB	2011	29.29	0.67	6.49	3.90	9.69	10.88	26.56	12.891	20.8	0.083
DB	2012	32.08	0.53	5.92	4.00	7.98	11.62	28.82	16.118	18.1	0.083
DB	2013	27.03	0.36	5.72	4.08	6.12	13.41	28.01	17.254	34.1	0.069
DB	2014	28.03	0.30	6.24	4.17	5.78	23.13	16.72	18.195	13.5	0.069
DB	2015	27.25	0.36	5.96	4.30	7.98	29.02	18.78	19.075	8.1	0.069
DB	2016	22.98	0.23	5.99	4.38	8.82	30.56	12.78	20.096	7.7	0.069
DB	2017	21.54	0.28	5.98	4.47	5.48	19.05	11.55	21.106	9.7	0.069
DB	2018	23.67	0.25	6.56	4.62	5.87	20.19	12.06	22.414	7.4	0.069
DB	2019	31.31	0.29	8.92	4.74	5.29	22.52	14.85	26.108	14.6	0.075
DB	2020	32.50	0.27	7.58	4.82	5.98	23.37	22.36	28.054	23.2	0.075
DB	2021	34.52	0.27	8.51	4.87	7.65	28.82	29.22	42.510	12.6	0.075
AIB	2011	23.6573	0.8137	3.7299	3.7591	9.69	24.35	38.08	12.8909	20.8	0.069
AIB	2012	27.0634	0.7334	4.4547	3.9064	7.98	28.21	39.52	16.1178	18.1	0.069
AIB	2013	22.8627	0.5364	3.5896	3.9215	6.12	23.06	15.96	17.2536	34.1	0.069
AIB	2014	19.9919	0.3978	4.1251	4.0168	5.78	26.81	22.09	18.1947	13.5	0.075
AIB	2015	15.3422	0.2309	3.9103	4.0509	7.98	23.51	39.36	19.0748	8.1	0.075
AIB	2016	15.4630	0.2591	4.0884	4.1371	8.40	26.36	40.76	20.0956	7.7	0.075
AIB	2017	14.3911	0.2953	3.9485	4.2092	5.48	19.88	19.05	21.1059	9.7	0.075
AIB	2018	17.2737	0.2960	4.1773	4.3212	5.87	19.68	30.08	22.4137	7.4	0.075
AIB	2019	22.0975	0.2312	5.3590	4.4376	5.29	19.96	28.19	26.1082	14.6	0.065
AIB	2020	15.2944	0.2255	5.4838	4.4738	7.65	24.35	31.52	42.5100	12.6	0.083
AIB	2021	21.3625	0.3325	5.0252	4.3561	7.25	22.82	38.53	48.5200	15.85	0.083
WB	2011	18.4338	0.8077	4.2084	3.1347	9.69	18.88	35.28	12.8909	20.8	0.055
WB	2012	14.7125	0.7186	3.6761	3.2572	7.98	25.69	28.90	16.1178	18.1	0.055
WB	2013	18.9788	0.6339	3.9315	3.3915	6.12	15.23	23.75	17.2536	34.1	0.06
WB	2014	22.6516	0.5142	3.8858	3.4687	5.78	21.83	17.14	18.1947	13.5	0.06
WB	2015	16.5129	0.4662	4.2799	3.5579	9.51	18.55	19.51	19.0748	8.1	0.075
WB	2016	20.7699	0.3848	5.4218	3.7678	8.59	12.28	31.49	20.0956	7.7	0.075
WB	2017	20.7355	0.3156	5.9200	3.9095	9.93	22.97	25.60	21.1059	9.7	0.075
WB	2018	21.3168	0.3435	6.0563	4.0404	8.77	22.23	34.10	22.4137	7.4	0.069
WB	2019	23.9899	0.2853	6.4347	4.1559	9.55	20.55	23.64	26.1082	14.6	0.075
