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**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF ACCOUNTING AND FINANCE**

**DETERMINANTS OF FINANCIAL PERFORMANCE**  
**THE CASE OF SELECTED PRIVATE COMMERCIAL**  
**BANKS OF ETHIOPIA**

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**June, 2023**

**Addis Ababa, Ethiopia**

## **Declaration**

I, **Nardos Birhanu Mekonnen**, the undersigned, declare that this thesis entitled "Determinants of Financial Performance the Case of Selected Private Commercial Banks of Ethiopia" is my original work. I have undertaken the research work independently with the guidance and support of the research supervisor. This research was not submitted for any degree or diploma program at this or any other institution, and all sources of materials used for the thesis were properly acknowledged.

**Nardos Birhanu Mekonnen**

Name of Student

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## Certificate of Approval

This is to certify that the thesis prepared by Nardos Birhanu, entitled “**Determinants of Financial Performance the Case of Selected Private Commercial Banks of Ethiopia**” and submitted in partial fulfillment of the requirements for the Degree of Masters of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## **DEDICATION**

Dedicated to the memory of my father, Birhanu Mekonnen, who always encouraged and believed in my ability to succeed academically. You are no longer with us, but your faith in me has enabled us to embark on this journey.

## **Acknowledgment**

First and foremost, I would like to thank the almighty God for always guiding me in the right direction. Without his grace, this research would not have been possible.

My second heartfelt thanks goes to my advisor, Dr. Alem Hagos, who helped me get this far; it is his guidance that has provided me with the knowledge and enabled me to write this research.

Finally yet importantly, I would like to thank my aunt, Britu Mekonnen, for assisting me in all of my endeavors to reach this point and for being, be part of all aspects of my life.

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## **Glossary of Terms**

**Financial performance** - is a reliable indicator of how well it manages the various risks it faces and of its capacity to use its resources to produce revenue

**Liquidity Risk** - Banks are required to borrow emergency money at exorbitant rates due to the danger of not having enough cash or borrowing capacity to cover deposit withdrawals or new loan demand.

**Credit Risk** - is define credit risk that firm's customers and parties to which it has lent money will delay or fails to make promise payment (Harrington and Niehaus, 2003)

**Solvency Risk** - solvency risk is the variation in equity to absorb losses or the possible incapacity to meet maturing debts.

**Inflation Rate Risk** - is a galloping increase in prices brought on by an excessive increase in money supply, which can only be produced by a more rapid increase in money supply than output (Jhingan, 2004).

**Interest Rate Risk** - A bank is vulnerable to interest rate risk when it has an imbalance in terms of size or maturity dates between interest rate-sensitive assets and obligations, resulting in potential losses for the bank when interest rates increase or fall and being triggered by interest rate fluctuations. (Claudiu and Daniela, 2009)

**Foreign Exchange Rate Risk** - is the rate at which one currency is exchanged for another. It arises due to the fluctuation of the exchange rate that affects the financial performance of the bank. (Jhingan, 2004)

## **List of Abbreviation**

AIB - Awash International Bank

AB- Abay Bank

BOA - Bank of Abyssinia

BB- Berhan Bank

CB - Commercial Bank

DB - Dashen Bank

LIB - Lion International Bank

NBE - National Bank of Ethiopia

COOP – Cooperative Bank of Oromia

ROA - Returns on Asset

UB - United Bank

WB - Wegagen Bank

ZB - Zemen Bank

## **Abstract**

*This study examines the determinants of the financial performance of selected private commercial banks in Ethiopia by using panel data from ten sample private commercial banks that have worked in Ethiopia for the period 2015–2022. Since the data is secondary in nature, a quantitative approach to research was used. Besides, an explanatory research design was used. In this study, six factors were considered: credit risk, solvency risk, inflation rate risk, interest rate risk, liquidity risk, and foreign rate risk. Moreover, ROA was used to measure financial performance. This study used a panel regression model to examine the determinants of financial performance. Based on the regression result, credit risk, solvency risk, inflation rate risk, and interest rate risk, had a negative and significant influence on the financial performance of Ethiopian private commercial banks. On the contrary, liquidity risk and foreign exchange rate risk had a significantly positive effect on financial performance. Determinants of financial performance have an effect on the sampled banks' performance, which over time has an effect on it. Credit risk and foreign exchange risks can have an impact on a bank's lending and borrowing, which in turn can have an effect on the performance of the bank's finances. Similarly to that, inflation is a global phenomenon over extended periods of time. Almost every nation in the world today is impacted by the threat of inflation.*

**Keywords:** *Private commercial bank, financial performance, Credit risk, Liquidity risk, Inflation rate risk, Foreign exchange rate risk, Interest rate risk, solvency risk*

# CHAPTER ONE

## 1. INTRODUCTION

This chapter covered the study's background and organization, the problem statement, research questions and hypotheses, research objectives, the significance of the study, the scope of the study, the limitations of the study, and the paper's organization.

### 1.1. Background of the study

The banking sector is largely regarded as contributing more to a country's economic growth than the rest of the private sector. It is performed in the economy through financial allocation as a result of its intermediation function of shifting funds from surplus units to deficit units. A healthy financial system encourages investment by financing profitable business possibilities, mobilizing savings, allocating resources efficiently, and enabling the exchange of commodities and services. The financial system's ability to lower information and transaction costs has a significant impact on the rate of savings, investment decisions, technological innovation, and thus the rate of economic growth. (Jha & Hui, 2012).

As Arif et al. (2015) noted, financial risk is a catch-all term for the numerous sorts of risks associated with financial operations. Also, Rejda (2003) defines financial risk as the uncertainty of loss because of adverse changes in commodity prices, interest rates, foreign exchange rates, and the value of money. The most important concern at the moment is the threat of financial risk because banks are the major helper institutions for the country's economy as well as its development.

A healthy financial system, according to Zawadi (2013), is a guarantee not only for depositors but also for all stakeholders who are directly or indirectly affected by bank operations, including as shareholders, employees, investors, depositors, the government, and the entire economy. There are many ways to manage the risk. Risk management is a act of identifying loss exposures faced by an organization and selecting the most appropriate techniques for treating such risks (Rejda, 2003).

According to Arif et al. (2015), there are numerous risk management approaches available to businesses. Loss financing, risk avoidance, and loss prevention and control are examples of these. Risk management is a key technique to achieve the organization's goal of having a good and healthy financial performance. Adrian (2014) explained that financial institutions and modern organizations are concerned about their ability to manage risks, and they consider the need for solid risk management programs as an essential component of corporate responsibility. Therefore, the primary goal of this study is to determine how financial risk affects Ethiopian private commercial banks' performance.

## **1.2. Background of Banking industry in Ethiopia**

The Ethiopian Financial System is made up of commercial banks (both government and domestically owned banks), insurance companies (government and domestically owned), public pension Schemes, savings and credit cooperatives, microfinance institutions, T-bills and bond markets, Rediscount facilities for government papers, Inter-Bank Money and Forex Markets, and a large number of Iqubs (Lelissa, 2014).

Financial institutions play a significant role in the economic growth of countries in general and emerging nations like Ethiopia in particular, where the financial system is heavily dependent on banks due to slow growth or even the absence of a stock market. The banking sector is one of the entities that accept deposits and significantly contributes to a nation's financial stability and economic progress (Elshaday et al., 2018). Therefore, it is important to look at the financial health of banks.

Prior to 1994, the public-owned commercial banks of Ethiopia, the Commercial Bank of Ethiopia and the Development Bank of Ethiopia, dominated the banking industry. The banking sector has been accessible to private investors since the 1990s, when the Monetary and Banking Proclamation No. 83/1994 and the Licensing and Supervision of Banking Business No. 84/1994 established the legal framework for investment. As a result, Awash International Bank became the first private bank in 1994, followed by Dashen Bank in 1995 and Bank of Abyssinia in 1996 Wegagen Bank in 1997, United Bank in 1998, and Nib International Bank in 1999. Currently, more than 23 private banks have been established in Ethiopia. (NBE)

### **1.3. Statement of the problem**

Being the largest financial organizations, commercial banks' performance and organizational changes have a significant impact on the economy. These financial institutions provide different services, but the two major ones are accepting deposits and advancing loans to their customers. The ultimate goal is to maximize profit and shareholder value. Banks are currently exposed to a variety of financial hazards, including credit risk, interest rate risk, liquidity risk, inflation risk, foreign currency risk, and solvency risk, all of which have an impact on their financial performance.

Financial performance is a measurement of the overall bank's financial health by using different mechanisms, including sound investment decisions, to achieve business financial stability by applying rules and regulations. The banking industry is the backbone of the economy. Making the banking sector more efficient and effective contributes to highly sustainable economic growth. Despite this, there are uncertainties about whether minimizing the process of the banking operation may result in a high default risk, which may lead to financial distress.

Similarity to this study: in our country, there are different researchers' studies based on this title. Robel Abebe (2021), Meselech Amsalu (2019), Samuel Alemu (2015), and Wondwossen Getachew (2018) are examples. Robel and Meselech conducted research on the effect of financial risk on financial performance. Six risk factors are included in Meselech's study: credit risk, interest rate risk, liquidity risk, inflation rate risk, solvency risk, and foreign exchange rate risk. Of these, only inflation risk was not included in Robel's research. From their findings, liquidity risk and solvency risk do not significantly affect financial performance (ROA). Credit risk also has a statistically significant negative impact on performance. The results for interest rate risk and foreign exchange risk are different, however. Meselech found that both risks have a statistically significant positive impact on financial performance, while Robel found that both risks have a statistically significant negative impact. Samuel, Birhanu, and Wondwossen conducted studies on the determinants of commercial banks' profitability. Interest rate risk, Solvency risk, and credit risk were not included in Samuel's studies.

Interest rate risk, inflation rate risk, solvency risk, and foreign exchange rate risk were not included in the Birhanu studies. Credit risk, interest rate risk, and solvency risk were not

included in the Wondosen studies. In his study, both liquidity risk and inflation rate risk are statistically significant and positively related to bank profitability; however, the foreign exchange rate is not statistically significant. The outcomes of Samuel's investigations reveal that liquidity risk has a negative and statistically significant association with bank profitability, whereas inflation risk and foreign exchange risk have a statistically insignificant relationship. So These varying results indicate that it needs further investigation to identify factors that determine the profitability of Ethiopian Private commercial Banks.

The above-mentioned researchers attempted to sort out determinants of Ethiopian commercial bank performance, and the study assessed credit, solvency, liquidity, inflation rate, interest, and foreign exchange as factors affecting the performance of Ethiopian private commercial banks. There is no commonly acknowledged conclusions regarding the factors that affect the banking industry's profitability. Due to the fact that different nations have different economic, financial, political, and operating situations. Thus, in this study, the researcher looked at a few factors that could affect bank profitability and selected them based on the selected theoretical literature and previous empirical works. Therefore, using data from 2015–2022, this study will look at the factors that affect banks' financial performance.

