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College of Business and Economics

MBA Program

Determinants of Commercial Bank Deposits in Ethiopia: The Case of Commercial Bank of Ethiopia

A thesis submitted to the MBA Program, College of Business and Economics,
Addis Ababa University in partial fulfillment of the requirements for the award of
a master's degree in Business Administration in Financial Services

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Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

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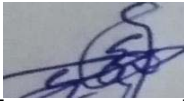
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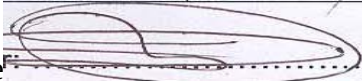
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Abstract

The study focuses on deposit mobilization in commercial banks in Ethiopia and aims to identify the factors that influence this process. Deposit mobilization is crucial for banks to increase liquidity, meet credit demands, and promote economic growth. However, there is a limited understanding of deposit mobilization in Ethiopia, creating a gap in empirical evidence and hindering policymaking. The study utilizes an explanatory research design and a quantitative approach. It analyzes twenty-two (22) years of secondary data from audited financial statements of the Commercial Bank of Ethiopia, obtained from the NBE database. The factors examined include return on assets (ROA), capital adequacy ratio (CAR), gross domestic production (GDP), liquidity ratio (LR), loan to deposit (LD), political stability (PS), and inflation rate (IR). The findings reveal important relationships between these factors and deposit mobilization. GDP growth shows a positive association with deposits, indicating that factors beyond economic growth influence deposit decisions. Inflation has a negative impact on deposits mobilization, while political stability exhibits a negative influence, emphasizing the importance of a stable political environment for depositor confidence. Financial performance metrics, particularly ROA and CAR, significantly affect deposit levels, with higher profitability and capital adequacy ratios attracting more deposits. Additionally, a positive relationship exists between the loan to deposit ratio and deposits, indicating that higher loan demand can lead to increased deposits. Based on the findings, several recommendations are provided. Enhancing political stability is crucial to instill confidence among depositors. Strengthening financial performance, particularly ROA and CAR, can attract more deposits. Customer education and outreach initiatives are suggested to increase awareness and trust in deposit products. Diversifying deposit offerings can cater to diverse customer needs and preferences.

Key Words: Return on Asset, Political Stability, Loan To Deposit, Inflation Rate, Commercial Bank of Ethiopia (CBE)

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Chapter one

1. Introduction

1.1. Background

According to Salami (2013), countries with well-developed financial institutions experience faster economic growth, and a robust financial system is crucial for sustainable economic growth and the establishment of a dynamic economic system. In emerging nations like Ethiopia, where the banking industry dominates the financial sector, commercial banks play a vital role as the main controllers of the financial system, facilitating financial intermediation and driving economic progress (Adem, 2015).

The banking system acts as the cornerstone of financial intermediation by mobilizing and channeling financial resources into the economy (Bello, 2005). In the modern economy, banks serve as intermediaries, collecting funds from savers (those with surplus income) and providing loans to investors, including individuals and corporations (Anthony, 2012). Deposits, which constitute the primary source of income for banks, enable them to extend loans and advances (Selvaraj, 2015). Hence, deposits are a crucial funding source for banking activities and serve as the principal resource for commercial banks to fulfill the financial requirements of the banking system (Selvaraj, 2015).

The volume of deposits mobilized from the general public, including current, savings, fixed, and time deposits, as well as specialized systems, holds significant importance as working capital for banks and the banking sector as a whole (Garo, 2015). The government also encourages banks to employ various means to gather additional deposits, which will enhance their lending activities from surplus to deficit units and foster economic expansion (Eriemo, 2014). Deposit mobilization is vital for banks to increase their lending capacity and achieve success, as deposits are considered cost-effective sources of operational capital (Garo, 2015).

While banks are typically regarded as operating in oligopolistic environments with intense competition (Anthony, 2012), their ability to raise sufficient funds from the public relies on the

strategies employed (Selvaraj, 2015). Deposit mobilization is as indispensable to banks as air is to people, and insufficient deposits can hinder banks and other financial institutions from achieving their objectives (Viswanadham et al., 2015). The growth of deposits is essential for the sustainability of the banking sector, as banks need to raise adequate deposits to maintain a healthy economy.

Commercial banks play a critical role in the economy of Ethiopia by mobilizing deposits from the public and channeling them towards investments and lending. Deposit mobilization is a crucial function of commercial banks, as it provides them with the necessary funds to carry out their operations and generate profits. However, the ability of commercial banks to attract deposits is influenced by a variety of factors, and understanding these factors is essential for policymakers and banking professionals.

Several studies, including Akaninyene et al. (2018), Abrham (2019), Andinet (2016), and Tarekegn (2019), have explored the factors influencing deposit mobilization, both internal and external. However, these studies have yielded inconsistent findings, leading to disagreements regarding the most significant factors and their direction of impact. Moreover, prior research conducted in Ethiopia has not specifically examined the effects of variables such as return on assets, loan-to-deposit ratio, capital adequacy, GDP growth, inflation rate, and political stability on deposit mobilization. Additionally, these studies have not utilized the same set of variables as the present study. Thus, this research aims to fill this gap in the existing literature by investigating the determinants of deposit mobilization in Ethiopia and contributing to the empirical evidence in this domain.

The findings of this study hold significant implications for policymakers and banking professionals in Ethiopia. Policymakers can leverage the identified determinants of deposit mobilization to formulate targeted policies and regulations that promote deposit growth and ensure financial stability. By understanding the factors that influence deposit mobilization, policymakers can implement measures to enhance consumer confidence, incentivize savings, and foster a conducive banking environment. These actions can contribute to overall economic growth and stability in the country.

On the other hand, banking professionals can utilize the insights from this study to inform their strategic decision-making. By recognizing the key drivers of deposit mobilization, banks can tailor their marketing and branding strategies to effectively target specific customer segments. Understanding customer preferences and motivations enables banks to design attractive deposit products, develop innovative marketing campaigns, and enhance customer engagement. Furthermore, insights into the determinants of deposit mobilization can assist banking professionals in optimizing operational processes, efficiently allocating resources, and improving customer relationship management. These efforts can lead to enhanced profitability and competitiveness within the banking sector.

In conclusion, this study's findings have practical implications for policymakers and banking professionals in Ethiopia. Policymakers can utilize the identified determinants to shape policies that foster financial stability and economic growth, while banking professionals can leverage these insights to enhance marketing strategies, operational efficiency, and overall competitiveness. By aligning their efforts with the identified determinants, policymakers and banking professionals can contribute to the development of a robust and thriving banking sector in Ethiopia.

1.2.Statement of the problem

Deposit mobilization is the process by which commercial banks attract deposits from customers and use them to provide loans and finance economic activity. It is a critical component of the banking system as it enables commercial banks to increase their liquidity, meet customer demand for credit, and promote economic growth.

However, in the context of sub-Saharan countries, there is a limited understanding of the factors that influence deposit mobilization in commercial banks (Ahmed & Tarek, 2017). Existing research on deposit mobilization has mainly focused on developed countries, leaving a gap in empirical evidence on its determinants in developing countries like Ethiopia. This means that policymakers and stakeholders lack comprehensive knowledge of the factors that affect deposit mobilization in Ethiopian commercial banks.

Return on Asset (ROA) is a crucial indicator of a bank's profitability and efficiency in generating earnings from its assets. However, the relationship between a bank's ROA and its ability to

attract deposits in the context of Ethiopian commercial banks remains relatively unexplored. It is essential to understand whether a higher ROA positively influences deposit mobilization by instilling confidence in customers and demonstrating the bank's financial strength. Additionally, investigating whether banks with higher ROA are more effective in attracting deposits due to their perceived stability and ability to offer competitive returns can provide valuable insights for policymakers and banking professionals (Akaninyene et al., 2018). The relationship between the loan to deposit ratio and deposit mobilization in Ethiopian commercial banks remains underexplored. It is crucial to determine whether a higher LTD ratio, indicating a larger proportion of loans compared to deposits, affects the attractiveness of banks to depositors and their willingness to entrust their funds.

The impact of the capital adequacy ratio (CAR) on deposit mobilization in commercial banks of Ethiopia is not well-established. It is of utmost importance to investigate whether a stronger capital position, indicated by a higher CAR, fosters confidence among depositors and motivates them to choose banks as a safe haven for their funds (Andinet, 2016). The influence of GDP growth on deposit mobilization in Ethiopian commercial banks has not been sufficiently examined. It is crucial to assess whether higher GDP growth rates stimulate economic activities and enhance individuals' and businesses' inclination to deposit their funds in banks, thereby promoting deposit mobilization. The implications of the inflation rate on deposit mobilization are not well-understood in the Ethiopian commercial banking context. It is necessary to explore whether higher inflation rates erode the value of deposits and discourage individuals from keeping their funds in banks, potentially leading to reduced deposit mobilization.

Therefore, conducting in-depth research to explore the relationship between ROA, loan to deposit, capital adequacy, GDP growth, inflation rate and deposit mobilization in Ethiopian commercial banks is crucial in gaining a comprehensive understanding of the factors that drive depositors' behavior and shaping effective strategies to attract and retain deposits.

Numerous studies, such as Akaninyene et al. (2018), Abrham (2019), Andinet (2016), and Tarekegn(2019), have examined both internal and external factors that affect deposit mobilization. However, these studies have produced inconsistent results, and there are still disagreements regarding which factors have the most significant impact and the direction of those impacts. Additionally, previous research in Ethiopia has not examined the effects of return

on asset, loan to deposit, capital adequacy, GDP growth, inflation rate and political stability on deposit mobilization, nor have they used the same set of variables as this study. Therefore, the purpose of this study is to address this gap in the literature by investigating the determinants of deposit mobilization in Ethiopia and contributing to the existing empirical evidence.

Moreover, Over the past decade, Ethiopia has seen a noticeable instability in peace and security, but at the same time, there has been economic instability, which has posed a risk to the financial sector's daily operations and, specifically, the mobilization of deposits for commercial banks in the country. Despite various studies focusing on factors influencing deposit mobilization in Ethiopian commercial banks (e.g. Ahmed & Tarek (2017), Andinet. (2016). Hilegiorgis, Million, and Epherem (2014). Molla, S. (2018)., none have considered the critical macroeconomic variable of peace and security, which impacts all areas of life in the country. Consequently, the primary objective of this study is to fill the existing void in the literature and offer valuable insights into the matter at hand. Hence, conducting a thorough investigation to identify the factors that influence the mobilization of deposits in commercial banks of Ethiopia is crucial in developing effective policies and strategies that promote this activity.

1.3.Research questions

- What is the impact of bank-specific factors on deposit mobilization in Ethiopian commercial banks?
- How do macroeconomic variables influence deposit mobilization in Ethiopian commercial banks?

1.4.Objective of the study

1.4.1. General objectives

The primary aim of this research is to determine the factors that affect the mobilization of deposits in Ethiopian commercial banks. The study will provide evidence from the Commercial Bank of Ethiopia (CBE) over a period of time from 2000 to 2022.

1.4.2. Specific objective

- To determine the effects of bank specific factors on deposit mobilization of CBE
- To determine the effects of macro-economic variables on deposit mobilization of CBE

1.5.Significance of the study

The study on deposit mobilization and its determinants in commercial banks in Ethiopia has several significant implications.

Firstly, it will contribute to the existing literature on deposit mobilization and its determinants, particularly in developing countries like Ethiopia, where empirical evidence is limited. The findings of this study will add to the body of knowledge on deposit mobilization in commercial banks and provide insights that can be useful to policymakers, researchers, and commercial banks in Ethiopia. *Secondly*, the study will provide commercial banks in Ethiopia with an understanding of the determinants of deposit mobilization and how they can improve their deposit mobilization efforts. The study's results will identify strategies that commercial banks can adopt to attract more deposits, including offering competitive interest rates, improving financial innovation, and expanding their operations to reach more customers. *Thirdly*, the study's findings will assist policymakers in developing policies that support deposit mobilization and financial stability in Ethiopia. The policymakers can use the results of this study to design policies that promote economic growth and financial inclusion, which can lead to increased deposit mobilization in the banking sector. *Fourthly*, the study's results will be useful to researchers who are interested in the determinants of deposit mobilization and financial stability in developing countries. The study's methodology and findings can be used as a basis for further research in other developing countries with similar economic and financial conditions.