WB	2020	24.6792	0.2407	6.4063	4.3095	9.11	22.82	34.35	42.5100	12.6	0.075
WB	2021	21.3987	0.2520	6.1230	4.2853	8.33	28.25	46.56	48.5200	23.2	0.083

UB	2011	12.0153	1.1829	3.8722	3.0487	9.69	28.02	8.19	12.8909	20.8	0.055
UB	2012	17.5047	0.6837	5.1562	3.2927	7.98	24.01	15.69	16.1178	18.1	0.065
UB	2013	13.4977	0.4950	4.8375	3.4452	6.12	30.66	21.46	17.2536	34.1	0.055
UB	2014	13.5851	0.3617	5.5705	3.5923	5.78	28.38	25.36	18.1947	13.5	0.069
UB	2015	23.7433	0.3956	6.6852	3.7890	7.98	21.41	24.66	19.0748	8.1	0.058
UB	2016	17.4075	0.2413	7.3996	3.9793	8.54	18.91	13.17	20.0956	7.7	0.069
UB	2017	13.4763	0.2498	7.0936	4.0524	5.48	15.73	8.06	21.1059	9.7	0.075
UB	2018	19.3316	0.3202	8.0534	4.2120	5.87	25.31	35.63	22.4137	7.4	0.065
UB	2019	34.1878	0.3128	7.6895	4.3765	5.29	16.77	24.30	26.1082	14.6	0.048
UB	2020	23.6632	0.2115	7.1619	4.5021	7.65	27.22	42.46	42.5100	12.6	0.078
UB	2021	27.2640	0.2898	7.5895	4.7500	7.07	19.14	23.91	48.5200	23.2	0.075
NIB	2011	40.9389	0.8170	4.3383	3.0235	9.69	31.46	15.84	12.8909	20.8	0.069
NIB	2012	42.4303	0.7153	4.8297	3.2077	7.98	33.50	24.20	16.1178	18.1	0.069
NIB	2013	33.1370	0.5383	6.3895	3.3792	6.12	25.21	15.48	17.2536	34.1	0.069
NIB	2014	24.3252	0.3830	5.0772	3.5117	5.78	24.96	8.42	18.1947	13.5	0.069
NIB	2015	31.9777	0.5145	4.6161	3.5938	7.98	13.28	36.04	19.0748	8.1	0.069
NIB	2016	21.5726	0.3475	5.0014	3.6879	8.40	14.50	22.75	20.0956	7.7	0.075
NIB	2017	22.9573	0.5180	5.4759	3.8677	5.40	19.05	22.75	21.1059	9.7	0.075
NIB	2018	21.5312	0.4927	5.5709	3.9854	5.87	23.36	22.08	22.4137	7.4	0.075
NIB	2019	17.7007	0.4413	5.8599	4.0965	5.29	27.10	27.58	26.1082	14.6	0.075
NIB	2020	23.7124	0.2445	4.9837	4.1670	7.65	29.05	23.52	42.5100	12.6	0.075
NIB	2021	20.8790	0.4140	5.5137	4.0654	5.12	27.25	26.75	48.5200	23.2	0.083
BOA	2011	25.4512	0.5921	8.7770	3.7979	9.69	22.22	27.78	12.8909	20.8	0.075
BOA	2012	29.0357	0.6174	9.1944	3.8620	7.98	18.65	29.25	16.1178	18.1	0.075
BOA	2013	27.6028	0.6081	7.4691	3.9159	6.12	16.43	14.32	17.2536	34.1	0.075
BOA	2014	21.4789	0.5565	7.6706	4.0056	5.78	17.56	18.21	18.1947	13.5	0.075
BOA	2015	33.9393	0.6822	5.9494	4.0522	7.98	17.56	11.46	19.0748	8.1	0.083
BOA	2016	17.4721	0.6151	6.1408	4.1357	8.40	18.24	25.48	20.0956	7.7	0.083