#### **1.4. Objectives of the study**

##### **1.4.1. General objective of the study**

The general purpose of this study is to explore the impact of financial risk on the financial performance of selected private commercial banks.

##### **1.4.2. Specific objectives of the study**

- To examine the effect of credit risk on the performance of Ethiopian private commercial bank
- To examine the effect of liquidity risk on the performance of Ethiopian private commercial banks
- To examine the effect of foreign exchange rate on the performance of Ethiopian private commercial banks
- To examine the influence of inflation rate on the performance of Ethiopian private commercial banks.

- A study of the impact of interest rate on the performance of Ethiopian private commercial banks
- To examine the effect of solvency risk on the performance of Ethiopian private commercial banks.

### **1.5. Hypothesis of the study**

H1: Credit risk has a significant and negative relationship with financial performance.

H2: Liquidity ratio has a negative and significant impact on the financial performance of private commercial banks.

H3: Foreign exchange rate has a positive and significant impact on the performance of private commercial banks.

H4: Inflation rate risk has a negative and significant impact on the performance of private commercial banks.

H5: Interest rate risk has a positive and significant impact on the performance of private commercial banks.

H6: Solvency risk has a positive and significant impact on the performance of private commercial banks.

### **1.6. Significance of the study**

Ethiopia's banking sector is developing into a significant source of funding for the country's many commercial sectors. This study, which examines the factors influencing the financial performance of private commercial banks in Ethiopia, is therefore advantageous for a variety of stakeholders, including

Management- interested in identifying indicators of success and failure to take the necessary actions to improve the performance of the company and choose the right decisions.

Government - Interested in knowing which businesses function well or failed to implement the required safeguards to prevent financial disasters in these businesses.

Investors - interested in these studies to safeguard their money and make the best possible choices for it.

Future researchers - will use as a benchmark for further study in relation to this topic.

### **1.7. Scope of the study**

This study employed secondary data consisting of annual reports of Ethiopian private Commercial banks, and 10 private banks were included in this study, namely: AIB, DB, BOA, WB, UB ZB, COOP, AB, BB, and LIB. The study also examined the most recent eight years of data, from 2015 to 2022.

### **1.8. Limitation of the study**

Even though there are many factors that influence how well commercial banks function, this study only looked at six of them: liquidity risk, credit risk, inflation rate risk, interest rate risk, and the foreign exchange rate. The secondary data was gathered from ten Ethiopian commercial banks during an eight-year period (2015–2022). Another limitation of this study was that samples were taken based on the age of the banks. This could not accurately reflect how the factors that affect private bank performance actually work. Additionally, the study's findings are supported by secondary data sources, mostly published annual reports.

### **1.9. Organization of the paper**

The research is divided into five chapters. The first chapter contains the study's introduction and context, the statement of the problem and purpose, as well as their significance, constraints, and scope. The second chapter contains a literature review, which comprises a theoretical review, an empirical review, and a conceptual framework. The research technique and methodology were covered in Chapter Three. The fourth chapter contained an analysis and discussion of the main findings. In Chapter Five, the key findings, conclusions, recommendations, and future research directions were summarized.

## **CHAPTER TWO**

### **2. LITRATURE REVIEW**

#### **2.1. Introduction**

This section presents the theoretical study, empirical assessment, and conceptual framework on the effect of financial risk on the performance of Ethiopian commercial banks. As a result, the first segment examined risk management theory and the theoretical literature on various financial risks in commercial banks. In addition, it demonstrates the relationship between financial risks and bank performance. Numerous empirical studies were covered in the second section. In the third section, the conceptual framework is presented.

#### **2.2. Theoretical Review**

##### **2.2.1. Risk and financial risk**

Ralph (2000) defines risk as the presence of uncertainty regarding future events. Risk is an important factor in economic life because people and businesses make irreversible investments in research and product development, plant and equipment, inventory, and human capital without knowing whether the future cash flows will be sufficient to compensate both debt and equity holders. The financial claims on such real investments will lose value if they fail to produce the required returns. Holton (2004) defines financial risk as "the unexpected variability or volatility of returns," which includes credit risks, liquidity risks, and market risks. According to Kithinji (2010), who made a similar claim, financial risk management techniques are "those activities and procedures used by managers to protect an organization from credit risks, liquidity risks, and market risks."

Credit risk management techniques, liquidity risk management practices, and market risks are the three key categories of financial risk management practices. It is unusual to hear the terms exposure and risk used interchangeably. However, as many authors have pointed out, the two are not synonymous. Exposure measures the sensitivity of the value of a financial item (asset, obligation, or cash flow) to changes in the relevant risk factor, whereas risk is a measure of the variability of the value of the item attributable to the risk factor (Prakash, 2002). Thus, the quantity of risk is defined by the magnitude of exposure and the degree of variability in the

relevant risk factor. Risk is defined as the possibility of loss as a result of events such as fluctuations in market prices (Horcher, 2005). Exposure causes risks to exist. The company is exposed to unforeseen changes in a variety of environmental variables. A financial market would be very straightforward, easy, and reliable without the concept of risk, but complexity results when risk is present. Along with the diversification of functions, risk has now become an integral aspect of all activities. Holton (2004) asserts that the financial market has advanced in its ability to price, isolate, repackage, and transform risks. A company's financial performance is a reliable indicator of how well it manages the various risks it faces and of its capacity to use its resources to produce revenue. Investors can depend on the return on assets to provide a trustworthy picture of management's capacity to make money from the assets and the investments it makes.

#### **2.2.1.1. Credit risk**

Credit risk is defined by Coyle (2000) inability to pay what is owed in full and on time. Direct loans and certain off-balance-sheet items such as guarantees, letters of credit, currencies, futures markets, and derivatives, as well as assets held by the bank in the form of debt securities, account for the majority of it. It could take the form of a delivery or settlement risk. Furthermore, it is critical for the bank's survival or failure because banks make the majority of their huge earnings from interest on their risks.

It is the uncertainty associated with loan collection. Credit risk is the possibility that a bank's asset value, particularly its loans, will decrease and possibly become worthless. In light of this, NBE (2010) stated that managing credit risk is a critical component of the safe and sound administration of businesses.

Credit risk management is an integral component of an all-encompassing risk management strategy and is critical to a commercial bank's sustained success. Credit risk, as defined by the Basel Committee on Banking Supervision (2001), is the danger of losing the outstanding loan in part or all due to credit events (default risk). There is also the potential for a contractual party to breach the terms of the agreement by failing to fulfill its obligations. According to Brown and Moles (2012), credit risk is also known as counterparty risk, performance risk, or default risk. A good credit risk management strategy includes building credit:

- identifying current or potential credit risks to which the company is exposed in the course of its lending and investment activities, both on and off balance sheet, and creating and putting into practice sound credit policies to efficiently manage and control these risks;
- creating and implementing efficient procedures for credit granting, documentation, and collection;
- Establishing and putting into practice procedures for successfully monitoring and controlling the nature, characteristics, and quality of the credit portfolio, as well as designing strategies for dealing with problem accounts.

### **2.2.1.2. Liquidity risk**

According to Liargovas et al. (2008), liquidity risk is the extent to which debt obligations that are due within the next twelve months can be paid from cash on hand or assets that can be converted into cash. The current ratio, which is typically expressed as a ratio of current assets to current liabilities, is commonly used to measure it. When kept at normal levels, it demonstrates the ability to quickly convert an asset into cash and reflects the ability of the company to manage working capital.

When external money is unavailable or too expensive, a company might employ liquid assets to fund its operations and investments. Higher liquidity, on the other hand, would enable a company to deal with unforeseen events and meet its obligations during periods of low earnings. When a bank's liquidity is insufficient, it cannot get sufficient cash by raising obligations or converting assets quickly and at a reasonable cost, which has an impact on profitability. This risk arises from the bank's inability to meet demands for the withdrawal of deposits when they are due as a result of its failure to align the maturity dates of its assets and liabilities through investments in assets with longer maturities than its liabilities.

Liquidity risk is classified into two types: funding liquidity risk (which results from a bank's failure to obtain adequate liquidity to repay its obligations, obtain new deposits or a new loan, or its inability to liquidate its assets) and market liquidity risk (which results from the bank's inability to pay without incurring an unexpected loss) (Claudiu and Daniela, 2009).

### **2.2.1.3. Operational Risk**

Operational risk is the possibility of suffering a direct or indirect loss due to ineffective internal systems, people, or processes or to uncontrollable outside factors. Operational risks result from problems with information systems, reporting systems, internal monitoring rules and procedures meant to take timely remedial steps, or the adherence to the internal risk policy rules (Bessis, 2010). It, therefore, manifests itself at various levels, including human error, process, and technical and information technology. In addition, estimating the size of potential losses due to particular risk factors is frequently difficult to forecast. Finally, because very large operational losses are uncommon or isolated, it is challenging to develop a useful mechanism for systematic reporting of trends in a bank's operational risks. The first step in creating an efficient framework to manage operational risk is to establish a common classification of loss events that should serve as a container for the data-gathering process on event frequency and costs. This is due to the data and methodological challenges raised by operational risk. After that, the data is analyzed (risk mapped) using a variety of statistical techniques, such as visual representations of the likelihood and seriousness of risks. Finding connections between various operational risks is aided by this. The process is completed with some best-case loss projections based on event risk estimates. Making the proper capital charges for operational risks as required by current regulations will be made possible by modeling loss distributions resulting from operational risks (Bessis, 2010).

### **2.2.1.4. Market Risk**

It is the exposure of a company to the results of changes in the value of the market for those elements of the company's investment portfolio, both on and off the balance sheet. Price changes may occur due to a variety of factors, such as those related only to specific investments or the investment portfolio. In addition, the impact of the price change is a function of the size of the investment position and the degree of price movement between the purchase date and the date of the change.

### **2.2.1.5. Interest Rate Risk**

Interest rate changes result in interest rate risk. When interest rate-sensitive assets and liabilities do not match in size or maturity, banks are exposed to interest rate risk. This situation, known as

the "risk gap" (Claudiu and Daniela, 2009), exposes the bank to potential losses if interest rates rise or fall, which is within budget. Margin reduction and a negative impact on bank profitability could result from a rising interest rate scenario in which liability prices fluctuate more quickly than asset prices. Taking this risk is typical in the banking industry and can be a significant source of income. However, excessive interest rate risk can pose a substantial danger to banks' earnings and capital basis. Changes in interest rates affect banks' earnings by influencing their net interest revenue and the level of other interest-sensitive income and operating expenses. Companies confront interest rate risks from the interest rate sensitivity of their obligations and/or their assets. The choice of financing, including the ratio of capital to debt, the mix of fixed and floating rate debt, and the ratio of short-term to long-term debt, will determine how interest rates will affect the business.