Overall, this study's significance lies in its potential to provide insights that can help to improve deposit mobilization efforts in commercial banks in Ethiopia, support policymaking, and advance research on deposit mobilization and financial stability in developing countries.

1.6.Scope of the study

The objective of this study is to use panel data analysis to examine the variables that affect deposit mobilization in the Commercial Bank of Ethiopia (CBE) between 2000 and 2022. The time span of the study is from 2000 to 2022, covering a period of 22 years. This time period is sufficient to capture any significant changes in the determinants of deposit mobilization in CBE over time. The study considers the following variables as potential determinants of deposit mobilization in CBE: Political stability, inflation, economic growth, return of asset, loan to

deposit ratio and regulatory environment. These variables are selected based on their theoretical relevance and their potential impact on deposit mobilization in the bank.

Overall, the study's scope is to provide insights into the determinants of deposit mobilization in CBE over time, which can inform policymakers and bank managers in making informed decisions to increase deposit mobilization in the bank.

1.7. Limitation of the study

Financial limitations: The study may be constrained by financial limitations, as it may require funding to cover expenses such as data collection, analysis, and presentation. The study may have limited resources to cover a wide range of data collection methods and sample sizes, which could limit the scope of the analysis. Time limitations: The study may face time limitations due to the complexity of the research topic and the need to collect and analyze large amounts of data. Time constraints may also limit the scope of the study or the depth of the analysis. Data limitations: The study may face data limitations due to the availability and quality of data. The data may not be available for all the variables of interest, or the data may be incomplete or unreliable. The study may also face challenges in collecting data from a representative sample, which could affect the generalizability of the study's findings. Overall, these limitations could affect the study's ability to fully explore the determinants of deposit mobilization in the Commercial Bank of Ethiopia and could limit the generalizability of the study's findings.

1.8. Organization of the study

The study is structured into five chapters, each containing various sections and sub-sections. In Chapter one, the paper begins with an introduction to the research topic, including the statement of the problem, the general objective and hypothesis, the significance, scope, and organization of the study. Chapter two provides a review of relevant literature and empirical evidence related to the topic, identifying knowledge gaps in the existing research. The research design and methods are covered in Chapter three of the study, while the data analysis and interpretation are covered in Chapter 4 of the study. Finally, a summary of the key results and suggestions are given in Chapter five.

2. Literature review

The theoretical and empirical literature are reviewed in this chapter. In addition to explaining deposits and their many forms, the researcher looked at literature on the financial sector's contribution to a nation's economic growth. The researcher also identified key variables based on the findings of other researchers that have an impact on deposit mobilization activities and related expenditures.

2.1. Theoretical review

Banking, one of the oldest occupations in human history, has grown and prospered throughout history. Bank services have been used ever since humans first evolved. In the 15th century, Italy and Greece pioneered modern banking as we know it today. One of the most crucial institutions for any nation's contemporary economy to function today is the bank. Gedey, (1990).

The banking sector manages credit, cash, and other financial transactions. Extra cash and credit can be safely stored in banks. Checking, savings, and certificates of deposit are all available. These deposits help banks fund loans. Mortgages for homes, business loans, and auto loans are among these loans. (<https://en.m.wikipedia>). An example of a financial entity that lends and borrows money is a bank. In exchange for an annual interest payment from the clients, banks receive deposits from those customers. The bank then uses the bulk of these deposits to provide a range of loans to other customers. The distinction between the two interest rates essentially dictates the banks' profit margin. Banks are essential to the economy because they offer a service to individuals looking to borrow money. Banks play a critical role in helping businesses that want to expand and develop get funding. These business loans and investments are essential for fostering economic development. (<https://www.economicshelp.org>)

2.2. Function of banks in financial system

The banking industry makes up the majority of the financial sector, which also includes other financial institutions like brokers, public exchanges, securities markets, insurance companies, and pension funds. However, when it comes to the African continent, the banking industry dominates the financial system. The banking industry serves as the primary source of finance for most businesses. For two reasons, banks have traditionally been thought to be involved in the financial markets. The first is that they play a crucial part in facilitating payments.

Sheku claims that (2005). Commercial banks and other intermediaries offer services for screening and following up on borrowers, and banks can lower their credit-granting costs by expanding their clientele and building up their competence. As a result, banks frequently perform important financial services related to extending credit to their clients rather than simply purchasing someone's debt in their capacity as lenders.

Understanding the numerous functions that banks play in the financial system is one of the main challenges in theoretical economics and finance. The efficiency of the system used to allocate funds to productive endeavors is crucial for growth and general well-being. Banks are one part of this process. The majority of lenders are enterprises and households. The ultimate borrowers, who are often corporations, governments, and individuals, have two alternatives for receiving money from these lenders. The first approach uses financial markets, such as the stock, bond, and money markets. Using banks and other financial intermediaries, such as mutual funds, money market funds, insurance companies, and pension funds, is the second way (Medhat, 2004).

One of the key problems in theoretical economics and finance is comprehending the various roles that banks play in the financial system. For growth and general well-being, the effectiveness of the mechanism through which savings are directed towards productive endeavours is essential. One component of this procedure is banks. Lenders of money tend to be businesses and households. These lenders have two options for providing money to the final borrowers, which are typically businesses, governments, and people. The first method is via financial markets, which include the money, bond, and equities markets. The second method involves using banks and other financial intermediaries including mutual funds, money market funds, insurance firms, and pension funds (Medhat, 2004).

Franklin & Elena (2008) state that banks have multiple roles in the economy, such as monitoring borrowers and safeguarding depositors' funds to bridge the gap between investors and borrowers. Additionally, they provide insurance to depositors against unexpected consumption shocks and non-diversifiable risks that occur over time. However, banks face the risk of runs and systemic threats due to the mismatch between their assets and liabilities. In addition, banks contribute to the growth of the economy.

According to Russell & Bamindele (2009), commercial banks engage in two main activities: deposit-taking and lending, both of which are recorded on their balance sheets. These operations serve as intermediaries between investors and debtors, making them crucial to the functioning of trade and commerce. Additionally, Mahendra (2005) stresses the importance of banks in generating capital and supplying chains. Despite the presence of other financial institutions, banks play a crucial role in facilitating the financial sector's functioning. They have a significant impact on the macroeconomic environment, and their failures can have significant macroeconomic implications, as noted by Adam (2005).

According to Kelvin (2001), commercial banks play a vital role as important financial intermediaries within communities. They typically possess larger assets compared to other financial institutions. Besides serving various purposes, commercial banks contribute to growth and progress. They extend loans across different economic sectors or industries. Moreover, Kelvin emphasizes that commercial banks mobilize, allocate, and invest a significant portion of society's savings. Households and businesses primarily utilize banks to save money and obtain loans for various projects.

Bank deposits form a substantial portion of the public's money supply, and changes in its growth strongly correlate with fluctuations in the economy's goods and services costs. The prosperity of a nation relies significantly on commercial banks that provide loans to industries such as agriculture, manufacturing, services, construction, and energy. While commercial banks influence the economy, they are also influenced by economic conditions. The volume, duration, and composition of banks' loan portfolios, as well as their expectations regarding the stability and performance of the economy, are often shaped by such assumptions. Kelvin (2001) states

that banks typically reduce lending during periods of recession and increase it when there is less macroeconomic uncertainty.

Commercial banks are crucial financial intermediaries that serve the general public in any community, according to Kelvin (2001). Commercial banks often hold more assets than any other type of financial institution. Commercial banks, in addition to serving a variety of purposes, promote expansion and advancement. Banks lend in a variety of economic fields or industries. Additionally, he noted that banks mobilize, distribute, and invest a significant portion of societal savings. Banks are mostly used by households and corporations to save money so they can acquire loans for undertaking projects.

A sizeable portion of the money supply used by the public is made up of bank deposits, and variations in the growth of money are strongly related to changes in the costs of goods and services in the economy. Commercial banks, which provide loans to industries including agriculture, manufacturing, services, construction, and energy, are crucial to the nation's prosperity. Commercial banks have an impact on the economy, but the economy also has an impact on how they operate. The volume, tenor, and structure of banks' loan portfolios—as well as their expectations for the stability and level of the economy's performance—are typically influenced by such assumptions. According to Kelvin (2001), banks often lend less during recessionary periods and more frequently when there is less macroeconomic uncertainty.

2.3. Type of commercial banks Deposit

Commercial banks' operations depend heavily on deposits, which make up around 75% of their overall liabilities. These funds are crucial to banks because they are used by them to make loans and earn interest revenue, which is a crucial component of their business strategy. Therefore, it is favorable for banks to draw in more deposits. The expenses related to deposit mobilization must also be taken into account since they have a big influence on the overall cost of banking system intermediation. The three main categories of deposits—checking accounts, savings accounts, and term deposits—are highlighted by Islam & Ghosh (2014). Savings accounts earn interest but cannot be used as a direct form of payment, whereas checking accounts are demand deposit accounts that provide easy and quick access to money.

Commercial banks rely heavily on deposits as a source of funding, with these liabilities accounting for approximately 75% of their total liabilities. This is because commercial banks use the funds from deposits to lend out and earn interest on them, essentially using the deposits to run their business. Therefore, banks would benefit from increasing the amount of deposits they are able to attract. It is also important to consider the cost of intermediation involved in mobilizing deposits, as this is a significant factor in the overall cost of intermediation for the banking system. As noted by Islam & Ghosh (2014), the major types of deposits include checking accounts, savings accounts, and term deposits. Checking accounts are demand deposit accounts that provide frequent and immediate access to funds, while savings accounts earn interest but cannot be used directly as money. Term deposits are fixed deposits that offer higher yields for longer-term investments.

Checking accounts are deposits held at banks or other financial institutions that aim to provide immediate and secure access to funds through various channels. They are commonly referred to as "demand accounts" or "demand deposit accounts" because the money is readily available for use.

Savings accounts are accounts maintained at local banks that offer interest but cannot be used for purchases, such as writing checks. These accounts allow individuals to hold liquid assets while earning a return, although they are not as convenient to use as checking accounts.

Term deposits are financial commitments made to a bank where the funds cannot be withdrawn for a specified "term" or period of time. At the end of the term, the deposit can be renewed for another term or withdrawn. Generally, longer-term deposits offer higher yields or returns on investment.

2.4. Importance of deposit

Deposits, which account for a sizable amount of their funding, are the main source of loans for banks. They are a unique component that distinguishes the bank on their balance sheet from other commercial organizations.

A. Deposits as a source of fund for loan

According to Herald (2009), deposits are the primary source from which banks obtain loans. Most of the contributors to this deposit are named Mohammed and Mahdi (2010). But, corporate organizations, Charities, the government, and other entities can also offer deposits. Thus, deposits are a crucial source of funding for banks, regardless of whether they come from people, companies, or the government.

B. Attracting deposit is cheaper than raising equity

Like any other corporate entity, banks are able to raise money through debt and/or stock. In the context of banks, attracting deposits is cheaper or less expensive than raising stock. According to Lorenzo et al. (2010), if the lending channel is active, deposit incensements should result in an growth in the provision of loans because banks now have another source of funding. Banks should enhance their deposit base when loan demand rises as a result of the development efforts of people, businesses, and governments. A commercial bank plainly performs a service for which it is entitled to compensation in the form of interest payments when it makes a deposit by lending to a businessman. Lorenzo and co. (2010)

C. Banks make profit using their deposits

Deposits are the primary source of bank profitability and growth since they offer the majority of the raw materials for bank loans. Mahindra, (2005). (2005). Depositors are considered to be able to teach banks because banks use their deposits to generate revenue. According to Maria and Sergio (2001), depositors hold banks to account by requesting higher interest rates and withholding deposits. The primary goals of depository corporations, which are mostly deposit money institutions, are to engage in financial intermediation in order to generate profit and raise shareholder value. Sheku, (2005). (2005). They primarily attract deposits and use the funds to fund profitable investment portfolios to fulfil their goals.