BOA	2017	18.3264	0.5344	6.4182	4.2260	5.40	19.83	27.66	21.1059	9.7	0.083
BOA	2018	22.6799	0.4734	7.1264	4.4035	5.87	16.67	22.22	22.4137	7.4	0.083
BOA	2019	15.7423	0.4291	6.0759	4.5049	5.29	25.66	22.62	26.1082	14.6	0.069
BOA	2020	16.8991	0.3776	6.4937	4.5943	7.65	32.14	22.62	42.5100	12.6	0.075
BOA	2021	17.8500	0.4500	7.6300	4.6300	6.95	27.66	29.53	48.5200	13.56	0.065
ZB	2011	31.8931	0.5564	9.0306	4.0918	9.69	31.46	35.63	12.8909	20.8	0.042
ZB	2012	35.7698	0.5556	8.4798	4.1661	7.98	28.50	24.30	16.1178	18.1	0.042
ZB	2013	40.4439	0.4348	7.6950	4.2435	6.12	25.52	42.46	17.2536	34.1	0.042

ZB	2014	31.3295	0.4083	7.7486	4.2955	5.78	23.23	23.91	18.1947	13.5	0.065
ZB	2015	30.6885	0.3963	6.8067	4.3417	7.98	27.53	15.84	19.0748	8.1	0.065
ZB	2016	26.4106	0.3013	6.7766	4.3938	8.40	29.05	24.20	20.0956	7.7	0.065
ZB	2017	23.1482	0.3246	6.7778	4.4560	5.40	28.21	32.32	21.1059	9.7	0.075
ZB	2018	20.5721	0.2081	6.9578	4.5394	5.87	26.30	29.53	22.4137	7.4	0.075
ZB	2019	18.8437	0.2256	6.1342	4.6573	5.29	29.78	27.78	26.1082	14.6	0.069
ZB	2020	15.9955	0.1474	6.5318	4.7499	7.65	32.52	27.66	42.5100	12.6	0.065
ZB	2021	17.8900	0.3252	6.5632	4.8563	6.56	26.53	25.96	48.5200	23.2	0.075
OIB	2011	30.1419	0.7513	7.4109	3.4011	9.69	31.46	22.22	12.8909	20.8	0.069
OIB	2012	30.1293	0.6308	6.7296	3.5033	7.98	30.02	18.65	16.1178	18.1	0.069
OIB	2013	29.7402	0.4758	6.1336	3.6010	6.12	25.21	16.43	17.2536	34.1	0.065
OIB	2014	18.5626	0.2789	6.7131	3.6649	5.78	24.96	17.56	18.1947	13.5	0.052
OIB	2015	14.2824	0.4072	5.6530	3.6987	7.98	13.20	17.56	19.0748	8.1	0.052
OIB	2016	17.2508	0.2747	7.0004	3.8310	8.40	14.50	18.24	20.0956	7.7	0.052
OIB	2017	18.0389	0.2551	6.2908	3.9255	5.40	19.05	9.83	21.1059	9.7	0.075
OIB	2018	16.6393	0.2229	6.5611	4.0736	5.87	23.36	16.67	22.4137	7.4	0.075
OIB	2019	20.9760	0.2488	7.8133	4.1723	5.29	27.10	35.66	26.1082	14.6	0.069
OIB	2020	22.0832	0.1707	7.5344	4.3347	7.65	29.05	32.14	42.5100	12.6	0.069
OIB	2021	22.0832	0.1707	7.5344	4.3347	6.56	29.05	27.66	48.5200	23.2	0.075
LIB	2011	24.4191	0.8019	4.5032	3.7760	9.69	31.46	22.75	12.8909	20.8	0.052
LIB	2012	23.6144	0.7378	4.4056	3.8520	7.98	33.50	22.75	16.1178	18.1	0.045
LIB	2013	21.2136	0.5424	3.8209	3.9178	6.12	25.21	22.08	17.2536	34.1	0.045