Interest rate risk management aims to keep a bank's exposure to interest rate risk within predetermined limits over a range of potential interest rate changes. The Basel Committee on Banking Supervision (2003) stated that the means to accomplishing that goal are a system of interest rate risk limits and risk-taking guidelines. The level of interest rate risk for the bank should be constrained by such a system, which should also, as necessary, allow for the assignment of limits to specific portfolios, activities, or business units. Limit systems should also guarantee that management responds quickly to positions that rise above predetermined thresholds. An appropriate limit system should enable management to restrict interest rate risk exposures, initiate discussion about possibilities and dangers, and assess actual risk-taking against predetermined risk tolerances. Limits must be in line with the overarching plan for assessing interest rate risk. Top management should authorize and frequently review aggregate interest rate risk constraints that express precisely how much interest rate risk the bank is willing to accept. Such limitations ought to be commensurate with the bank's size, complexity, total capital, and capacity for risk assessment and management.

#### **2.2.1.6. Foreign Exchange Rate Risk**

When a bank maintains assets or obligations in foreign currencies, foreign currency risk develops and affects the bank's capital and profitability due to exchange rate volatility (Sabri, 2011). Exchange rates can fluctuate at any time in either an upward or downward direction. The capital and profitability of commercial banks are in danger as a result of this erratic fluctuation. The risk

associated with direct foreign exchange might be either transactional or translational. As the name suggests, transactional risk arises from dealings in foreign currencies due to the fact that translational risk is an accounting risk brought on by the conversion of assets held in foreign currencies. The primary source of indirect exchange rate risk is economic exposure, which is represented in the demand for and performance of bank loans. A commercial bank's foreign exchange risk, according to Sabri (2011), is caused by both its trade and non-trade services. Foreign Exchange Trading Activities Saunders & Cornett (2003), cited in Sabri (2011), include:

- The buying and selling of foreign currencies enables clients to engage in and complete global trade transactions.
- The buying and selling of foreign currencies enables clients to participate in international real estate and financial investments.
- The buying and selling of foreign currencies for hedging purposes to reduce the exposure of customers (or the financial institution itself) to any given currency.
- To buy and sell foreign currency for speculative reasons in anticipation of future changes in foreign exchange rates.

The commercial bank is exposed to foreign exchange risk only up to the extent to which it has not hedged or covered its position. In some of the above-mentioned trade activities (the first two activities), commercial banks play a role on behalf of customer and the foreign exchange risk is transferred to the customer as the bank takes agency role. Third activity of bank involves hedging and there is no risk in this as well as the bank has hedged its risk by pre-determining the exchange rate with other financial institutions using different financial instruments. The fourth one involves the risk which may result in the gain or loss due to unexpected outcome.

#### **2.2.1.7. Off-Balance Sheet Risks**

In the course of their business, banks engage in the creation of financial contracts that, under certain circumstances, could lead to the acquisition of assets and liabilities at a later date. These contracts are not recognized on the face of the balance sheet because they are not considered assets or liabilities by generally accepted accounting rules. Instead, they are recognized as off-balance sheets. Off-balance sheet Letters of credit (L/C), unused loan commitments, guarantees, acceptances, and performance bonds are only a few examples of the varied types and uses of

balance sheet items. Banks are exposed to a variety of hazards while doing off-balance sheet activities.

#### **2.2.1.8. Solvency risk**

According to the accounting equation (assets = liabilities + equity), this definition implies that a firm has assets if its liabilities exceed its equity. A firm is said to be insolvent if its capital stock falls below zero. If a company doesn't create enough cash flow to pay its debt obligations on time, bankruptcy is practically a given.

#### **2.2.1.9. Inflation rate risk**

The rate at which the price of any good fluctuates is referred to as the inflation rate. Depending on the precise model assumptions, economic theory can predict a positive, negative, or zero impact of the inflation trend on performance. One should not jump to conclusions about how inflation affects commercial banks' profits. The findings of earlier research on the connection between the inflation rate and bank profitability have likewise been inconsistent. According to Saeed (2014), an increase in inflation reduces bank profitability because higher prices result in higher prices. Ongore and Kusa (2013) and Athanasoglou et al. (2005) also stated that the relationship between inflation level and bank profitability is still up for debate.

Inflation is a frequently used proxy for how the macroeconomic environment affects bank profitability (Athanasoglou, Delis, & Staikouras, 2008). The article quoted in Athanasoglou, Delis, & Staikouras (2008) discusses the topic and notes that the impact of inflation depends on whether banks' operating costs, such as salaries and other costs of doing business, rise faster than inflation. How developed an economy is will determine how precisely future inflation may be predicted, allowing banks to manage their operating costs properly. Consequently, the relationship between the rate of inflation and profitability is nebulous and dependent on whether inflation is foreseen.

According to Athanasoglou, Delis, and Staikouras (2008), inflation is an often-used proxy for the impact of the macroeconomic environment on bank profitability. discusses the topic and notes that the impact of inflation depends on whether banks' operating costs, such as salaries and benefits, rise faster than the rate of inflation. This source is Athanasoglou, Delis, & Staikouras

(2008). How developed an economy is will depend on how well it can predict future inflation and how well banks can control their operating costs as a result. As a result, the connection between the rate of inflation and profitability is shaky and dependent on whether or not inflation is forecast.

### **2.2.2. Measurement of Bank Performance**

Performance is the relationship between the enterprise's profits and the investments that helped it achieve these profits, and profitability ratios gauge how effectively a business converts its operations into profits. The ability to use assets to generate net income is measured by the return on assets (Akinleye et al., 2019).

Additionally, Hajer & Anis (2016) define performance as the accomplishment of the goals established by the bank within the predetermined timeframe and at the lowest possible cost while utilizing the available resources. As with any function of control and management, performance measurement serves as a means of directing and inspiring an organization's players' conduct. Therefore, since measuring performance is the first stage in improvement, improvement cannot occur without a mechanism to obtain feedback on it.

The performance of banks is usually assessed using ROE (return on equity) and ROA (return on assets). The return on assets (ROA) is a measurement of how effectively a bank uses its assets to produce profit. Khrawish (2011) stated that it evaluates the bank's management's ability to produce profits by utilizing company assets. To put it another way, it shows how efficiently the company's resources are used to generate income. It also shows how successfully a company's management can generate net income using all of the resources available to the organization. It is determined by dividing net income by the average of total assets.

While ROE is used to determine how the bank is able to give shareholders a return on their investment, According to Khrawish (2011), the definition of ROE is the ratio of net income after taxes to total equity capital. It displays the rate of return on the money that the bank's stockholders invested in it. It provides insight into how effectively a bank's management manages shareholder capital. Internal cash generation is more likely to be possible for a company with a high return on equity. Therefore, the company's ability to make money is improved by a higher ROE.

The most significant indicator of a bank's profitability is Net Interest Margin (NIM), which is in addition to the two metrics stated above. According to Gul et al. (2011), NIM is a measurement of the difference, expressed as a percentage of assets, between the interest revenue generated by banks and the interest paid out to their lenders. It is commonly expressed as a percentage of the financial institution's income from loans and other assets over a given time period, less interest paid on borrowed funds, divided by the typical value of its assets. It is determined by dividing net interest income by total assets with earnings.

### **2.3. Empirical Review**

Lawrence Kutsienyo (2011) studied on the research topic "Determinants of profitability of banks in Ghana". This study is categorized into two parts, which are internal factors, bank specific characteristics, and external factors that can be further divided into macroeconomic factors and financial structure factors. The main objective of this study is to determine the factor that influences commercial banks' profitability in Ghana. The study used secondary data that was obtained from annual accounting data of individual banks and macroeconomic data. This study used two key measures of profitability: return on assets and return on equity as dependent variable. Capital adequacy, Operating expense, Liquidity, Asset quality, and Bank size are Bank specific factors. In addition, macroeconomic and financial structure factors such as inflation, GDP, money supply, and banking industry concentration are incorporated. Generalized least squares were used to examine panel data for 26 banks in Ghana over a ten-year period (2000–2009) and construct fixed effect regression models. According to the study, liquidity and bank size are positively significant for bank profitability, whereas asset quality and operating expense are negatively significant. Additionally, bank profitability was positively correlated with GDP and inflation, but negatively with money supply and bank concentration. In case of ROE, all determinants except GDP and banking industry concentration remained consistent when ROE measured bank profitability. However, capital adequacy was significant to bank profitability through measuring by ROE.

Muriithi(2016) examined how financial risk affected Kenya's commercial banks' financial performance. In this study, which spanned the years 2005 to 2014, 43 commercial banks were included. It used a quantitative research design. Secondary data was also used, obtained from

published financial statements of all 43 commercial banks in Kenya. Secondary data from a time series cross-section that was unbalanced was examined. Credit risk, market risk, liquidity risk, and operational risk served as the explanatory variables, and ROE was used to measure financial performance as the dependent variable. The moderating variables also included the size of the bank. The study's conclusions indicate that the financial risks that have the biggest effects on financial performance are credit, market, liquidity, and operational risks. These risks have a significant negative impact on the return on equity. Financial risk and performance also have a skewed relationship with each other.

Kioko et al., (2019) study conducted on effect of financial risk on the financial performance of commercial banks in Kenya listed on Nairobi stock exchange. The study used 11 sample commercial banks and conducted the research for five years, which is from 2014–2018. The bank's public annual reports and financial statements were where the data came from. Credit risk, market risk, liquidity risk, and operating risk were the study's independent factors. ROA, a dependent variable that gauges financial performance, was used. The data were analyzed with a multiple regression model. According to the study's findings, liquidity risk had a negligible impact on financial performance, whereas credit risk, market risk, and operational risk all had insignificant negative effects on financial performance.

Similar to this title, Basel and Mohammed (2020) explored the financial risks and financial performance of listed commercial and investment banks on the Bahrain Stock Exchange. The survey covered 11 Bahraini banks from 2014 to 2018, and data was collected from the Bahrain Stock Exchange database. ROA was used as the dependent variable and risk measure of bank performance. The study includes four sources of financial risk as independent variables: capital risk, foreign exchange risk, liquidity risk, and operational risk. The SPSS model was used to analyze the data. This study found no significant correlation between bank performance, exchange rate, liquidity risk, and operating risk after applying regression analysis to the data. Additionally, a positive correlation between capital risk and bank performance suggests that capital risk is the most important type of risk.

Also in our country, Meselech Amsalu (2019) conducted the same topic as this study, which is the effect of financial risk on the financial performance of Ethiopian commercial banks . The study used secondary data that was obtained from an audited financial statement of the sampled

data. Balanced panel data was used. Seven commercial banks were used for 18 years by using a purposive sampling method. In addition to this, Liquidity risk, solvency risk, credit risk, interest rate risk, inflation rate risk, and foreign exchange rate risk are employed as independent risks, whereas ROA is used as a dependent variable to measure financial performance. According to the findings, credit risk significantly and negatively affects financial performance, while interest rate risk, inflation rate risk, and foreign rate risk have a statistically significant impact and positively influence ROA. The sampled Ethiopian commercial bank's financial performance is unaffected by liquidity and solvency risks.