D. Fund investment and/or development projects

The government's demand for bank assets allowed domestic commercial banks, which are funded mostly by deposits, to keep expanding their deposit bases quickly. Heiko and Herald (2008)

To finance their investments and/or development projects, private investors and the government rely mostly on bank deposits. In general, the ability to mobilize deposits at the appropriate rate is

a requirement for the banking system to remain viable. And the only way to achieve this is by making bank deposits more alluring. A key indicator of how well-liked a bank is by the general public is the management teams and staff's capacity to draw both business and individual checking and savings account customers Mahendra (2005).

2.5. Definition and Concepts of deposit mobilization

Elser et al. (1999) defined deposit mobilization as the process of enticing current customers to make cash deposits at the bank or coaxing brand-new consumers to visit the bank and open accounts. From an institutional standpoint, cheaper capital costs relative to alternative sources of funding are the main driver for mobilizing savings.

According to Kutane et al. (2010), banks act as middlemen, transferring deposits (savings) from businesses and individuals to investments in the form of loans. Local banks have been on a big deposit mobilization drive since the introduction of various currencies in 2009, offering a variety of products and services that are targeted to their specific audience, which has allowed them to amass sizable sums from the depositors.

In recent times, development economists, governments, and international funders have displayed a growing interest in promoting financial savings among populations in developing countries, particularly in rural areas and among individuals with limited wealth. This growing interest stems partly from the recognition that credit programs aimed at assisting the rural poor, particularly in the agricultural sectors, have not been successful in boosting output and transferring income. These failures have been attributed to inefficiencies in resource allocation, regressive credit rationing, and reduced viability of financial intermediaries resulting from attempts to influence resource distribution and income allocation through the provision of credit at below-equilibrium interest rates.

Development economists, governments, and international funders have recently shown a greater interest in initiatives to encourage financial saving in developing nations, particularly in rural regions and among non-wealthy homeowners. This increase is partly a reaction to the sub-seized credit programmes' inability to increase output and transfer income to the rural poor, especially in the agricultural sectors. These failures have been attributed to resource waste, regressive credit rationing, and lower viability of financial intermediaries as a result of attempts to affect resource

allocation and income distribution through the issuance of credit, at interest rates below equilibrium.

Together with the failure of subsidized credit, the notion that the poor have no room for savings above consumption and, in any event, are unresponsive to economic incentives, is being called into doubt more and more frequently. Hilegiorgis, (2014)

The majority of the public's money supply is made up of bank deposits, and shifts in the money supply have a strong positive correlation with shifts in the cost of goods and services. Deposits are deposited into deposit accounts, such as savings accounts, checking accounts, time deposit accounts, and money market accounts, at a financial institution. According to the terms and conditions of the account, the account holder has the right to withdraw any money that has been deposited. The term "deposit" refers to this liability rather than the actual cash that is deposited, Sergeant, as the bank owes the depositor (the person or company that made the deposit) a debt (2001).

The majority of the public's money supply comprises bank deposits, and changes in the money supply are strongly correlated with fluctuations in the costs of goods and services. Deposits are placed into various types of deposit accounts, including savings accounts, checking accounts, time deposit accounts, and money market accounts, held at financial institutions. Account holders have the right to withdraw the funds deposited, in accordance with the terms and conditions of the specific account. In this context, the term "deposit" refers to the liability of the financial institution to the depositor, as the institution owes a debt to the individual or company that made the deposit (Sergeant, 2001).

One of the crucial tasks of banking throughout the world is deposit mobilization. In order to provide various economic sectors with satisfactory service, deposit mobilization is crucial. The strength, stability, and health of the financial system as a whole, however, are what determine whether banks can contribute to growth and economic development. The banking sector's actions, such as deposit mobilization and credit creation, are what link the financing of bank credit, the development of capital, and the mobilization of bank deposits. Samuel, (2015).

Byyyet claims that (2019). One of the most crucial aspects of banking activities, which are essential to the growth of all facets of an economy, is deposit mobilization. By creating more

chances for profitable investment, deposit mobilization, which transfers money from surplus to deficit units, helps to increase economic efficiency. As a result, appropriate management of bank deposit mobilization is required. However, that is a difficult task. The evolution of the financial system and the strategic approaches employed by the bank will determine how well deposits are mobilized.

2.6. Factors affecting deposit mobilization

The factors that affect bank deposits can generally be classified into macroeconomic and microeconomic factors. Microeconomic factors are variables that are specific to banks, whereas macroeconomic variables are those that, when changed, can be used to achieve a country's macroeconomic goals.

2.6.1. Micro-economic factors

Deposit interest rate, return on assets (ROA), capital sufficiency, and liquidity are all crucial organizational factors that can have a big impact on commercial banks' ability to mobilize deposits. The primary variable influencing commercial banks' deposit mobilization is the deposit interest rate. More deposits are often attracted by higher deposit interest rates, but lower rates may deter deposits. The ROA of a commercial bank is a crucial sign of its financial health and has an effect on deposit mobilization. A bank with a higher ROA may be more successful, which could inspire depositor trust and boost deposits. A commercial bank's capital adequacy, which gauges its capacity to withstand prospective losses, is another important consideration. A safer and more stable bank may be indicated by a higher CAR, which can boost confidence and promote deposits. Furthermore, a commercial bank's liquidity situation is crucial for mobilizing deposits. Strong liquidity enables a bank to promptly access depositors' money when needed, satisfying their needs and fostering trust and deposit growth.

2.6.1.1. Profitability (ROA)

In relation to deposit mobilization in rural banks, Osei (year) presented findings indicating that profitability plays a significant role. Profitability, as measured by the Return on Assets (ROA), reflects the effectiveness of a company in utilizing its assets to generate profits, as explained by Bhalla (2015). It indicates how efficiently the bank's management can utilize its financial and

investment resources to generate income. A more efficient business will generate higher profits from a given level of total assets compared to its less efficient counterparts. Consequently, greater profitability is considered an indicator of a bank's soundness, making it easier for such banks to attract additional deposits. The profitability of a bank has a positive impact on the growth of its deposits. Therefore, commercial banks should strive to maintain profitability as it not only increases deposit amounts but also enhances depositor confidence by demonstrating satisfactory returns on assets.

2.6.1.2.Loan to Deposit ratio (Liquidity)

The loan-to-deposit ratio (LTD) is a measure of bank liquidity, indicating the proportion of client deposits that have been utilized for lending purposes (Yitayaw, 2021). It reflects a bank's ability to fulfill its obligations promptly, such as processing client payments or returning customer deposits (Vodova, 2016). When this ratio increases, the bank's liquidity decreases, which can lead to a decline in client deposits due to the bank's limited capacity to repay depositors. A bank facing a shortage of funds runs the risk of discouraging potential depositors from making deposits. Amene's research revealed that bank liquidity has a negative impact on commercial banks.

2.6.1.3.Saving interest rate

The interest rate is one of the most important variables when selecting whether to deposit money in a banking system (Mohammad & Mahdi, 2010). Interest was also noted as a determining factor for commercial banks' deposits by Herald & Heiko (2008). Furthermore, Philip (1968) asserts that the favourable interest rates offered on bank deposits may be seen as having had a positive impact. Low deposit rates, according to Mustafa & Sayera (2009), are deterring people from mobilizing their savings. According to Bhatt (1970), unless a coordinated policy is undertaken to enhance the rate of saving generally and the rate of saving in the form of deposits in particular, the banking system is unlikely to be in a position to meet the demand for bank credit.

When it comes to the banking system, interest rates are viewed as investment costs from the perspective of investors and as opportunity costs from the perspective of depositors (Mohammad & Mahdi, 2010). Interest rates are thus balanced by forces on the capital markets. In other words, a market process should be used to determine the fair and appropriate interest rate, with the rate

being balanced between supply and demand and proportional to the rate of inflation. According to Eustacius and David (1995), banks may decide to increase investments in interest rate-sensitive assets while decreasing investments in loans because deposits are more interest-rate sensitive. That is, because commercial bank deposits are interest rate sensitive, they will alter when the interest rate fluctuates.

In all other respects, it would be expected that the alternative with the higher interest rate would draw the most money (Bruce and George, 1965). They conclude as a result that deposits may increase more quickly in areas where banks provide greater interest rates.

2.6.2. Macro-economic factors

Many macroeconomic factors have an impact on how commercial banks mobilize deposits. Deposit mobilization can be significantly impacted by interest rates, with higher interest rates typically luring more deposits and lower interest rates possibly deterring deposits. Economic stability and growth are other important factors since they boost people's and businesses' capacity to save and deposit money in banks. Another macroeconomic factor, inflation, can have an impact on deposit mobilization by lowering the real value of deposits. Deposit mobilization may be impacted by governmental policies, such as tax incentives and deposit insurance. Furthermore, demographic variables like age, income, and employment status may be important. Older people tend to deposit more money in banks. As a result of these variables' complexity and interdependence, banks must closely monitor them and modify their marketing plans as necessary to draw in and keep depositors.

2.6.2.1. Inflation

According to Usman and Adejare [64], inflation is defined as a broad and continuing increase in the cost of goods and services throughout the economy [57]. Bank deposits are impacted by inflation in two ways. First off, it raises living expenses by decreasing the purchase power of money. Due to their limited purchasing power, households may have little or no money deposited in a bank. Second, in times of hyperinflation, savings in banks or cash are useless (Azolibe [11] because money's purchasing power is so much lower than the economy's abrupt and excessive runaway price increases.

Hence, in preparation for future price increases and the potential that they won't be able to deposit money in banks, consumers may decide to convert deposits and cash into storage commodities. Furthermore, Namazi and Salehi (2019) claimed that as inflation rises, the real yield on assets and money falls, making deposits less desirable. Deposits are negatively impacted by inflation in a substantial way. The detrimental impact of inflation on commercial bank deposits has also been observed by Maturu(2017), Orok et al. (2019), Muluken(2020).

2.6.2.2. GDP Growth

One of the key metrics used to assess economic performance is gross domestic product, which is the market value of all products and services generated in a nation over a single year (Adam, 2015). Stanford (2019) asserts that real GDP per capita fluctuations over time are frequently interpreted as indicators of changes in the average standard of life. Deposits should rise if businesses and consumers want to store more cash, logically. As a result, there is a positive link between income and deposits, meaning that as society's income rises, so do the deposits at commercial banks. According to empirical research by Hassan (2019), Adem(2015), Mashamba et al. (2021), and Stanford (2017), GDP has a favorable impact on the amount of commercial bank deposits. Gross domestic product is the market value of all goods and services produced in a country over one year and are one of the primary indicators used to measure economic performance.

2.6.2.3. Political stability

The tendency of depositors to place money in the banking system may be impacted by the economic, social, and political conditions of the nation, and the environment in which banks operate has a significant impact on their success (Finger and Hesse, 2009). Political stability fosters investment and economic growth, which boosts a company's profitability (Shabbir,2016). Economic freedom metrics are positively correlated with political stability in democratic regimes because increased economic freedom encourages investment and economic progress (Georgiou, 2015). Conflicts and political unrest, however, might increase the likelihood of a systemic banking crisis and low bank deposits. Conflicts hurt the financial sector's performance and make it harder for banks to continue playing a role in financial intermediation, according to Rother et al. (2016). The volatility of bank deposits could rise as a result of political unrest. Gobat (2016)

observed that the Syrian crisis had a significant impact on the banking industry, leading to runs on deposits and assets and an increase in non-performing loans.

2.7. Empirical review

The empirical literature section examines earlier studies that looked at the variables affecting deposit mobilization on commercial banks in Ethiopia. The variables used in the study, the method used to perform the investigation, and the results of the inquiry are all covered in this part. They facilitate understanding of the current status of the literature in this area and the contribution made by this study. As a result, each piece is discussed separately in the parts that follow.

In a study by Tagel (2015) on the factors influencing deposit mobilization, the dependent variable, deposit mobilization, and the independent variables, service level and technology, awareness and branch expansion, and interest rate, were used in the case of a private commercial bank in Arba Minch Town. The study suggested that financial institutions improve their technology, implement agent banking to speed up deposit mobilization and reduce wasteful spending, and boost deposit interest rates to entice more deposits after discussing with the central bank.