LIB	2014	18.7464	0.3694	3.9949	3.9612	5.78	24.96	27.58	18.1947	13.5	0.051
LIB	2015	16.3827	0.2714	4.0335	4.0313	7.98	13.28	23.52	19.0748	8.1	0.051
LIB	2016	16.2773	0.2127	4.4891	4.1224	8.40	14.50	26.75	20.0956	7.7	0.065
LIB	2017	16.6034	0.2789	4.9338	4.1995	5.40	19.05	27.78	21.1059	9.7	0.065
LIB	2018	16.2062	0.2353	5.5572	4.3226	5.87	23.36	29.25	22.4137	7.4	0.069
LIB	2019	16.2556	0.2187	6.3955	4.4263	5.29	27.10	14.32	26.1082	14.6	0.069
LIB	2020	18.5012	0.1699	6.2715	4.5279	7.65	29.05	18.21	42.5100	12.6	0.075
LIB	2021	18.5012	0.1699	6.2715	4.5279	6.56	27.25	11.46	48.5200	23.2	0.075
CBO	2011	14.5350	0.8100	7.2582	3.2476	9.69	25.63	24.35	12.8909	20.8	0.025
CBO	2012	21.7430	0.8370	8.0559	3.3980	7.98	24.30	28.21	16.1178	18.1	0.025
CBO	2013	30.7727	0.9885	6.7053	3.5648	6.12	28.56	23.06	17.2536	34.1	0.025
CBO	2014	36.7351	0.9200	6.4154	3.8155	5.78	23.91	26.81	18.1947	13.5	0.055
CBO	2015	38.4201	0.6681	4.9984	3.8664	7.98	25.28	23.52	19.0748	8.1	0.055
CBO	2016	24.9823	0.6151	5.2221	4.0593	8.40	28.90	36.34	20.0956	7.7	0.055

CBO	2017	12.6577	0.4478	6.8812	4.0264	5.40	23.75	19.88	21.1059	9.7	0.083
CBO	2018	13.1178	0.3928	9.4109	4.2486	5.87	17.14	19.23	22.4137	7.4	0.083
CBO	2019	22.5657	0.5140	8.8600	4.4755	5.29	26.52	24.32	26.1082	14.6	0.083
CBO	2020	23.2214	0.4083	7.8600	4.6211	7.65	31.49	22.32	42.5100	12.6	0.075
CBO	2021	23.2214	0.4083	9.2900	4.6211	6.56	31.49	30.75	48.5200	23.2	0.069
AB	2011	14..54	0.0950	5.4200	2.2795	9.69	19.91	24.3500	12.8909	20.8	0.054
AB	2012	12.6800	0.9700	2.1138	2.5588	7.98	15.73	42.5100	16.1178	18.1	0.069
AB	2013	10.7208	0.5615	3.1473	2.8093	6.12	25.31	23.0600	17.2536	34.1	0.065
AB	2014	13.9797	0.4396	4.1348	2.9724	5.78	16.77	26.8100	18.1947	13.5	0.065
AB	2015	17.9464	0.4983	4.1636	3.1282	6.10	27.22	23.5200	19.0748	8.1	0.055
AB	2016	22.5212	0.2770	5.1659	3.3834	8.40	19.14	36.3400	20.0956	7.7	0.055
AB	2017	22.8769	0.2987	5.6021	3.5601	5.40	31.46	19.8800	21.1059	9.7	0.075
AB	2018	17.4039	0.3433	5.5283	3.7161	5.87	33.50	19.2300	22.4137	7.4	0.065
AB	2019	18.8985	0.3302	5.0153	3.8352	5.29	25.21	24.3200	26.1082	14.6	0.048
AB	2020	20.2699	0.2209	4.1212	3.9111	7.65	24.96	22.3200	42.5100	12.6	0.078
AB	2021	20.2699	0.2209	4.1212	3.9111	6.56	13.28	30.7500	48.52	23.2	0.075