Similar to this topic, Robel Abebe (2021) studied the topic "The effect of financial risk on the financial performance of the Ethiopian commercial banks." Using a purposive sampling technique, this study covered the years 2000–2018 for seven chosen commercial banks operating in Ethiopia. Macroeconomic data from MOF and secondary data from the selected bank's audited financial statements were used in this study. We used balanced panel data for this study. This study also used ROA as a dependent variable and GDP, bank size, liquidity risk, solvency risk, credit risk, interest rate risk, and foreign exchange risk as independent variables. The study discovered that solvency risk, GDP, and bank size have favorable effects on ROA and are statistically insignificant using random effects panel data model regression. While credit risk has a statistically significant impact and negatively affects financial performance, liquidity risk has an impact on ROA that is both positive and statistically significant. The two remaining variables, interest rate risk and foreign exchange rates have a negative impact on ROA but are statistically insignificant.

Samuel (2015) studied the determinants of commercial profitability in the case of Ethiopian commercial banks by using panel data from eight commercial banks from 2002 to 2013. The study also employed a mixed research methodology, and for the analysis of secondary financial data, Return on Asset (ROA), a measure of bank profitability, multiple linear regression models were used. The impact of bank size, capital sufficiency, liquidity risk, operating efficiency, management efficiency, employee efficiency, funding cost, banking sector development, real GDP, inflation rate, and foreign exchange rate on calculating return on assets (ROA) was examined using a fixed effect regression model. According to the study's conclusions, a bank's profitability is statistically significantly and positively correlated with its size, capital

sufficiency, and gross domestic product. On the other hand, there is a negative and statistically significant association between the profitability of banks and factors including liquidity risk, operational effectiveness, funding costs, and banking sector development.

Similar to Samuel's study, Wondwossen (2018) also studied this topic area. A fixed asset regression model was used to investigate the effects of bank size, capital adequacy, liquidity risk, management effectiveness, loan-to-deposit ratio, funding cost, foreign exchange rate, GDP, and inflation rate on profitability as measured by ROA. The study used panel data from seven commercial banks from 2006 to 2016 and employed explanatory research types and secondary financial data. The results of this study demonstrate that there are statistically significant and favorable relationships between the profitability of the bank and liquidity risk, management effectiveness, loan-to-deposit ratio, and inflation rate. The final element has no statistical significance.

## **Conclusion**

There is no universally accepted finding on the Determinants of the financial performance in the banking sector. According to the aforementioned empirical review, researchers utilize various factors to compare the results of their studies because countries have varied operating environments and economic, financial, political, and monetary systems. This study's goals were to close knowledge gaps in the area of measuring bank financial performance using a variety of factors. The eight-year study period ran from 2015 to 2022.

## **2.4. Variables selection and hypotheses**

### **2.4.1. Dependent Variable**

The dependent variable in this study is performance. Theoretically, Return on Equity (ROE) and Return on Assets (ROA) are used as performance indicators, while net interest income Margin (NIM) is used as a spread indicator. Return on assets (ROA), which is defined as the ratio of net income to the average of total assets, is the performance metric used in this study. ROA represents a bank's management's capacity to generate profit from the bank's assets.

### **2.4.2. Independent variable**

Based on their possible applicability to this model, the independent variables credit risk, liquidity risk, interest rate risk, and foreign exchange rate risk have been chosen.

#### **Credit Risk**

The proportion of non-performing loans to total loans is used to calculate credit risk. As the quality of the loans declines, the risk associated with the portfolio will rise along with the ratio. Eneyew (2013) found a statistically significant inverse relationship between credit risk and bank profitability. Additionally, according to Robel's studies from 2021, credit risk has a statistically significant negative impact on return on assets.

H1: Credit risk has a significant and negative relationship with financial performance.

#### **Liquidity Risk**

Muriithi (2016) investigated the effect of financial risk on the financial performance of Kenyan commercial banks and discovered that liquidity has a negative and significant impact on bank performance. According to Samuel's (2015) research, there is a negative and statistically significant association between bank profitability and liquidity ratio. This demonstrates that many researchers conclude that bank performance has a negative liquidity ratio.

H2: Liquidity ratio has a negative and significant impact on the financial performance of private commercial banks.

#### **Foreign Exchange Rate Risk**

Meselech (2019) examined the effect of financial risk on the financial performance of Ethiopian commercial banks, and the result shows that foreign exchange rate risk has a statistically significant impact and a beneficial impact on asset return. On the contrary, Samuel's (2015) study concluded that the foreign exchange rate is statistically insignificant. So this shows that, regarding this variable, various studies provide different signs.

H3: Foreign exchange rate has a positive and significant impact on the performance of private commercial banks.

#### Inflation Rate Risk

According to Solomon (2018), who conducted research on the factors influencing the financial performance of commercial banks in Ethiopia, the findings suggest that inflation has a significant impact on the performance of banks. In contrast, Samuel (2015) discovered in his research, however, that the inflation rate was statistically insignificant. The research of Misikir (2015) found that inflation has no significant influence on bank profitability.

H4: Inflation rate risk has a negative and significant impact on the performance of private commercial banks.

#### Interest Rate Risk

According to Samuel (2015), interest rate risk is statistically insignificant and has a negative impact on ROA. According to the findings of Misikir's (2015) study, interest rate risk has no substantial influence on bank profitability. Meselech's 2019 studies, on the other hand, reveal that interest rate risk has a statistically significant impact and a beneficial influence on financial success.

H5: Interest rate risk has a positive and significant impact on the performance of private commercial banks.

#### Solvency Risk

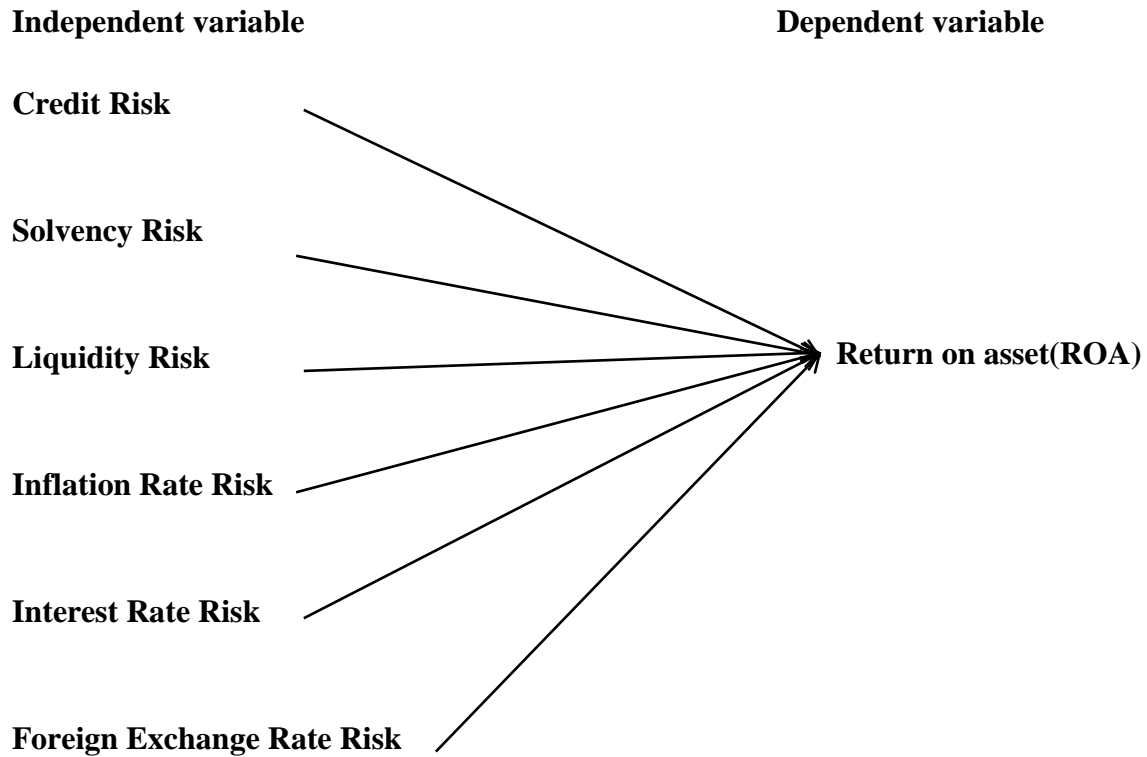
As pointed out by Robel (2021), empirical results of the regression of panel data models with random effects reveal that solvency risk has a positive impact on ROA and is not statistically significant. Muthoni's (2013) study showed solvency had a negative but marginal impact on banks' performance.

H6: Solvency risk has a positive and significant impact on the performance of private commercial banks.

## 2.5. Conceptual framework

It shows how the independent and dependent variables are related. It was created through an examination of both theoretical and empirical data.

**Figure 1: Conceptual Framework**



Source: own design

## CHAPTER THREE

### 3. RESEARCH METHODOLOGY AND DESIGN

#### 3.1. Introduction

This chapter deals with how the research was conducted in order to reach its conclusion. It is organized into three parts, which are research methodology, research design, and research method, and within research method, data type and collection method, population and sampling technique, and the analysis and evaluation of data.

#### 3.2. Research Methodology

To improve knowledge, research is a systematic, deliberate process of inquiry and investigation. Every research project should add new knowledge to the body of current data because disciplines are founded on the development of bodies of knowledge. The study is based on positivist philosophy, which strongly supports objectivism, measurability, scientific methods, and value-free reasoning and disregards belief, emotion, and perception, in order to contribute to the body of knowledge already known about the factors influencing commercial banks' financial risks. There are three fundamental research methodologies, according to Creswell (2009): mixed, quantitative, and qualitative. The quantitative research approach is utilized in this study to examine patterns, regularities, causes, and effects of events in light of the guiding principles and objectives.

By creating and using mathematical models, theories, and hypotheses relating to natural and/or social phenomena, quantitative research is a systematic and scientific investigation of quantitative properties, phenomena, and their relationships (Bhattacharjee, 2012). Since econometric models are more thorough and scientific than both mathematical and statistical models in studying the relationship between variables, this quantitative study applies them in addition to mathematical and statistical models. By establishing a connection, this method helps us in this study to understand the relationship between the financial risks faced by commercial banks.

### **3.3. Research Design**

Zikmund et al. (2009) state that research design is a comprehensive strategy that outlines the techniques and steps to be taken in order to gather and analyze the required data. A research design offers a framework or game plan for the investigation. A research design, according to Kothari (2004), is a set of rules for data collection and analysis that tries to combine relevance to the research purpose with efficiency in technique. In actuality, the research design serves as the conceptual framework for the research and serves as the guide for data collection, measurement, and analysis. As a result, the design contains a description of the researcher's process, from developing the hypothesis and considering its practical consequences to doing the final data analysis.