In his work "Variables Influencing Deposit Mobilization: The Case of Dashen Bank S.C. Addis Abeba Branches," Fekadu (2019), the researcher looked at the variables that influence deposit mobilization. Both qualitative and quantitative research techniques were used in the study. As independent factors, we evaluated the quality of service, Branch Development, Interest Rate, Technological innovation, Disposable Income, and Market Strategy. The study's conclusions highlighted the significance of the mobilization of deposit for the banking sector and the necessity for Dashen Bank to properly apply the previously discussed control variables in order to draw in and keep more deposits and deposit customers. By concentrating on these elements, Dashen Bank may improve deposit efforts for mobilization and fortify its market position.

Emmanuel (2015) conducted a study on the factors influencing the accumulation of deposits by bank agents in Kenya, focusing on the Commercial Banking Corporation of Kenya in Kisii County as a case study. The research employed parametric and inferential statistics, as well as regression analysis, to analyze the collected data. The study identified deposit mobilization

(measured by the level of charges agency and ledger account ledger) as the dependent variable, while fraud, customer service, and branch network were considered as independent variables. The findings suggested several recommendations for the management of the National Bank. It was recommended that the National Bank address fraud issues associated with its agents during the deposit mobilization process. Additionally, the National Bank should analyze customer needs when establishing new branch networks and continually reassess its customer service practices to ensure customer satisfaction. By implementing these recommendations, the National Bank can enhance its deposit mobilization efforts and improve overall customer experience.

The factors affecting the mobilization of deposits in Sri Lanka were examined by Helani and Prasansha (2018). Use a random sample strategy and statistical techniques such as regression analysis and inferential and descriptive statistical methods to analyze the data. The results show that there is a significant and positive relationship between the mobilization of deposits and interest rate, security, branch expansion, services, technology, and awareness. All of the identified factors are significant and have a positive impact on deposit mobilization, according to the researcher's findings.

Mamo (2017) looks at the factors affecting the mobilization of deposits in commercial banks in Ethiopia. Loan, the presence of competitors, interest rate, and branch growth are some of the explanatory factors that were employed in the descriptive and econometric analysis. The paper suggested that banks may improve their ability to mobilize deposits through geographic expansion, client growth through various incentive programs, and competition with emerging rivals.

Giragn (2015) investigated Ethiopian commercial banks' deposit mobilization factors and related costs. The branch expansion, money supply, exchange rate between the Birr and the dollar, and inflation were the variables used in the researcher's econometric study. The effect of the two variables—deposit rate and real per capita GDP growth rate—on the dependent variable is negligible. The report urged banks to make significant future investments in branch development.

In a study titled "Determinants of Deposit Mobilization in Private Commercial Banks: Evidence from Bangladesh," SM, Mohammed, and (2019) investigated the influence of firm-specific characteristics and macroeconomic factors on deposit mobilization in private commercial banks.

The researchers employed panel data regression techniques to analyze the data. The findings of the study indicate that the total deposit has a significant negative impact on deposit mobilization, while the growth rate of broad money supply has a significant positive impact on the growth rate of bank deposits. However, factors such as the number of bank branches, deposit interest rate, loan-to-deposit ratio, gross domestic product growth rate, and inflation rate were found to have no significant effects on the deposit growth in private commercial banks. These insights are valuable for academics, financial analysts, banking professionals, and regulatory bodies.

Francis et al. (2016) investigated how mobile deposits helped Ghana mobilize deposits. Descriptive statistical methods were used for the data presentation and interpretation, and stratified, convenient, and purposeful approaches were used to establish the sample size. The results suggest that, in addition to the traditional way of deposit mobilization, mobile deposit as a technique of generating deposits through smartphone banking has proved to be an extremely effective means of deposit mobilization. Speed banking cards have shown to be an additional deposit method when used for mobile deposits.

2.8. Research gap

Deposit mobilization is a vital process for commercial banks, enabling them to attract deposits and utilize them for lending and economic activities, thereby promoting liquidity, meeting credit demands, and driving economic growth. However, in sub-Saharan countries like Ethiopia, there is a lack of comprehensive understanding regarding the factors influencing deposit mobilization in commercial banks, particularly in the context of developing countries. Existing research has primarily focused on developed countries, leaving a significant empirical gap in determining the determinants of deposit mobilization in Ethiopian commercial banks. This knowledge gap hinders policymakers and stakeholders from formulating effective strategies and policies to enhance deposit mobilization.

One crucial factor that requires further exploration is the relationship between a bank's profitability, measured by Return on Asset (ROA), and its ability to attract deposits. Limited research exists on how a higher ROA positively influences deposit mobilization by instilling customer confidence and showcasing financial strength. Similarly, the impact of the loan to deposit ratio, reflecting the proportion of loans compared to deposits, on deposit mobilization in Ethiopian commercial banks remains understudied. Understanding whether a higher loan to deposit ratio affects banks' attractiveness to depositors and their willingness to entrust their funds is essential.

Furthermore, the influence of the capital adequacy ratio (CAR), GDP growth, and inflation rate on deposit mobilization in Ethiopian commercial banks requires more investigation. Examining the role of a stronger capital position, higher GDP growth rates, and inflation rates in fostering depositor confidence and promoting deposit mobilization is crucial for developing effective strategies.

In summary, conducting in-depth research to explore the relationship between ROA, loan to deposit ratio, capital adequacy, GDP growth, inflation rate, and deposit mobilization in Ethiopian commercial banks is vital to fill the existing empirical gap. This research will contribute to a comprehensive understanding of factors driving depositors' behavior and assist policymakers and banking professionals in formulating effective strategies to attract and retain deposits. Additionally, there is a need to consider the macroeconomic variable of peace and security, which impacts all aspects of life in Ethiopia, to further enhance the understanding of deposit mobilization and develop policies that foster stability in the financial sector.

2.9. Conceptual framework

From the above theoretical and empirical reviews, there is clear consensus that there are variables that can affect commercial banks deposit positively or negatively. The variables involved in this particular study are six, which are one dependent variable (deposit of commercial banks) and five independent variables (ROA, Loan to deposit, capital adequacy, inflation, GDP growth, population growth, Political stability). This conceptual framework

describes the relationship among the dependent variable with the independent variables involved in by using the following figure.

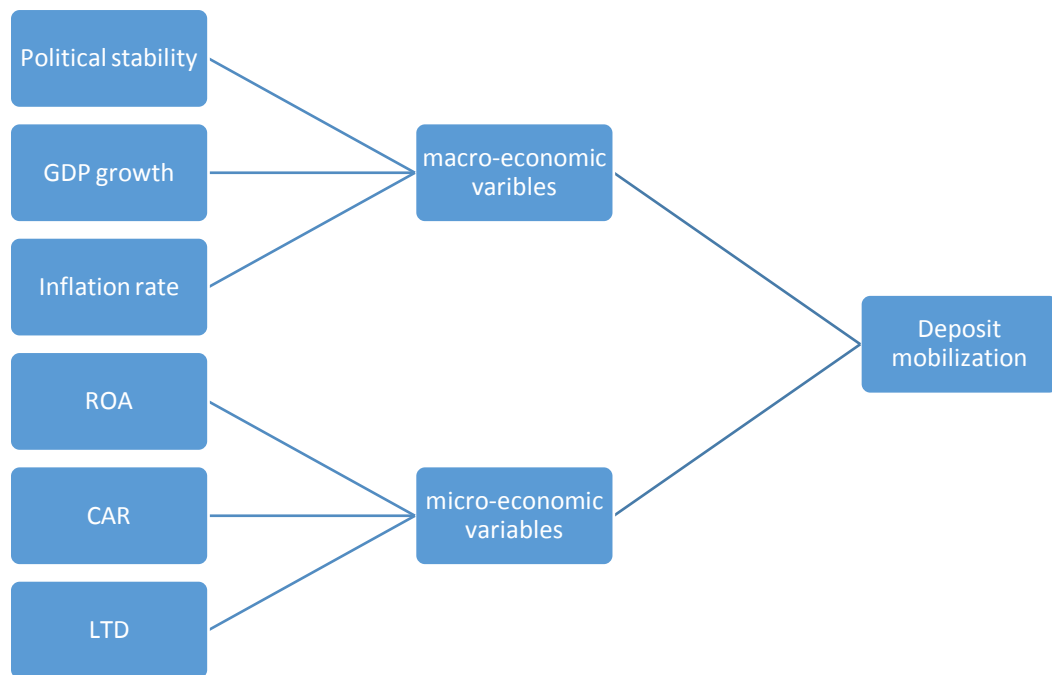


Fig. 2.1. Conceptual framework
Source: Researchers literature review

Chapter three

3. Methodology

In order to provide a seamless connection between the data collecting, analysis, and summary processes and the results and suggestions presented in the next chapters, this chapter gives a description of the methodology and design of the research used in the study.

3.1. Research design

This study utilized descriptive and explanatory study (causal research design). It is devoted to finding causal relationships among dependent variable deposit mobilization (DM) and return on assets (ROA), capital adequacy ratio (CAR), gross domestic production (GDP), liquidity ratio (LR), loan to deposit (LD), political stability (PS) and inflation rate (IR). It does so based on theories that predict how and why different variables should be associated. According to Schindler and Cooper (2001), hypotheses might be directed or fundamental (i.e., correlations exist). The challenges in this kind of study are nicely organized. There are "causes-and-effects" issues that the searcher is dealing with. The essential objective is to identify these causes and determine how much they contribute to the outcomes in question.

3.2. Research approach

A quantitative technique was applied in this investigation. When determining the elements that affect a result, the usefulness of an intervention, or the best ways to forecast outcomes, a quantitative approach is beneficial. This strategy works well for testing an idea or explanation. On the other hand, if a notion or phenomenon has to be comprehended, a qualitative approach is preferred. When the researcher is unsure of the crucial factors to look at, the qualitative technique is preferred since it is exploratory (Creswell, 2003). In light of this, this study chooses the quantitative research technique among the three widely used approaches to business and social research.

3.3. Data source and type

In any research undertaking, the methodology to be followed is determined by the nature of the problem statement or more specifically by the research objectives. Here in this study, the analysis consists of secondary data of twenty-two years, from 2000 to 2022 and comparison would be done among each year between the chosen by using twenty-two years audited financial statements. The analysis used data of CBE balance sheets from NBE database.

3.4. Method of data analysis

Both descriptive and inferential analysis are used to reach the study's goal. Using the SPSS 27 software program, the secondary data was coded, tabulated, displayed, and subjected to econometric regression analysis. The assumptions linked to the classical linear regression model were evaluated as necessary for the study, and the hypothesis tests involving the coefficient estimations were successfully carried out. The analysis will include descriptive statistics, mean, standard deviation, minimum and maximum values.

3.5. Model specification

The key aim of this study was to assess determinants of deposit mobilization of CBE on the performance of commercial Banks in Ethiopia, and to achieve this research objective the researcher proposes to use the multiple linear regression analysis models. Analogous to previous research works conducted on the determinants of deposit mobilization in commercial banks of Ethiopia, this study plans to used deposit mobilization (DM) as dependent variables whereas return on assets (ROA), capital adequacy ratio (CAR), gross domestic production (GDP), liquidity ratio (LR), loan to deposit (LD), political stability (PS) and inflation rate (IR). These variables were chosen since they were widely presented for many studies and commercial bank in Ethiopia and to see effects of deposit mobilizations factors on CBE deposit by adopting a model exists in most of the literatures.

Therefore, the specific models which incorporate all of the variables to test the hypotheses of the study were as follows:

$$DM = \beta_0 + \beta_1 CAR_{i,t} + \beta_2 PS_{i,t} + \beta_3 LR_{i,t} + \beta_4 IR_{i,t} + \beta_5 GDP_{i,t} + \beta_6 ROA_{i,t} + \varepsilon_{i,t}$$

In which –

- a) Dependent variables: $DM_{i,t}$: the deposit growth of CBE $_i$ in year t .
- b) Independent variables: capital adequacy ratio ($CAR_{i,t}$) for CBE $_i$ in year t
- c) Return on assets ($ROA_{i,t}$) for CBE $_i$ in year t
- d) Gross domestic product ($GDP_{i,t}$) for CBE $_i$ in year t ,
- e) Liquidity ratio ($LR_{i,t}$) for CBE $_i$ in year t ,
- f) Inflation rate ($IR_{i,t}$) for bank i in year t
- g) Political stability ($PS_{i,t}$) for bank i in year t
- h) $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ denote regression parameters and slope (coefficient) of the variables.
- i) $\varepsilon_{i,t}$ represents the error term for bank i in year t

Finally, regression results would be presented in a tabular form with the appropriate test statistics and then a description of each parameter would be given in line with the evidence in the literatures.