In this study, an explanatory design was used. Explanatory research refers to studies that demonstrate the causal relationships between various variables. Studying a situation or issue in order to understand relationships between variables is the main focus here (Saunders et al., 2009). Creswell (2012) says that an explanatory research design is a correlational design in which the researcher is interested in the extent to which two variables (or more) co-vary, that is, where changes in one variable are reflected in changes in the other. This study employs balanced panel data from ten banks collected over an eight-year period as part of an explanation study. An explanatory study seeks to pinpoint the causes and results of the target phenomenon, according to Bhattacharjee (2012).

### **3.4. Research Method**

#### **3.4.1. Data Type and Source**

There are basically two main types of data. Primary and secondary data. Secondary data is data that has already been collected by someone else and has already undergone the statistical process (Kothari, 2004).

A balanced panel of secondary data was utilized in the investigation. The secondary data used by the panel includes an eight-year financial statement and is quantitative in nature. Panel data is preferred for situations that frequently occur in financial modeling where we have data containing both time series and cross-sectional aspects, according to Brooks (2008). The

time-series component is revealed by the study period from 2015 to 2021, while the cross-sectional component is reflected by the various Ethiopian private commercial banks.. The study used audited financial statements of each bank that were sourced from the NBE in order to strengthen the validity and dependability of the research.

### **3.4.2. Sampling and population**

According to the selection criteria they have established, the researcher can use purposive sampling to select items for the sample that they believe to be the best. To put it another way, in purposive or judgmental sampling, the inquiry's planners select particular cosmological units for the sample based on the assumption that the small mass they select from a large one will be typical or representative of the entire universe (Kothari, 2004). This makes it possible for us to choose samples that are appropriate for attaining the study's goal. Additionally, this kind of sampling is suitable when the study population is not homogeneous.

In this study, ten private commercial banks in Ethiopia were included. Private commercial banks with more than seven years of working experience in Ethiopia comprise the sample for this study. According to this, the study included Awash International Bank, Dashen Bank, Bank of Abyssinia, Wegagen Bank, United Bank, and Lion International Bank, Cooperative Bank of Oromia, Zemen Bank, Abay Bank, and Berhan Bank. The matrix of the frame is 8\*10 and contains 80 observations. The Commercial Bank of Ethiopia was not excluded from the study due to its different business motives, which may have an outlier effect on the result. Working with a homogeneous sample is also preferred to ensure the robustness of the econometric estimations.

**Table 3.1: List of Private Commercial banks in Ethiopia**

No	Banks	Year of establishment(G.C)
1	Awash International Bank S.C	1994
2	Dashen Bank S.C	1995
3	Bank of Abyssiniya S.C	1996
4	Wegagen Bank S.C	1997
5	United Bank S.C	1998
6	Nib International Bank S.C	1999
7	Cooperative Bank of Oromia S.C	2004
8	Lion International Bank S.C	2006
9	Oromia International Bank S.C	2008
10	Zemen Bank S.C	2008
11	Bunna International Bank S.C	2009
12	Berhan International Bank S.C	2009
13	Abay Bank S.C	2010
14	Addis International Bank S.C	2011
15	Debub Global Bank S.C	2012
16	Enat Bank S.C	2012
17	Hijra Bank S.C	2022
18	Singee Bank S.C	2022
19	Amhara Bank S.C	2022
20	Ahadu Bank S.C	2022
21	Goh Betoeh Bank S.C	2022
22	Tsedey Bank S.C	2022
23	Tsehay Bank S.C	2022
24	Zamzam Bank S.C	2021
25	Gedaa Bank S.C	2022

<https://nbebank.com>

### 3.4.3. Method of Data Analysis

In this study, regression analysis was used, which is crucial in discovering the factors that influence financial risk and establishing links between dependent and independent variables. In order to estimate and/or predict the population or the average value of the former in terms of the known or fixed values of the latter, Gujarati (2004) claims that regression analysis is concerned with the study of the dependence of one variable, the dependent variable, on one or more other variables, the explanatory variables. The researcher employed an econometric model, which is a linear multiple regression model, which is STATA-13 for efficient data analysis, to evaluate the

impact of financial risk on financial performance. Descriptive statistics, correlations, and multiple regression models are used to examine the gathered data.

### **Model Specification**

To analyze statistically the determinants of the financial performance of banking services of selected private commercial banks in Ethiopia, an estimate of a model was helped to see factors of the performance of sampled banks ROA is a proxy of measure. Based on the Hausman test fixed effect linear regression model was applied to investigate the relationship between financial performance and its determinant factors of selected banks. To apply the linear regression model all its assumptions were met. Hence the general model is;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon$$

Where;

$\beta_0 - \beta_6$  = Regression Coefficient

Y = is Dependent variable, which is ROA

X is the Independent Variable

X<sub>1</sub> = Credit Risk (CR)

X<sub>2</sub> = Solvency Risk (SR)

X<sub>3</sub> = Liquidity Risk (LR)

X<sub>4</sub> = Interest Rate Risk (IRR)

X<sub>5</sub> = Inflation Rate Risk (Inf.RR)

X<sub>6</sub> = Foreign Exchange Rate Risk (ERR)

$\epsilon$  = Stochastic error term

$$ROA = \beta_0 + \beta_1 CR + \beta_2 SR + \beta_3 LR + \beta_4 IRR + \beta_5 Inf.RR + \beta_6 ERR + \epsilon$$

## **Variable description**

This study tested the correlations between financial risk factors that influence the performance of private commercial banks in Ethiopia in an effort to determine the relationship between the dependent and independent variables.

Any change in a bank's financial standing brought on by credit and liquidity risks is referred to as financial risk. Liquidity risk, inflation rate risk, interest rate risk, Solvency risk, foreign exchange rate risk, and credit risk were the six indicators of financial risk that the study used as independent variables. ROA, a dependent variable, gauges the bank's financial success.

The following subsections present the dependent variable and the independent variables with testable hypotheses

### **Dependent Variables**

#### Return on Asset

Return on asset serves as a stand-in for determining profitability. It has a positive relationship with risk; therefore, when there is a higher level of risk, there will also be a larger level of profit. It is a ratio of net income to total assets, according to Khrawish (2011). It gauges the bank management's capacity to turn a profit by putting available corporate resources to use. In other words, it demonstrates how effectively the company's resources are employed to produce revenue.

$$\text{ROA} = \text{Net Income} / \text{Total Asset}$$

### **Independent Variables**

#### Credit Risk

According to Harrington and Niehaus (2003) define that credit risk is that customers and parties to whom the firm has lent money will be late with payments. Financial institutions, like commercial banks, that frequently make loans that are subject to the risk of borrower default are particularly exposed to credit risk. Based on the borrower's total ability to repay, credit risk is determined. Credit risk can be calculated in a variety of ways, including using risk-weighted

assets and nonperforming loans. However, credit risk is determined using the ratio of loan loss provisions to total loans and the budget set aside for problematic loans. When there is a higher credit loss ratio, the net income and earnings per share will be reduced (Meselech, 2019)

Credit Risk=Loss loan provision /Total loan

#### Liquidity Risk

The risk of not being able to quickly and affordably liquidate a position is known as liquidity risk (Muranaga & Ohsawa, 2002). The risk of not having enough cash on hand or borrowing power to cover deposit withdrawals or new loan demand is known as liquidity risk, and it forces banks to take out expensive emergency loans. Therefore, a bank's liquidity risk decreases as the percentage of funds placed in cash or cash equivalents rises. It is measured by current ratio.

Liquidity Risk =Current Asset/Current Liability

#### Inflation Rate Risk

Inflation is a galloping rise in prices as a result the excessive increasing in the quantity of money and produced only by a more rapid increase in the quantity of money than output. The cause of inflation is when the aggregate demand exceeds the aggregate supply of goods and service. (Jhingan, 2004).

#### Solvency risk

The ability of a bank to pay its obligations when they become due without interfering with the bank's operations is a broad definition of bank solvency. Thus, the ability to absorb losses or the probable inability to pay maturing commitments is both indicators of solvency risk.

Solvency Risk=total debt /Total Asset

#### Interest Rate Risk

Interest Rate Risk is the risk of loss caused by adverse interest rate movement Jhingan(2004) For this investigation, according to other researchers, to evaluate interest rate risk, real risk will be employed. Real interest rates, which do not take inflation into account, are therefore more

accurate than nominal interest rates. It displays both the true cost of credit to the borrower and the true return to the lender.

#### Foreign Exchange Rate Risk

According to Jhingan (2004), the rate at which one currency is exchanged for another is known as the foreign exchange rate. It is the cost of one unit of foreign currency in terms of the domestic currency, as well as the cost of one unit of one currency in terms of another currency. Foreign exchange risk arises due to the fluctuation of the exchange rate, which affects the financial performance of the bank.

#### 3.4.4. Reliability and validity of the study

The degree of reliability, which applies to measures when similar results are obtained over time and across situations, is defined as the degree to which measures are error-free and thus yield consistent results. The measuring instrument is reliable if the results of the measurement process are repeatable. Additionally, STATA-13 for Windows, arguably the most popular computer program for the analysis of quantitative data, was used to analyze the empirical data. Therefore, it is safe to say that this research is very valid.

**Table 3.2: Expected result and Output of the study**

	variable	Measurement	Expected Result
<b>Dependent variable</b>	<b>Return On Asset</b>	<b>Net income/Total Asset</b>	
<b>Independent variable</b>	<b>Credit Risk</b>	<b>LLP/Total Loan</b>	-
	<b>Liquidity Risk</b>	<b>CA/CL</b>	-
	<b>Inflation Rate Risk</b>	<b>Total annual Inflation Rate</b>	-
	<b>Solvency Risk</b>	<b>TD/TA</b>	+
	<b>Interest Rate Risk</b>	<b>Nominal Interest Rate-Inflation Rate</b>	+
	<b>Foreign Exchange Rate Risk</b>	<b>ETB To US Dollar</b>	+

**Source: own design**

# CHAPTER FOUR

## 4. DATA PERESENTATION, ANALYSIS AND DISCUSSION

### 4.1. Introduction

The study's panel data analysis looks at the determinant of financial performance in sampled Ethiopian private banks over the course of an 8-year period from 2015 to 2022, and the findings are also based on data from the financial statements of a sample of 10 privately owned banks out of the country's 28 total banks. Therefore, the diagnostic test for the model and the regression results on the study's explanatory variable and explained variable are covered in this section of the research.

### 4.2. Descriptive Statistics

The descriptive statistics of the explained and explanatory variables for the sample private banks were summarized in Table 4.1

**Table 4.1: descriptive statistics**

MEAN ROA, CR, SR, LR, IR R, IRR, FERR					
MEAN ESTIMATION		NUMBER OF OBS = 80			
	Obs	Mean	Std. Dev.	Min	Max
ROA	80	0.0339694	0.016418	0.0015	0.086
CR	80	0.0282605	0.0184943	0.01	0.1
SR	80	0.1384787	0.053158	.0787	0.41
LR	80	0.2791455	0.0844767	0.15	0.52
IRR	80	1.389967	1.332567	0.124	5.35
INRR	80	0.1461012	0.0525013	0.045	0.35
FERR	80	24.3139	3.405036	19.97	31.3427

Source; Stata output 2023

As shown in Table 4.1, the financial results in terms of return on asset show that sampled private banks in Ethiopia achieved on average a positive 0.0339 profit, indicating that 3.339 cents were generated from one birr investment on assets of banks with 0.0015 minimum and 0.086 maximum values, indicating that the most profitable bank among the sampled banks earned 0.086 cents of profit after a single birr was invested in the asset of the bank. The banks with the lowest profits, on the other hand, made 0.0015 cents for every birr that was invested in them.

As can be shown in table 4.1 above, the average credit risk was 0.028 with a maximum and minimum value of 0.1 and 0.01 respectively. This indicates that from the total loan sampled banks disbursed an average of 2.8 % was default or uncollected during the study period. The lowest credit risk ratio that sampled Ethiopian commercial banks experienced over the sample period was 1%, on the other side, the highest credit risk ratio that sampled Ethiopian commercial banks experienced was 10 %.

The mean value for solvency risk indicates that 1-birr total asset was financed by 0.138 cents of bank investors and shareholders. This implies that sampled commercial banks in Ethiopia have less leveraged during the study period meaning that a larger percentage of its assets are owned by its investors. And it also it has a maximum and minimum value of .0787 and 0.41 ratios respectively.

The other explanatory variable is Liquidity risk the ratio of liquid asset and total asset of the bank, which measures the available to meet expected and unexpected demand for cash. If the higher this ratio, the higher liquid the bank is to cover any unforeseen fund requirements. The finding shows that sample banks in Ethiopia recorded the mean value of 0.279 which indicate that from the total of banks asset 27.9% of the asset are liquid over the study period in other word the mean value implies that for each 1-birr current deposit there were 0.279 cents liquid assets to meet the obligation. The minimum and maximum values of the liquidity are 0.15 and 0.52 respectively which implies that in the past eight years, most liquid sampled bank has 0.52 liquidity ratios and banks struggle with liquidity problem has 0.15 liquidity ratio.

The other risk-specific factor affecting the financial performance of sampled banks was interest rate risk. Interest rate risk measures by the ratio of maturity gap have a mean value of 0.146 with the maximum and minimum of 0.35 and 0.045 respectively. Similarly, inflation risk rate and

exchange rate risk showed their means are fluctuated very highly within the eight years. The inflation rate recorded 1.33 standard deviation meanwhile the exchange rate recorded 3.40 standard deviation which is the highest percentage (340 %) fluctuation compared to the remaining explanatory variable. If there is high fluctuation, there would be the low accuracy of estimation. Therefore, the client would face high risk of loss when they decide to save and trade Forex as a result the bank may loss.

#### **4.3. Diagnostic Test**

Before running a regression result and concluding the result, it is mandatory to test the econometric assumptions in order to know the proposed model statistical good fit. These presumptions are required to show that the estimation method possesses a number of desirable qualities and that the hypothesis tests relating to the coefficient estimations may be carried out with validity (Brooks, 2008). All of the hypotheses examined here are true and valid. As a result, the study's model is suitable, the statistical fit is good, and the results are presented accurately.

#### **4.4. Heteroscedasticity Test**

In accordance with Brooks (2008), the variance of the disturbance has allegedly been believed to be constant. The homoscedasticity assumption refers to this. Even though our predictions are still accurate, estimating regression models on data with a non-constant variance will still produce average errors of zero. However, this may lead to some independent variables being misinterpreted as not being significant when, in fact, they are. Heteroscedasticity is a term used to describe errors that do not have a constant variance.

In order to evaluate Heteroscedasticity the White's test hypothesis was conducted using Stata software version 13 and p-values were obtained to detect the Heteroscedasticity problem.

White's test for  $H_0$ : homoscedasticity

$H_a$ : unrestricted Heteroscedasticity

Decision Rule: If the p-value is less than the significance level, the hypothesis is rejected. If not, don't reject  $H_0$ . A test of constant variance using the White's test in table 4.2 revealed that there was no Heteroscedasticity problem in the model since the p-values were higher than the 5% level of significance; hence we are unable to rule out the null hypothesis.

Conclusion: There is adequate evidence to infer that the Model does not consist of Heteroscedasticity problem.

chi2(27) = 44.17

Prob> chi2 = 0.0198

**Table 4.2: Heteroscedasticity test result**

SOURCE	CHI2	DF	P
HETEROSKEDASTICITY	44.17	27	0.0198
SKEWNESS	18.92	6	0.0043
KURTOSIS	3.20	1	0.0736
TOTAL	66.30	34	0.0008

Source; Stata output 2023

#### 4.5. Correlation Analysis

The study applies Pearson’s Correlation to verify the amassed effects of financial risk are significantly correlated with the financial performance of Ethiopian private banks. As it can be presented in table 4.3, the correlation results indicate that there is significant relationship among all variables. In other words, the result shows that there is and positive relationship between return on asset and credit risk, liquidity risk, interest rate risk and foreign exchange rate risk .on the contrary, solvency risk and inflation rate risk negatively correlate with return on asset those positive and negative relationship implies any improvement in these financial risk can positively or negatively affect financial performance of sampled Ethiopian private banks. As a result, we can conclude that financial risk is positively and negatively correlated with financial performance (ROA), implying that they are leading attributes to measure effect of financial performance (ROA).

Low correlation coefficients imply that multicollinearity is not an issue. The result of correlation analysis indicates that there is a high positive correlation between credit risk and return on asset and low correlation coefficient between solvency ratio and return on asset.

**Table 4.3: Correlation Test Result**

CORRELATE ROA CR SR LR INFNRR INTRRR FERR							
(OBS=80)							
	ROA	CR	SR	LR	INFNRR	INTRRR	FERR
ROA	1.0000						
CR	0.2530	1.0000					
SR	-0.0358	-0.0944	1.0000				
LR	0.1362	0.4020	-0.0681	1.0000			
INFNRR	-0.1337	-0.6037	0.1168	-0.5148	1.0000		
INTRRR	0.0835	0.2392	0.1313	0.0041	-0.1828	1.0000	
FERR	0.1990	-0.0731	0.0639	-0.1810	0.0134	0.5189	1.0000

Source; Stata output 2023

#### 4.6. Multicollinearity Test

In this section the correlation between credit risk, solvency risk, liquidity risk, inflation rate risk, interest rate risk, and foreign exchange rate risk have been presented and analyzed. Hence, to check the presence of Multicollinearity among independent variables, Variance inflation factors (VIF) is selected to measure the degree of co-linearity present for each factor. Gashayie (2013) indicates that Multicollinearity is a violation that independent variables are nearly or highly correlated, as a result high correlation among independent variables will makes hard to separate the effects of individual variables. Multicollinearity is not considered as a severe problem if the VIF value is less than ten (Gujarati, 2004).

**Table 4.4 Result of Variance Inflation Factor**

	1/VIF	VIF
CONSTANT		-
CR	0.581728	1.72
SR	0.957677	1.04
LR	0.693911	1.4
INRR	0.636181	1.57
INFNRR	0.536011	1.87
FERR	0.673589	1.04

Source: Stata output 2023

A measure of the degree of Multicollinearity in the set of multiple regression variables is called the variance inflation factor (VIF). The VIF value used to diagnose whether there exist any Multicollinearity problem or not. The result of the VIF shown in Table 4.4 above is that all independent variable values are less than 10, meaning that the Multicollinearity assumption is not violated.

#### 4.7. Normality test

The Shapiro-Wilk test is one of the procedures used most frequently to determine normality. The Shapiro-Wilk test makes use of the fact that a normally distributed random variable's first two moments, the mean and the variance, adequately describe the entire distribution. The residuals must have a normal distribution with a mean of zero and a standard deviation of one, according to one of the assumptions of linear regression analysis. A statistical result (P-value of less than 0.05) indicates that the distribution violates the assumption of normality, which is typical in large samples, and would not be significant if the residuals were normally distributed (Pallant 2005). To avoid rejecting a null of normality at the 5% level, the p-value indicated at the bottom of the normality test screen must be greater than 0.05 (Brooks, 2008). The picture's distribution follows a normal curve, indicating that the data are consistent with the idea of normality.

**Table 4.5 Normality Test Result**

Variable	Obs	W	V	z	Prob>z
Res	80	0.8479	11.8531	4.210	0.053

Source: Stata output 2023

#### 4.8. Hausman's specification test

The Hausman's (1978) specification test was used to assess which of the two regression findings (fixed effects and random effects models) is appropriate for the study's objective of valid inference.

**Table 4.6 Hausman's Specification Test**

	COEFFICIENT.			
	B	B	b-B	sqrt(diag(V_b-V_B))
	Fixed	random	difference	SE
CR	.2931134	.2783909	.0147225	.0818239
SR	-.0310713	-.0120032	-.019068	.0175737
LR	.011642	.0176161	-.0059741	.0203297
INFNRR	.000652	-.0308967	.0232185	.0215471
INTRRR	-.0076782	-.0308967	.0232185	.0215471
FERR	.0010598	.0013702	-.0003104	.0003264

chi2(6) = 3.56

Prob>chi2 = 0.7361

Source: Stata output 2023

Table 4.6 above presents the result of Hausman's specification test. Gujarati and Porter (2009) claim that the fixed effects model is more appropriate for drawing meaningful conclusions when the p-value is significant at the 5% level. However, the Random effects model can be utilized for inference if the p-value is not significant at 5%. The explanation of the regression results was done using the results of the Random effects model because the p-values for the models as presented in Table 4.6 are larger than 5%.

#### 4.9. Regression result

The outcome of the panel regression using Random Effects approaches is displayed in Table 4.7. The outcome links the performance of the bank (ROA) with many financial risk indicators, including credit risk, solvency risk, liquidity risk, inflation rate risk, interest rate risk, and foreign exchange rate risk. The calculated F-statistic and its probability (0.0168) in the research models show that the overall impact of financial risk on financial performance is statistically significant. As a result, according to the research (see table 4.7 below), financial risk has an impact on a bank's financial success, as indicated by ROA.