Furthermore, various diagnostic tests such as normality, heteroscedasticity, autocorrelation, and multicollinearity tests were going to be conducted to decide whether the model was appropriate and fulfilled the assumption of classical linear regression model.

3.6. Description of variables

3.6.1. Dependent variables

- **Deposit mobilization**

Because banks employ client deposits to fund loans and investments that generate income and profits, deposits are a crucial source of capital for banks. Savings accounts, checking accounts, term deposits, and money market accounts are just a few of the several ways that deposits may be made (Financial Express, 2021). As banks rely on consumer deposits to support their lending

operations and create income, the collection of deposits is a crucial role. Effective client acquisition and retention tactics can also assist banks improve their financial statements (Economic Time, 2020)

3.6.2. Independent variables

Independent variables are explanatory variables that describe the dependent variables. Independent variables included in this study were indicators of micro-economic and macro-economic indicators; return on assets (ROA), capital adequacy ratio (CAR), gross domestic production (GDP), liquidity ratio (LR), loan to deposit (LD), political stability (PS) and inflation rate (IR). All of these variables were modified and adopted from previously done studies

3.6.2.1. Micro-economic variables

- **Return on asset (ROA)**

The ratio of a company's profits after taxes to its total assets is called return on asset. The ratio is used as a gauge for how well a business uses its resources to create profits before having to fulfill contractual obligations (Basel, 2005).

- **Capital adequacy ratio (CAR):**

Capital adequacy ratio (CAR) is a financial ratio that measures a bank's capital relative to its risk-weighted assets. It is a key indicator of a bank's ability to absorb losses and continue to operate without facing financial distress or insolvency. CAR is typically calculated as a percentage of a bank's total risk-weighted assets (Basel, 2022).

To calculate CAR, a bank's total capital is divided by its risk-weighted assets. Total capital includes both Tier 1 capital, which consists of a bank's common equity and retained earnings, and Tier 2 capital, which includes items such as subordinated debt and loan loss reserves. Risk-weighted assets are determined based on the risk of each asset, with higher risk assets assigned a higher weight (FRB, 2021).

- **Loan to deposit (LTD)**

Loan-to-deposit ratio (LDR) is a financial ratio that measures the amount of loans a bank has made relative to the amount of deposits it has received from customers. It is a critical indicator of a bank's liquidity and its ability to lend money to borrowers (world bank, 2014).

3.6.2.2. Macro-economic variables

- **Inflation rate (IR)**

Inflation rate refers to the percentage increase in the general price level of goods and services in an economy over a period of time. It is typically calculated as the percentage change in a price index, such as the Consumer Price Index (CPI), over a certain period of time (IMF, 2021).

Inflation can be caused by various factors, such as increases in production costs, increases in demand relative to supply, and changes in monetary policy. High inflation can erode the purchasing power of consumers, reduce investment, and make it difficult for businesses to plan and operate effectively. On the other hand, low inflation can stimulate spending and investment, but can also lead to deflation and its associated risks (WB,2021).

- **Gross domestic product (GDP)**

The real GDP is the sum of the value added in the economy during a given period or the sum of incomes in the economy during a given period adjusted for the effect of increasing prices (WB, 2021).

- **Political stability**

Political stability refers to the ability of a government or political system to maintain its current structure and avoid any significant changes or disruptions in governance. It is a critical factor in a country's social and economic development, as political instability can lead to instability in the economy, social unrest, and even civil war (World Governance Indicators, 2023).

The WGI consists of six dimensions of governance, which are:

Voice and Accountability: Measures the extent to which citizens can participate in the selection of their government, freedom of expression, and the ability to hold the government accountable.

Political Stability and Absence of Violence/Terrorism: Evaluates the likelihood of political instability, violence, and terrorism within a country.

Government Effectiveness: Assesses the quality of public services, the independence of the civil service, and the capacity of the government to implement policies effectively.

Regulatory Quality: Examines the ability of the government to formulate and implement sound policies and regulations to facilitate private sector development and economic growth.

Rule of Law: Measures the extent to which the judiciary is independent, impartial, and upholds the rule of law. It also evaluates the incidence of corruption and the strength of contract enforcement.

Control of Corruption: Assesses the extent to which public power is exercised for private gain, including measures of bribery, embezzlement, and other forms of corruption.

Each of these dimensions is measured on a scale from -2.5 to +2.5, with higher scores indicating better governance performance.

These scores provide a useful tool for comparing the governance performance of different countries and tracking changes over time. However, it's important to note that political stability is just one aspect of governance, and a comprehensive assessment of political stability may involve considering other factors beyond the WGI score alone.

Chapter four

4. Data presentation, analysis and interpretation

In this Chapter, the study will focus on data presentation, analysis, and interpretation. This chapter is crucial in research studies as it involves the examination and understanding of the collected data to draw meaningful conclusions. In this section, the study will provide an introduction to the chapter and highlight its objectives and structure.

Data presentation, analysis, and interpretation play a vital role in any research study. Once data has been collected through various methods, it needs to be organized, analyzed, and interpreted to uncover patterns, relationships, and trends. This chapter aims to provide a comprehensive overview of the techniques and approaches used to present, analyze, and interpret data effectively.

4.1 Descriptive Analysis

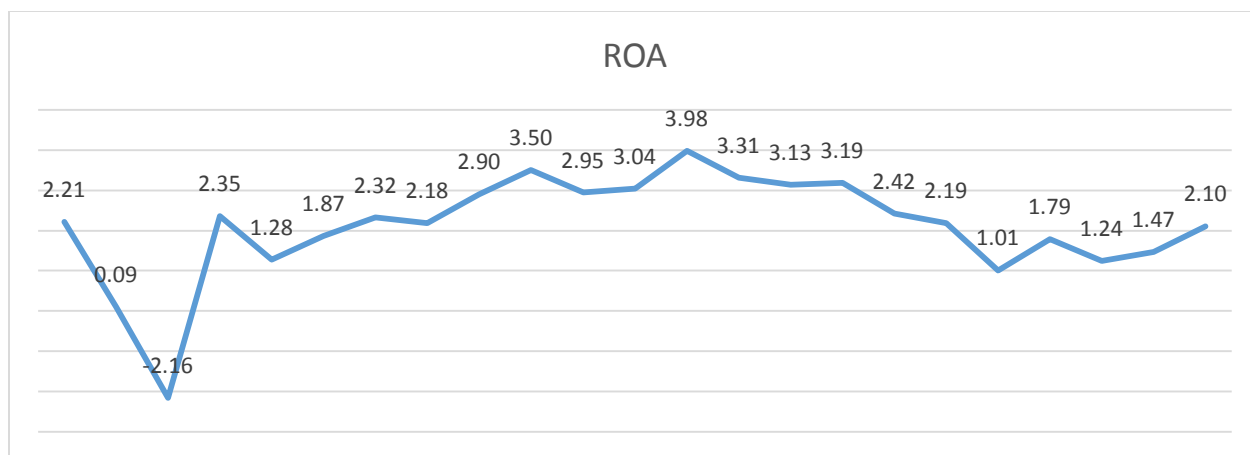
In this section, the study will focus on descriptive analysis, which involves summarizing and describing the collected data. Descriptive analysis helps in understanding the characteristics, trends, and patterns of the variables under investigation.

4.1.1 Bank Specific Variables Trend Analysis

In this subsection, we will specifically analyze the trend of three bank-specific variables: Return on Assets (ROA), Capital Adequacy Ratio (CAR), and Loan to Deposit (LTD) ratio. These variables are commonly used in the banking industry to assess a bank's financial performance and stability.

4.1.1.1 Return on Assets (ROA):

Return on Assets (ROA) is a financial indicator that measures a bank's profitability by assessing its ability to generate earnings from its assets. It is calculated by dividing the net income by the average total assets.



Graph 4.1. Return on Asset of CBE

The data provided represents the Return on Assets (ROA) for the Commercial Bank of Ethiopia (CBE) over a span of 22 years, from 2001 to 2022. ROA is a financial indicator that measures the bank's ability to generate profits from its assets.

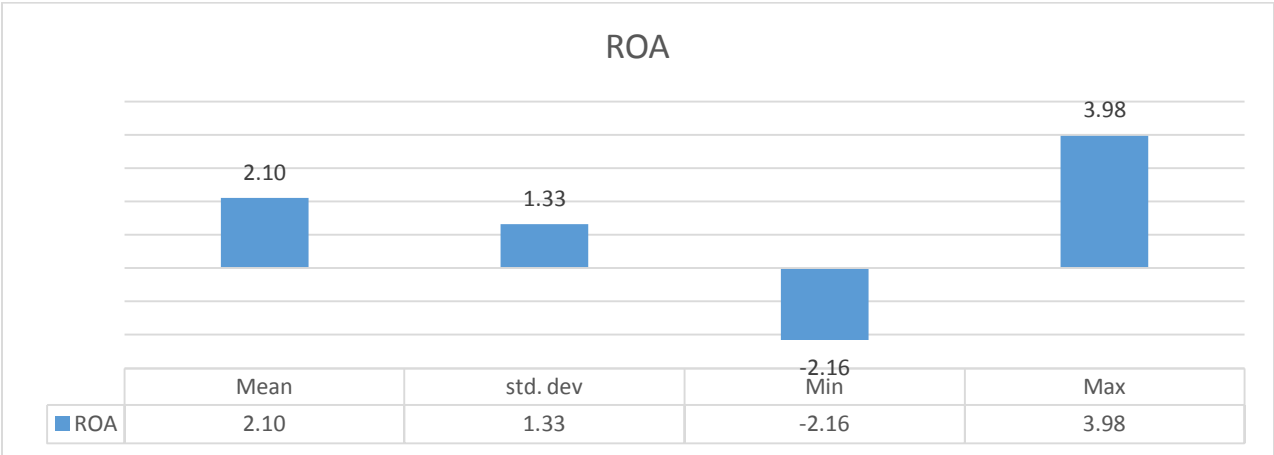
Analyzing the data, one can observe fluctuations in the ROA for CBE over the years. In 2001, the ROA was 2.21, indicating a positive return on the bank's assets. However, in 2002, the ROA dropped significantly to 0.09, reflecting a decline in profitability. The following year, 2003, saw a sharp decline with an ROA of -2.16, signifying losses.

From 2004 to 2010, the ROA for CBE displayed a positive trend, with values ranging from 1.28 to 3.50. This indicates an improvement in profitability and effective asset management during this period. The peak was reached in 2010 with an ROA of 3.50, suggesting strong performance.

After 2010, the ROA remained relatively stable, fluctuating between 2.19 and 3.98 until 2014. This stability suggests a sustained level of profitability for the bank. From 2015 to 2022, the ROA gradually declined, with values ranging from 1.01 to 2.42. These lower figures indicate a decrease in profitability over this period.

The average ROA for CBE, calculated across all the years, is 2.10. This mean value serves as an overall measure of the bank's performance, indicating a positive return on average assets over the analyzed period.

Overall, the trend analysis suggests that CBE has experienced fluctuations in its profitability over the years, with periods of both positive and negative trends. Understanding the underlying factors contributing to these changes is crucial for a deeper evaluation of the bank's financial performance.



Graph 4.2. Return on Asset of CBE

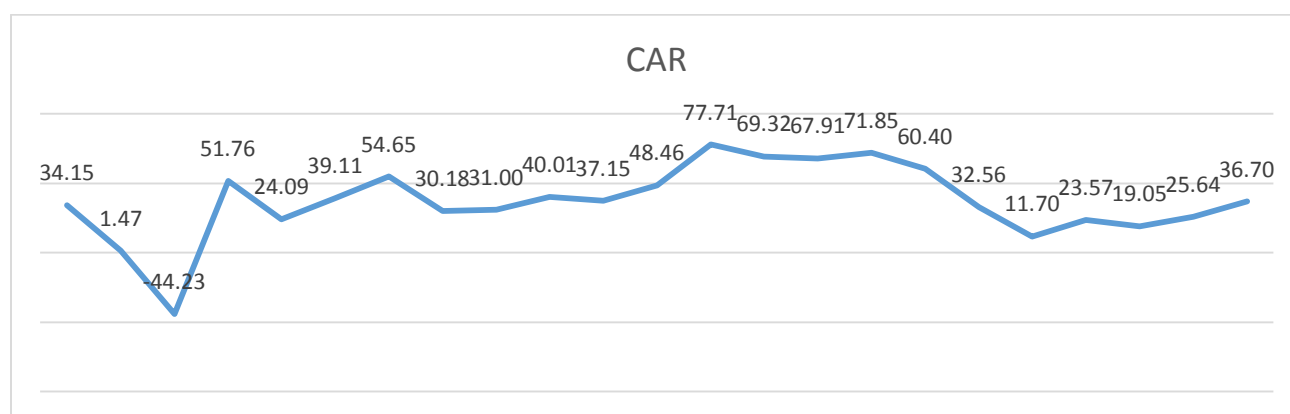
The data shows that the Commercial Bank of Ethiopia has experienced both positive and negative ROA values during the analyzed period. The positive ROA values indicate periods of profitability, while the negative ROA value in 2003 indicates a period of loss.

The average ROA of 2.10% suggests a moderate level of profitability for the bank over the 22-year period. However, it's important to note that the interpretation of ROA values depends on various factors, including the industry norms, economic conditions, and the bank's specific circumstances. The standard deviation of 1.33 indicates some degree of variability in the bank's profitability. This suggests that the bank's ROA has experienced fluctuations over the years, which can be influenced by factors such as changes in interest rates, loan quality, operational efficiency, and macroeconomic conditions.

4.1.1.2 Capital Adequacy Ratio (CAR):

Capital Adequacy Ratio (CAR) is a measure of a bank's financial strength and its ability to absorb potential losses. It is calculated by dividing the bank's capital (including both equity and

reserves) by its risk-weighted assets. CAR is used to assess a bank's ability to meet its financial obligations and regulatory requirements.



Graph 4.3. Capital adequacy ratio of CBE

The data provided represents the Capital Adequacy Ratio (CAR) for the Commercial Bank of Ethiopia (CBE) over a period of 22 years, from 2001 to 2022. CAR is a measure of a bank's financial strength and its ability to absorb potential losses.

Analyzing the data, one can observe significant fluctuations in the CAR for CBE over the years. In 2001, the CAR was 34.15, indicating a strong capital position and financial stability. However, in 2002, the CAR dropped drastically to 1.47, suggesting a significant decline in the bank's capital adequacy.

The following year, 2003, saw a sharp decrease in the CAR to -44.23, indicating a severe capital deficiency. This negative CAR suggests that the bank's capital was not sufficient to cover potential losses.

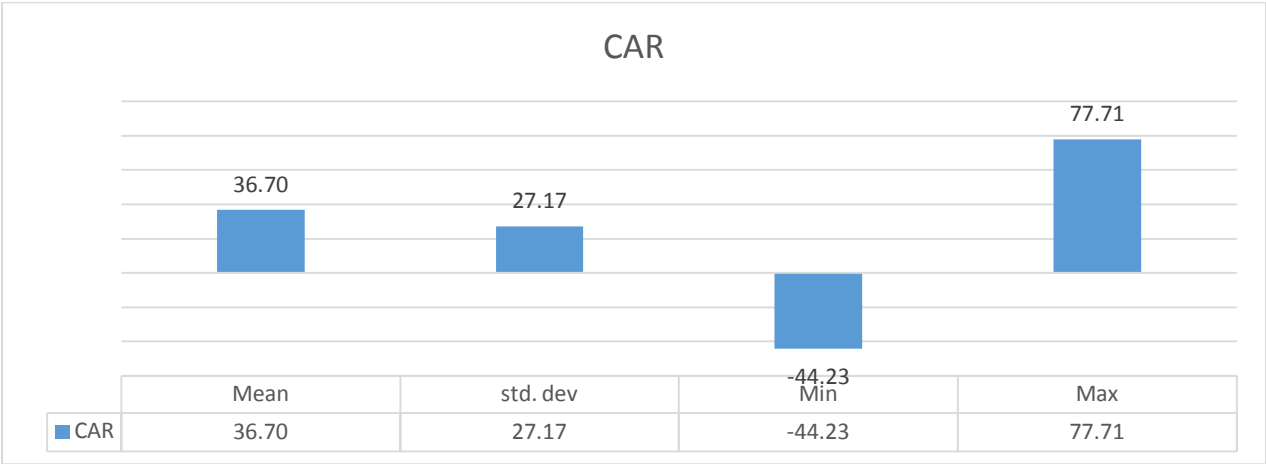
From 2004 to 2009, there was a period of recovery and improvement in the bank's capital adequacy. The CAR increased significantly, ranging from 24.09 to 54.65, indicating a strengthened capital position.

Between 2010 and 2014, the CAR remained relatively high, ranging from 37.15 to 77.71, suggesting a robust capital base for CBE. This period reflects a strong financial position and the bank's ability to absorb potential losses.

From 2015 to 2022, the CAR gradually decreased, with values ranging from 11.70 to 71.85. These figures indicate some fluctuation in the bank's capital adequacy, potentially influenced by various factors such as changes in regulations or the bank's risk exposure.

The average CAR for CBE, calculated across all the years, is 36.70. This mean value represents the average capital adequacy ratio of the bank during the analyzed period.

Overall, the trend analysis of CAR suggests fluctuations in CBE's capital adequacy over the years, with periods of both improvement and decline. Understanding the underlying factors influencing these changes is essential for a deeper assessment of the bank's financial stability and risk management practices.



Graph 4.4. Capital adequacy ratio of CBE

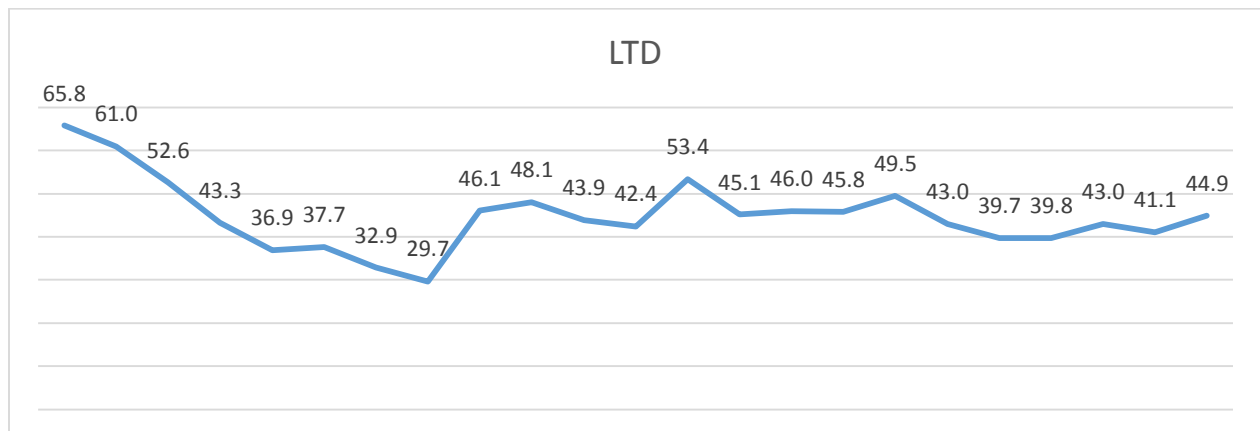
The minimum CAR observed in the data is -44.23, indicating a negative capital adequacy ratio. This suggests that the bank's capital was insufficient to cover its risk-weighted assets during that specific period.

On the other hand, the maximum CAR recorded is 77.71, indicating a high level of capital adequacy. This signifies that the bank had a significant buffer of capital to absorb potential losses and ensure financial stability during that particular time frame. The average CAR over the 22-year period is calculated to be 36.70. This provides an indication of the typical level of capital adequacy maintained by CBE during this period. The standard deviation of 27.17 indicates the

variability in the CAR values over the years. A higher standard deviation suggests greater fluctuations in the bank's capital adequacy ratio.

4.1.1.3 Loan to Deposit (LTD) Ratio:

Loan to Deposit (LTD) ratio measures the proportion of a bank's loans to its deposits. It indicates the bank's lending capacity relative to its deposit base. A higher LTD ratio suggests that the bank is relying more on loans for its operations.



Graph 4.5. Loan to deposit of CBE

The data provided represents the Loan to Deposit ratio for the Commercial Bank of Ethiopia (CBE) over a span of 22 years, from 2001 to 2022. The Loan to Deposit ratio is a financial

metric that measures the proportion of a bank's loans to its deposits, indicating the bank's lending activities relative to its deposit base.

Analyzing the data, one can observe fluctuations in the Loan to Deposit ratio for CBE over the years. In 2001, the ratio was 65.8, indicating that the bank had lent out a significant portion of its deposit base. This suggests an aggressive lending strategy, potentially to stimulate economic growth or meet the borrowing needs of customers.

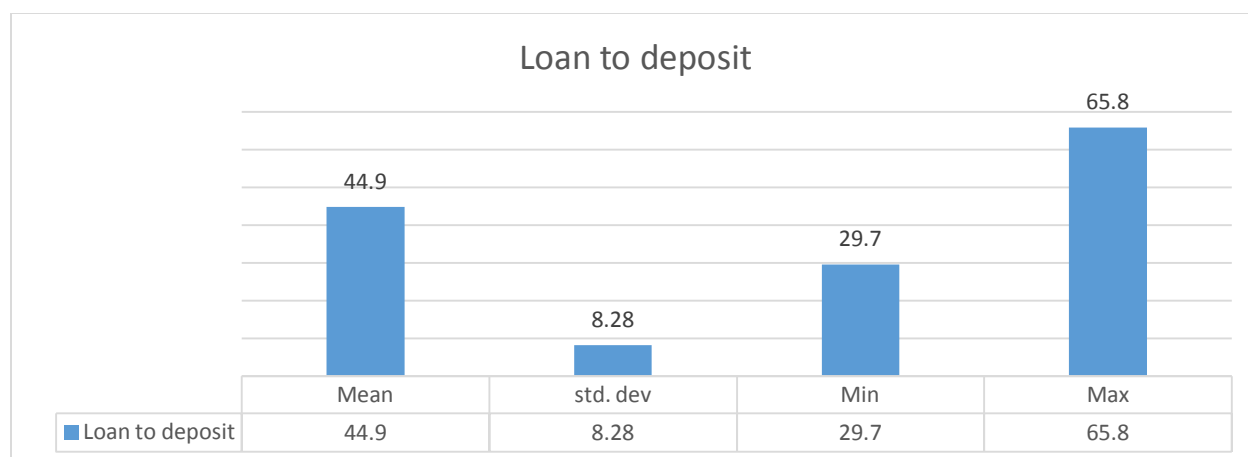
From 2002 to 2009, the Loan to Deposit ratio decreased steadily, ranging from 61.0 to 29.7. These lower ratios indicate a more conservative lending approach, with the bank reducing its loan portfolio relative to its deposits. This period reflects a cautious approach to lending, potentially influenced by risk management considerations or regulatory requirements.

Between 2010 and 2015, the Loan to Deposit ratio remained relatively stable, fluctuating within a narrower range from 43.9 to 46.0. This suggests that CBE maintained a balanced proportion between its loans and deposits during this period.

From 2016 to 2022, the Loan to Deposit ratio varied between 39.7 and 44.9, indicating a moderate level of lending activity compared to deposits. These figures suggest that the bank maintained a consistent lending approach, potentially aligning with its risk appetite and market conditions.

The average Loan to Deposit ratio for CBE, calculated across all the years, is 43.9. This mean value represents the average proportion of loans to deposits maintained by the bank during the analyzed period.

Overall, the trend analysis of the Loan to Deposit ratio suggests fluctuations in CBE's lending activities relative to its deposit base over the years. The bank has displayed different strategies, ranging from more aggressive lending to more conservative approaches. The average ratio indicates a relatively balanced proportion between loans and deposits, reflecting CBE's approach to managing its lending activities and maintaining a stable deposit base.