On the other hand, the value of R-square indicates the correlation coefficient which shows the relationship between the study variables, and the result was 0.1038, which means that 10.38% of the total variation in the value of ROA was due to the effect of the independent variables. Similarly adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in table 4.7 below shows that the value of adjusted R squared was 0.1325 an indication the performance of sampled commercial bank of Ethiopia depends 13.25 % on variables of credit risk, solvency risk, liquidity risk, inflation rate risk, interest rate risk, and foreign exchange rate risk at 95% confidence interval. This indicates that the independent variable in the study influence is 13.25 % the remaining are explained by other variable that are not included in this study.

According to the regression result, credit risk, solvency risk, inflation rate risk, and interest rate risk have a negative effect on the financial performance of the sampled commercial banks. On the contrary, liquidity risk and foreign exchange rate risk have a positive effect on the performance of sampled commercial banks.

**Table 4.7 Regression Result**

<b>Random-effects (within) regression</b> <b>Group variable: group code</b>	<b>Number of obs = 80</b> <b>Number of groups = 10</b>
<b>R-sq: within = 0.1038</b> <b>between = 0.2682</b> <b>overall = 0.1325</b>	<b>Obs per group: min = 8</b> <b>avg = 8.0</b> <b>max = 8</b>
<b>corr(u_i, X) = 0 (assumed)</b>	<b>Wald chi2(6) = 10.19</b> <b>Prob&gt; chi2 = 0.0168</b>

<b>L1  </b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt; t </b>	<b>[95% Conf.] Interval</b>
<b>CR</b>	<b>-.2783909</b>	<b>.1274846</b>	<b>2.18</b>	<b>0.029</b>	<b>.0285257 .528256</b>
<b>SR</b>	<b>-.0120032</b>	<b>.0351204</b>	<b>-0.34</b>	<b>0.033</b>	<b>-.0808379 .0568315</b>
<b>LR</b>	<b>.0176161</b>	<b>.0263785</b>	<b>0.67</b>	<b>0.040</b>	<b>-.0340849 .0693171</b>
<b>INFN RR</b>	<b>-.0308967</b>	<b>.00188</b>	<b>0.52</b>	<b>0.010</b>	<b>0027067 .0046628</b>
<b>INTR RR</b>	<b>-.0308967</b>	<b>.043582</b>	<b>-0.71</b>	<b>0.047</b>	<b>-.1163158 .0545224</b>
<b>FERR</b>	<b>.0013702</b>	<b>.0006522</b>	<b>2.10</b>	<b>0.036</b>	<b>0000919 .0026486</b>
<b>cons</b>	<b>-.0073145</b>	<b>.018334</b>	<b>-0.40</b>	<b>0.039</b>	<b>-.0432484 .0286194</b>

Source: Stata output 2023

#### **4.10. Hypothesis testing**

This section summarizes the expected and actual relationship between the six independent variables, specifically credit risk (CR), solvency risk (SR), liquidity risk (LR), inflation rate risk (INFRR), interest rate risk (IRR), and foreign exchange rate risk (FEER), and Return on Assets (ROA) of Ethiopian Commercial Banks during the 2015-2022 Study Period.

##### **Credit risk**

###### ***H1 - Credit risk has significant and negative relationship with financial performance***

The random-effects panel data model regression result of this study on Table 4.6 shows that there is a negative and significant relationship between credit risk and return on asset (ROA). Increases in the amount of credit supplied by banks and poor management of monitoring and screening of borrowers support this result. This adverse relationship can be explained by the increases in unsecured assets which do not generate income.

The increase in unsecured assets raise the amounts of money that banks set aside for provisions to cover expected credit losses. Thus, the increase in unsecured assets will be lower the profitability of banks. The findings support that credit risk is an important indicator of the bank's financial performance.

In calculating the ROA of the sampled Ethiopian commercial banks, the credit risk finding is also significant at a 5% significant level with a coefficient of (-.2783909); this show that that credit risk has a significant and positive relationship with financial performance supported the hypothesis. This suggests that the sampled Ethiopian commercial banks' return on assets (ROA) would decline by 27.8% when credit risk (CR) increased by 1%, and the study's conclusions are comparable with those of Tassew & Hailu, 2019; and Mitku, 2015.

##### **Solvency risk**

###### ***H2 - Solvency risk has positive and significant effect on financial performance of Ethiopian private bank***

In Table 4.7 showed that solvency risk has a negative and significant (coefficient -.0120032 andp-0.033) impact on financial performance. The finding of the study was (Solvency risk has

positive and significant effect on financial performance of Ethiopian private bank). This means that solvency risk has a significant effect on ROA, whereas the effect is negative.

As a result when return on asset increased by one percent, solvency risk decreased by 1.2% in sampled Ethiopian commercial banks. So, this finding implies that solvency risk has no effect on the performance of Ethiopian commercial banks because the study did not obtain enough statistical significance. and the result consistent with the finding, Allam, Ali, Akram&Rehman. (2011)

### **Liquidity risk**

#### ***H3 – Liquidity risk has negative and significant impact on the performance of private banks***

According to the above table, the regression analysis result indicated that liquidity has a positively related with the bank profitability with the coefficient value of .0176161 and the p-value is 0.040 which means that liquidity risk significantly impact ROA. As a result liquidity risk significantly and positively impact sampled private commercial banks of Ethiopia. On the same way when banks return on asset increased by one percent the bank ability to pay off current obligation without raising external capital increased by 1.7%, the study finding consistent with Mebratu, (2017).

The relationship between liquidity and ROA are positively and significant relation with ROA, which showed the increase of liquidity which lead increase ROA. According to researchers finding the relation of liquidity rate and ROA are direct relation. This means the increase/decrease liquidity rate will result decrease/ increase ROA .The hypothesis (H3 ) stated negative and significant impact on the performance of private bank. The regression result shown that it has direct relationship the ROA.

### **Inflation rate risk**

#### ***H4 – Inflation rate risk has negative and significant impact on the performance of Ethiopian banks***

Inflation reduces the purchasing power and makes products and services pricy and Makes the economy unstable, affecting the savings of the economy and reducing the mobilized capital of banks. It is riskier to keep the local currency under inflation, which causes the value of the local

currency to decline, and a depreciated local currency has lower purchasing power. When inflation rises in one country, the value of its currency falls in relation to currencies in other countries that do not experience the same increase in inflation. This is also difficult to forecast and heavily influenced by expectations and the government's monetary policies. For example, if a country decided to issue a huge amount of new money to pay off debts, it would almost certainly produce inflation, causing the currency's value to fall rapidly.

For the operations of commercial banks, inflation makes the cost of using loans high, thereby limiting the need for loans (Mazreku et al. 2019). The study reveals that inflation has a negative (-.0308967) and significantly (p- 0.010) related with return on asset (see table 4.6 above). As a result rate of inflation affect the banks' financial performance by making customers not able to pay back the loans and the demotivation of the customers for depositing their funds.

It was expected that the inflation rate would have a negative and significant impact on the financial performance and profitability (return on assets) of private commercial banks. The findings of this empirical study revealed that inflation rate risk has a significant and negative impact on performance (ROA). Therefore the study was supported the hypothesis (H4).

The result of the study indicated that the inflation rate has a significant impact on banks financial performance. It requires price control mechanization. This helps to the correction of mobilization of capital. Besides the effect of inflation, client capability to pay back loans on the agreed period and deposit their fund in banks. The results are similar with the findings of (Negash 2018), Girum (2020), (Vodova 20120 and (Cucinelli 2013) showed that the inflation rate has a significant and negative effect on the financial performance of Ethiopian commercial banks. On the contrary, Meselech (2019), Sopan & Dutta (2018), and Sudirman (2015) findings imply that the inflation rate has a positive and significant effect on bank performance.

### **Interest rate risk**

#### ***H5- Interest rate risk has positive and significant impact on the performance of private commercial bank***

The study rejects the null hypothesis and comes to the conclusion that interest rate risk has a negative impact on the financial performance of Ethiopian commercial banks by referring to the

regression result showing that interest rate risk has a significant and negative impact on the financial performance of Ethiopian private commercial banks, with  $-0.0308967$  coefficients and a  $0.047$  p-value.

This finding is consistent with Girum's (2019) and Eneyew's (2013) empirical findings, which demonstrate an inverse link between interest rate risk and bank performance. In contrast to the findings of the preceding study and Meselech (2019), interest rates have a significant and beneficial effect on bank performance.

### **Foreign exchange rate risk**

#### ***H6 - Foreign exchange rate risk has positive and significant effect on the financial performance of private bank***

Foreign exchange rate risk was identified as one of the primary elements influencing commercial bank performance in Ethiopia. Exchange rate risk is found to have a significant and positive relationship with return on asset with coefficient  $0.013702$  and p-value of  $0.036$ . It was hypothesized that foreign exchange rate volatility (Ethiopia Birr changes against the US Dollar) has a positive and significant effect on private commercial bank performance.

During the study period, a rise in USD to ETB by one birr increased Ethiopian commercial banks' performance (ROA) by  $1.13702\%$  whereas a drop in USD to ETB by one birr decreased Ethiopian commercial banks' performance (ROA) by  $1.13702\%$ . So findings of this study revealed that foreign exchange rate volatility has a significant and positive impact on performance (ROA). As a result, the study supported the hypothesis that the Foreign Exchange Rate has a positive and statistically significant effect on ROA.

Therefore the study accepted the hypothesis (H5), which is Foreign exchange rate risk, has positive and statistically significant impact on return on asset. The results of this study on the relationship between exchange rates and return on asset are consistent with those of Meselech (2019), Al-Homaidi (2019) for Indian banks, who also found a negative relationship between exchange rates and liquidity. On the contrary, Girum (2020) discovered in his research that foreign exchange rates have a considerable and negative effect on the profitability of Ethiopian private commercial banks.

**Table 4.8: Summary of the expected and actual effects of independent variables on dependent variable**

Independent Variable	Expected Effect	Actual Result
Credit Risk	Negative/significant	Negative
Solvency Risk	Positive/Significant	Negative
Liquidity Risk	Negative/Significant	Positive
Inflation Rate Risk	Negative/significant	Negative
Interest Rate Risk	Positive/Significant	Negative
Foreign Exchange Risk	Positive/Significant	Positive

Source: Compiled by researcher

## **CHAPTER FIVE**

### **5. SUMMARY CONCLUSION AND RECOMMENDATION**

#### **5.1. Summary**

The goal of this study is to investigate to assessed the determinant of financial performance of ten selected private Ethiopian banks over an eight-year period (2015–2022). Return on Asset (ROA) is used to represent the profitability of the bank, and credit risk, liquidity risk, solvency risk, interest rate risk, bank size, inflation rate risk, and foreign exchange rate risk are used to represent financial risk in order to analyze the relationship between financial risk and financial performance.

On the other hand, the research is based on financial risk theories, and the link between these ideas and bank financial performance is established, as are reviews of previous related empirical works with specific emphasis on the purpose, methodology of the study, conclusions, and recommendations.

Similarly, the study used Pearson's correlation analysis, which revealed a negative relationship between ROA, solvency risk, and inflation rate risk. Credit risk, liquidity risk, interest rate risk, and foreign exchange rate risk, on the other hand, were all positively connected with ROA. Furthermore, Hausman's specification test was used to assess which of the two panel model regression findings (fixed effects and random effects models) is adequate for the purpose of valid inference in the study. Because the random effects model describes the data structure as a result of the test, the panel random effects model is employed to obtain the coefficient estimates.

The financial performance of commercial banks (ROA) is decreases or increases depending on the value of the explanatory variable. As managing one risk alone may have a negative impact on the other risks, managing risks in Ethiopian private banks should go hand in hand with each other, and balancing accordingly is mandatory. Managing commercial banks' risk alone is a challenging task. Therefore, it is crucial that the banking sector concentrate on the integration of all bank risks. The study also finds that there is a relationship between financial risk and the financial performance of the sampled commercial bank in Ethiopia, which is explained by the model variables. The explanatory adjusted R-Square for this relationship was 12.5%, and the

ROA of the commercial bank in Ethiopia is explained at 87.5% by variables other than the studied variables.

## **5.2. Conclusion**

According to the results of the study titled "determinants of Financial Performance (ROA) in Ethiopian Private Banks, Period 2015–2022," it can be concluded that, according to the random effects model, the effects of credit risk, solvency risk, inflation rate risk, and interest rate risk were negative and statistically significant during the study period, while liquidity risk and foreign exchange rate risk were positive and statistically significant. As a result, any changes in these explanatory variables will have a considerable impact on the bank's earnings.

Financial risks, on the other hand, have an effect on the performance of the sampled banks, which over time affects their performance. Financial risks, such as credit risk, have an impact on the borrowing and lending of banks, and foreign exchange risks cause banks to experience unforeseen losses, which have an impact on their performance. Similarly, when times are tough, inflation is a worldwide phenomenon. Today, it is difficult to find a nation that is unaffected by the threat of inflation.

## **5.3. Recommendation**

The following recommendations were made in light of the study's objectives and findings:

- To be able to increase the ROA of a banking company, banks do develop their operational activities so that they do not rely solely on interest income, and streamline the burden on the company so that the company runs effectively and efficiently. Banks must also pay attention to customers who have problematic bad credit risk because banks that have low credit risk will increase the company's ROA, and also banks must keep company assets stable and are expected not to decline.
- Another risk management factor that could negatively impact the financial performance of Ethiopian commercial banks is liquidity risk, as improper management of liquidity can lead to sizable unanticipated losses very quickly. The management of a bank must give the liquidity issue the necessary attention as a top priority.

- Banks should implement efficient and effective risk management systems, as these will aid in reducing the negative impact of significant risk exposures on the financial performance of private commercial banks in Ethiopia. This will eventually result in Ethiopia's banking sector becoming sustainable.
- Investors are required to be more careful in making investment decisions and are advised, before investing in a bank, to begin by examining the bank's financial performance, such as its level of health and its ability to make a profit. In addition, information on macroeconomic conditions such as inflation and the foreign exchange rate must also be considered. Because this information can be used to predict the performance conditions of the bank.

#### **5.4. Further research**

This research is expected to be utilized as extra reference material for future researchers in the same subject as it develops and improves so that it can be polished in future investigations. Furthermore, the study contributed to the investigation of the impact of financial risk on the financial performance of commercial banks. The study did not cover all bank risks, and more research is needed to examine the impact of other bank risks such as legal, technological, and strategic risks. It is suggested that further research be conducted by including more variables.

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**Appendix**



Ratio Data

year	ROA	CR	SR	LR	INFNRR	INTRRR	FERR	banks
2015	0.0294	0.02	0.14	0.15	3.05	0.077	20.10	AIB
2016	0.02782	0.02	0.13	0.25	5.35	0.0969	21.11	AIB
2017	0.02743	0.01	0.11	0.23	1.1	0.084	22.41	AIB
2018	0.0362	0.01	0.09	0.27	0.9	0.170	26.11	AIB
2019	0.0421	0.021	0.11	0.24	1.8	0.150	28.05	AIB
2020	0.0430	0.01	0.12	0.28	2.4	0.120	24.21	AIB
2021	0.0280	0.01	0.11	0.24	2.8	0.080	20.05	AIB
2022	0.0413	0.01	0.14	0.26	2.4	0.215	31.34	AIB
2015	0.03121	0.02	0.13	0.17	3.15	0.077	20.10	DB
2016	0.02726	0.02	0.12	0.3	2.87	0.0969	21.11	DB
2017	0.02393	0.02	0.12	0.19	2.3	0.084	22.41	DB
2018	0.0245	0.01	0.13	0.2	1.9	0.170	26.11	DB
2019	0.0181	0.031	0.21	0.19	2.4	0.150	28.05	DB
2020	0.0255	0.01	0.14	0.24	2.5	0.215	31.34	DB
2021	0.0640	0.1	0.11	0.21	1.99	0.280	24.01	DB
2022	0.0800	0.01	0.12	0.2	2.01	0.060	22.10	DB
2015	0.02339	0.01	0.14	0.52	3.05	0.077	20.10	BOA
2016	0.02365	0.01	0.13	0.23	5.35	0.0969	21.11	BOA
2017	0.02537	0.01	0.11	0.17	1.1	0.084	22.41	BOA
2018	0.0176	0.01	0.13	0.17	1.4	0.170	26.11	BOA
2019	0.0198	0.02	0.13	0.19	2.3	0.150	28.05	BOA
2020	0.015	0.01	0.14	0.21	2.8	0.215	31.34	BOA
2021	0.05	0.01	0.11	0.2	2.5	0.350	28.10	BOA
2022	0.018	0.01	0.12	0.18	1.8	0.156	24.10	BOA
2015	0.02825	0.01	0.18	0.21	2.8	0.077	20.10	WB
2016	0.02512	0.01	0.17	0.28	2.79	0.0969	21.11	WB
2017	0.02866	0.02	0.17	0.28	3	0.084	22.41	WB
2018	0.0289	0.021	0.4	0.2	2.8	0.170	26.11	WB

2019	0.0290	0.01	0.124	0.24	2.75	0.150	28.05	WB
2020	0.0218	0.01	0.11	0.26	3.01	0.215	31.3427	WB
2021	0.0560	0.01	0.11	0.2	2.5	0.315	28.40	WB
2022	0.0400	0.01	0.41	0.21	2.1	0.231	23.67	WB
2015	0.02144	0.01	0.12	0.18	3	0.077	20.10	UB
2016	0.02144	0.01	0.12	0.22	4.8	0.0969	21.11	UB
2017	0.01969	0.01	0.11	0.19	1.2	0.084	22.41	UB
2018	0.02056	0.01	0.11	0.2	1.1	0.170	26.11	UB
2019	0.0211	0.01	0.13	0.18	2.3	0.150	28.05	UB
2020	0.0208	0.02	0.32	0.24	1.4	0.215	31.34	UB
2021	0.0860	0.01	0.11	0.17	3	0.045	28.40	UB
2022	0.0280	0.01	0.12	0.2	2.8	0.080	24.30	UB
2015	0.0317	0.0321	0.1403	0.3444	0.124	0.125	20.09	LIB
2016	0.0281	0.0183	0.1317	0.2895	0.214	0.122	21.10	LIB
2017	0.0308	0.0552	0.1321	0.3044	0.229	0.143	22.41	LIB
2018	0.0264	0.0481	0.1263	0.2589	0.1964	0.154	26.10	LIB
2019	0.024	0.0305	0.1255	0.2588	0.201	0.154	28.05	LIB
2020	0.031	0.0417	0.1341	0.2491	0.262	0.149	27.71	LIB
2021	0.0341	0.05	0.128	0.2536	0.294	0.154	27.01	LIB
2022	0.0368	0.053	0.121	0.2531	0.299	0.150	26.94	LIB
2015	0.0348	0.0321	0.1568	0.3019	0.214	0.119	20.09	ZB
2016	0.0331	0.0183	0.1358	0.4024	0.229	0.122	21.10	ZB
2017	0.0418	0.0452	0.1359	0.4201	0.301	0.143	22.41	ZB
2018	0.0418	0.0381	0.1364	0.4958	0.294	0.144	26.10	ZB
2019	0.0455	0.0206	0.144	0.4222	0.291	0.154	28.05	ZB
2020	0.046	0.0391	0.1773	0.3541	0.267	0.149	27.99	ZB
2021	0.051	0.0401	0.1381	0.4116	0.299	0.152	26.98	ZB
2022	0.0523	0.0521	0.1411	0.4519	0.279	0.155	27.96	ZB
2015	0.0272	0.041	0.1231	0.3307	0.229	0.125	20.09	COOP
2016	0.0196	0.0461	0.1149	0.2538	0.243	0.122	22.11	COOP

2017	0.0191	0.0172	0.0855	0.2442	0.196	0.143	22.31	COOP
2018	0.0175	0.0184	0.094	0.3142	0.248	0.154	25.99	COOP
2019	0.0157	0.0572	0.0787	0.3229	0.249	0.155	27.86	COOP
2020	0.0814	0.055	0.1124	0.3196	0.251	0.160	27.99	COOP
2021	0.076	0.051	0.1213	0.2914	0.25	0.160	27.94	COOP
2022	0.0831	0.0496	0.0943	0.3118	0.591	0.154	28.04	COOP
2015	0.0273	0.0513	0.1105	0.3433	0.241	0.184	19.97	AB
2016	0.0301	0.0409	0.1282	0.4019	0.264	0.179	20.04	AB
2017	0.0242	0.0399	0.0961	0.39982	0.259	0.174	20.93	AB
2018	0.0232	0.04181	0.1231	0.3747	0.284	0.165	21.73	AB
2019	0.0211	0.04341	0.1303	0.3783	0.288	0.159	22.05	AB
2020	0.0198	0.044	0.0879	0.3254	0.291	0.171	22.63	AB
2021	0.023	0.0515	0.1247	0.28962	0.298	0.180	22.94	AB
2022	0.0211	0.05832	0.1338	0.3085	0.298	0.189	23.01	AB
2015	0.0296	0.052	0.1742	0.4052	0.293	0.125	20.09	BB
2016	0.0467	0.0215	0.1473	0.4938	0.244	0.121	22.10	BB
2017	0.0533	0.0391	0.1797	0.3161	0.263	0.143	21.99	BB
2018	0.0267	0.0472	0.1565	0.2464	0.255	0.154	21.99	BB
2019	0.0334	0.0404	0.1566	0.3222	0.248	0.154	22.09	BB
2020	0.0461	0.0414	0.1496	0.3193	0.289	0.150	22.56	BB
2021	0.051	0.046	0.1471	0.3051	0.264	0.149	22.76	BB
2022	0.053	0.0391	0.1501	0.2916	0.298	0.150	22.87	BB