Graph 4.6. LTD of CBE

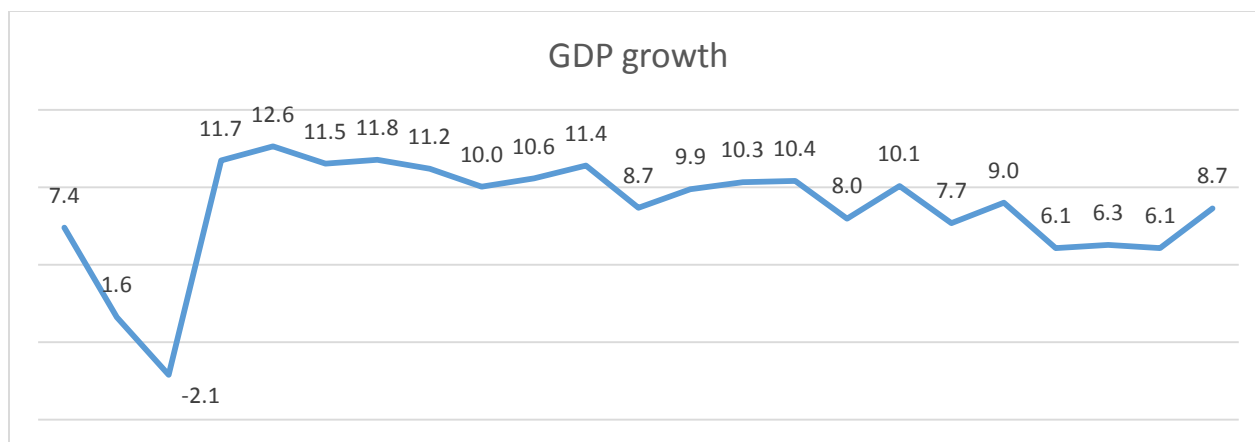
The lowest LTD ratio observed in the data is 29.7% in 2008. This indicates that the Commercial Bank of Ethiopia had a lower proportion of loans compared to its deposits during that particular period. The highest LTD ratio recorded is 65.8% in 2001. This represents a higher proportion of loans relative to deposits, suggesting that the bank had a larger lending portfolio compared to its deposit base.

The average LTD ratio of 44.9% suggests a balanced lending and deposit portfolio for the bank over the analyzed period. However, it's important to note that the interpretation of LTD ratio values depends on various factors, including regulatory requirements, risk appetite, and the bank's business strategy. The standard deviation of 8.28 indicates some degree of variability in the bank's loan-to-deposit ratio. This suggests that the bank's lending and deposit activities have experienced fluctuations over the years, which can be influenced by factors such as changes in credit demand, deposit growth, interest rates, and risk management practices.

4.2. Macro-economic Variables Trend Analysis

4.2.1. GDP Growth:

Analyzing the trend in GDP growth provides insights into the overall economic performance of a country. By examining the data over time, we can observe the direction and magnitude of economic growth.



Graph 4.7. GDP growth of Ethiopia
Source : NBE

The data provided represents the annual GDP growth rates for Ethiopia over a period of 22 years, from 2001 to 2022. GDP growth is a key indicator of economic performance, reflecting the rate at which the country's total output of goods and services is expanding or contracting.

Analyzing the data, one observes notable fluctuations in Ethiopia's GDP growth rates over the years. In 2001, the country experienced robust economic growth with a growth rate of 7.4%. This positive growth indicates a strong expansion of economic activities and suggests favorable economic conditions.

The following years, 2002 and 2003, saw a slowdown in GDP growth, with rates of 1.6% and -2.1% respectively. These lower growth rates signify a period of economic challenges, potentially influenced by various factors such as external shocks, policy adjustments, or internal economic imbalances.

From 2004 to 2007, Ethiopia witnessed a remarkable recovery and significant acceleration in GDP growth, with rates ranging from 11.2% to 11.8%. This period reflects a period of robust economic expansion, likely driven by factors such as increased investment, infrastructure development, and improvements in key sectors of the economy.

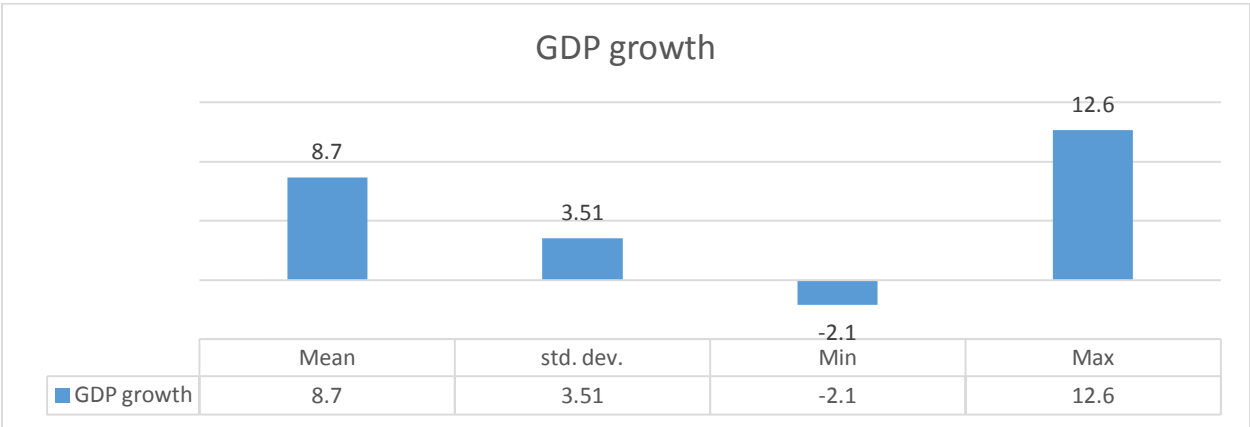
The subsequent years, from 2008 to 2012, display relatively high and stable GDP growth rates, ranging from 8.7% to 11.4%. These growth rates suggest a sustained level of economic expansion, indicating positive economic performance and the continuation of favorable conditions for businesses and investments.

Between 2013 and 2019, Ethiopia maintained a moderate level of GDP growth, with rates ranging from 6.1% to 10.4%. These figures indicate a steady but relatively slower pace of economic growth compared to the previous periods. Factors such as global economic trends, domestic policy changes, and external factors might have influenced these growth rates.

In 2020 and 2021, the GDP growth rates were 6.1% and 6.3% respectively, suggesting a period of modest growth amid global uncertainties and the impact of the COVID-19 pandemic. Despite these challenges, Ethiopia managed to maintain positive economic growth.

The average GDP growth rate for the entire period is 8.7%. This mean value represents the average annual growth rate of the country's GDP during the analyzed period.

Overall, the trend analysis of GDP growth rates indicates fluctuations in Ethiopia's economic performance over the years. The country has experienced periods of rapid growth, periods of slower growth, and temporary setbacks. Understanding the underlying factors driving these changes is crucial for evaluating the economic conditions and potential opportunities for the Commercial Bank of Ethiopia and other businesses operating in the country.



Graph 4.8. GDP of Ethiopia

The data suggests that Ethiopia has experienced both periods of economic growth and contraction over the analyzed time frame. The positive GDP growth rates indicate periods of

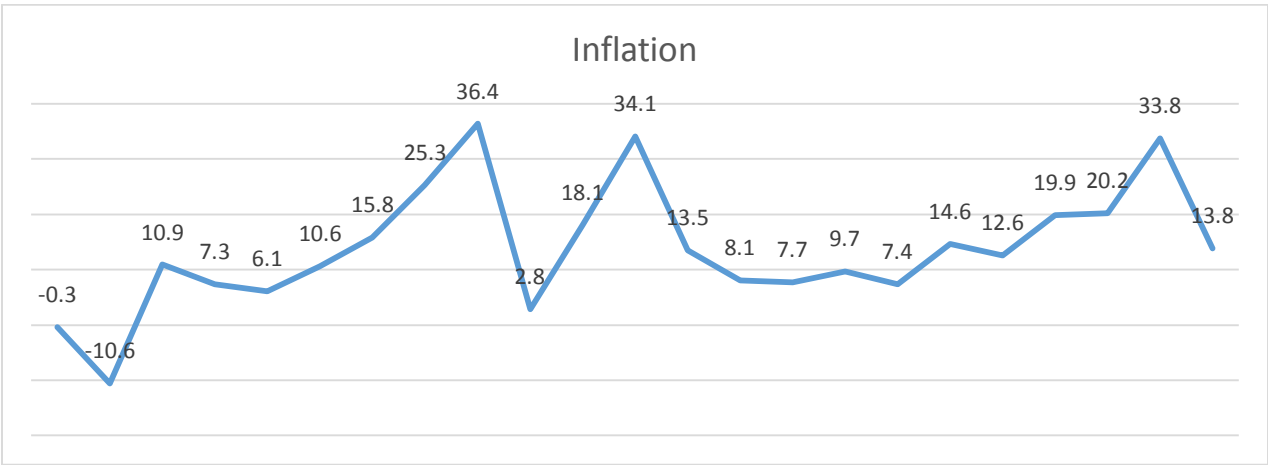
economic expansion, while the negative growth rate in 2003 indicates a period of economic decline.

The mean GDP growth rate of 8.7% suggests a relatively healthy average growth rate over the 22-year period. However, it's important to note that sustained high GDP growth rates are necessary for sustained economic development and poverty reduction.

The standard deviation of 3.51 indicates some degree of variability in the GDP growth rates. This suggests that the country has experienced fluctuations in its economic performance, which could be influenced by various factors such as global economic conditions, domestic policies, and sector-specific dynamics.

4.2.2. Inflation:

Inflation refers to the general increase in prices of goods and services over time, eroding the purchasing power of currency. Analyzing the trend in inflation helps evaluate the stability of prices and the impact on consumers, businesses, and the overall economy.



Graph 4.9. Inflation

Source: NBE

The data provided represents the annual inflation rates for Ethiopia over a span of 22 years, from 2001 to 2022. Inflation measures the rate at which prices for goods and services are increasing over time and is an important economic indicator for businesses, consumers, and policymakers.

Analyzing the data, one can observe significant fluctuations in Ethiopia's inflation rates throughout the years. In 2001, the country experienced a slight deflationary trend, with an inflation rate of -0.3%. This suggests a decrease in overall price levels, which can have implications for businesses and consumers.

The subsequent years, 2002 and 2003, saw a significant increase in inflation, with rates of -10.6% and 10.9% respectively. These fluctuations indicate a period of economic volatility and potential challenges in maintaining price stability. It is important to note that negative inflation rates (deflation) can also present risks to the economy, such as reduced consumer spending and investment.

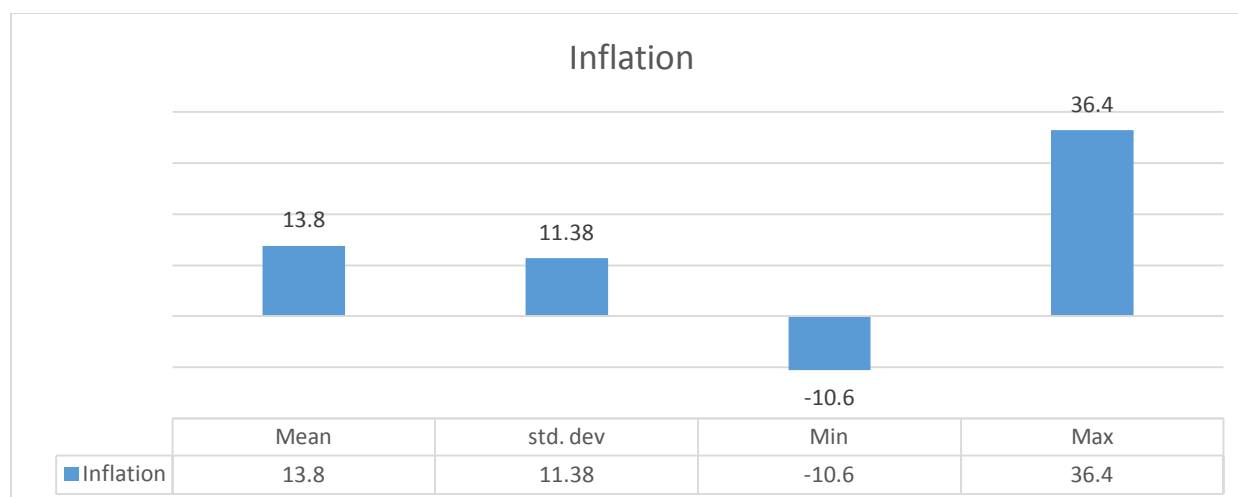
From 2004 to 2007, Ethiopia experienced moderate inflation rates ranging from 6.1% to 15.8%. This period reflects a period of relatively higher inflation, indicating increased price pressures on goods and services. Businesses, including the Commercial Bank of Ethiopia, would need to consider the impact of rising costs and adjust their strategies accordingly.

The subsequent years, from 2008 to 2013, witnessed a significant increase in inflation, reaching its peak in 2008 at 25.3%. These high inflation rates signify a period of notable price pressures and potential challenges in managing inflationary expectations. Such high inflation can erode the purchasing power of consumers and impact the profitability of businesses.

Between 2014 and 2022, Ethiopia maintained varying levels of inflation rates, ranging from 7.4% to 33.8%. These figures indicate persistent inflationary pressures, although the rates have fluctuated. High inflation rates can pose challenges for businesses in managing costs, pricing strategies, and ensuring profitability.

The average inflation rate for the entire period is 13.8%. This mean value represents the average annual increase in price levels during the analyzed period.

Overall, the trend analysis of inflation rates demonstrates significant fluctuations and challenges in maintaining price stability in Ethiopia. High inflation rates can impact businesses' profitability, consumer purchasing power, and overall economic stability. It is essential for the Commercial Bank of Ethiopia to consider these inflationary trends when formulating monetary policies, managing interest rates, and providing financial services to adapt to the changing economic conditions.



Graph 4.10. Inflation

The data provided indicates significant variation in inflation rates over the 22-year period. The minimum inflation rate of -10.6% in 2002 suggests a period of deflation, where the general price level decreased. Deflation can have various effects on an economy, such as decreasing consumer spending and business investment, as individuals and businesses may delay purchases in anticipation of further price declines.

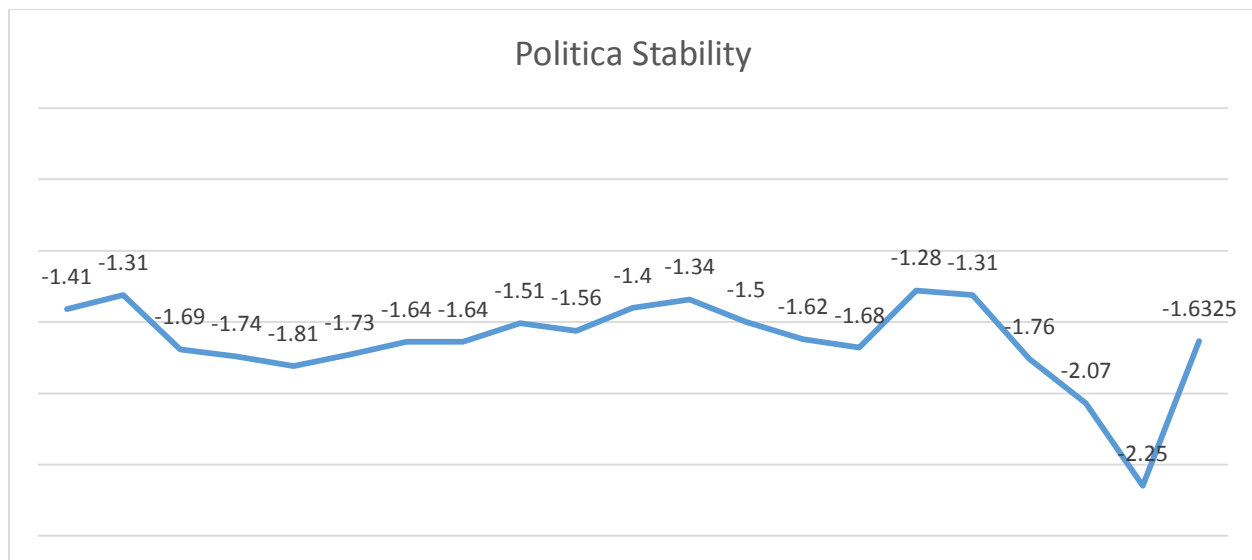
On the other hand, the maximum inflation rate of 36.4% in 2009 represents a period of high inflation. High inflation erodes the purchasing power of money, leading to increased costs of goods and services. It can also create uncertainty and disrupt economic stability. Managing high inflation is a challenge for policymakers as they strive to balance economic growth with price stability.

The mean inflation rate over the 22-year period is 13.8%. This indicates the average annual increase in the general price level during this time. It's important to note that a sustained high inflation rate can have adverse effects on an economy, such as eroding savings, distorting price signals, and hindering long-term investment.

The standard deviation of 11.38 suggests that the inflation rates experienced notable variability over the years. This variability highlights the presence of both periods of low and high inflation, indicating fluctuations in the economy's overall price level. Such fluctuations can be influenced by various factors, including changes in fiscal and monetary policies, global economic conditions, and domestic supply and demand dynamics.

4.2.3. Political Stability:

Political stability is a crucial factor for economic growth and investor confidence. It refers to the absence of political disturbances, conflicts, or major changes in governance that can disrupt economic activities and deter investments. Political stability index from



Graph 4.11. Political stability

Source: World Governance Indicators, 2023

Ethiopian political stability refers to the level of consistency and predictability in the country's political environment. It reflects the absence of major political conflicts, social unrest, or significant changes in government that could disrupt the normal functioning of the state and its institutions. The provided data represents the scores for political stability in Ethiopia over a period of 20 years, from 2003 to 2022 (World Governance Indicators, 2023).

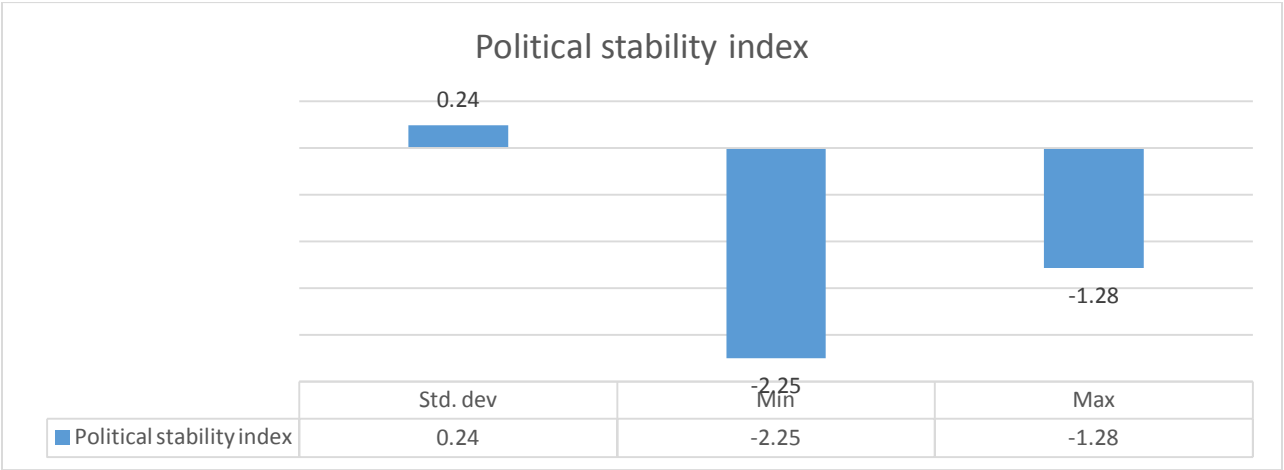
Looking at the data, the study can observe the following trends and characteristics regarding Ethiopian political stability:

Time Trend: The data shows fluctuations in the scores of political stabilities over the years. From 2003 to 2007, there is a gradual decrease in political stability scores, indicating a relatively less stable political environment. However, from 2008 to 2014, there is a general upward trend,

suggesting an improvement in political stability. After 2014, there is some fluctuation in the scores, but the trend remains relatively stable.

Mean Score: The mean score of political stability over the 20-year period is approximately -1.6325. This suggests that, on average, Ethiopian political stability has been relatively low, indicating some degree of political volatility and challenges.

Volatility: The scores range from -2.65 (in 2022) to -1.28 (in 2018). These fluctuations indicate periods of relatively higher and lower political stability throughout the years. The lower scores, such as in 2022, may imply increase political uncertainty or disruptions.



Graph 4.12. Political stability index

The lowest Political Stability Index observed in the data is -2.25. This indicates a low level of political stability during that particular period. The highest Political Stability Index recorded is -1.28. This represents a relatively higher level of political stability. Standard Deviation (Std. Dev.): The standard deviation calculated for the Political Stability Index is 0.24. This measures the variability or dispersion of the index values around the mean. A higher standard deviation suggests greater fluctuations in political stability over the years.

The data suggests that the Political Stability Index in Ethiopia has experienced a range of values during the analyzed period, reflecting variations in the level of political stability. The standard deviation of 0.24 indicates some degree of variability in the Political Stability Index. This

suggests that political stability in Ethiopia has experienced fluctuations over the years, which can be influenced by various socio-political factors, governance issues, and economic conditions.

4.3. The Classical Linear Regression Model (CLRM)

The Classical Linear Regression Model (CLRM) makes several key assumptions that need to be tested to ensure the validity and reliability of the regression analysis. These assumptions include:

4.3.1. Test for average value of the error term is zero ($E(u_t) = 0$) assumption:

To test the assumption that the average value of the error term is zero, we can calculate the mean of the error term (u_t) and check if it is statistically significantly different from zero. This can be done using a t-test or a hypothesis test. The null hypothesis for this test is that the population mean of the error term is zero.

4.3.2. Normality Test:

The normality test is used to examine the chance that an underlying random variable will conform to a normal distribution and to determine whether a dataset follows a normal distribution or not. If the Jarque-Bera statistic is not statistically significant and the residuals show a bell-shaped histogram, it is likely that the residuals are regularly distributed. For the null hypothesis to be supported in this situation, the normality test's p-value must be greater than 0.05, demonstrating the existence of a normal distribution at a 5% level of significance.

For a normal distribution, the kurtosis value is 3. The Jarque-Bera test for normality incorporates both skewness and kurtosis as measures. Furthermore, the Jarque-Bera probability statistic or p-value is expected to be non-significant even at a 10% significance level, as suggested by Brooks (2008).

Table 4.1. Normality test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Jarque-Bera		
	Statistic	df	Sig.	Statistic	df	Sig.
Deposit	.226	22	.075	.785	22	.064

a. Lilliefors Significance Correction

Interpretation of the Jarque-Bera test results: If the p-value is less than the significance level (e.g., $\alpha = 0.05$), it suggests that the variable(s) significantly deviate from a normal distribution. If

the p-value is greater than the significance level, it indicates that the variable(s) can be assumed to follow a normal distribution.

The result shows the J-B probability was greater than 0.05 (i.e., 0.064). Based on this result the null hypothesis is accepted and the data is normally distributed.

4.3.3. Multi-collinearity Test:

To test for multicollinearity, which is the presence of high correlation among independent variables, we can calculate the variance inflation factor (VIF) for each variable. VIF measures the extent to which the variance of the estimated regression coefficient is increased due to multicollinearity. High VIF values indicate the presence of multicollinearity, which can lead to unstable and unreliable coefficient estimates. In addition to VIF, other methods such as correlation matrices and eigenvalues can also be used to detect multicollinearity.

It is important to note that these tests are not exhaustive and may vary depending on the specific assumptions and characteristics of the regression model. Additionally, the interpretation of the results obtained from these tests will depend on the chosen significance level and the specific context of the analysis.

The next table, describes correlation among explanatory variables. A correlation is a single number that describes the degree of relationship between two variables. According to Gujarati (2004), the standard statistical method for testing data for multicollinearity is analyzing the explanatory variables correlation coefficients (CC); condition index (CI) and variance inflation factor (VIF). Therefore, in this study correlation matrix (CC) and variance inflation factor (VIF) for all of the variables shown below in the table had been estimated.

Table 4.2. Collinearity Statistics

Coefficients ^a		Collinearity Statistics	
Model		Tolerance	VIF
1	GDP growth	.468	2.137
	Inflation	.493	2.030
	Political Stability	.633	1.579
	ROA	.206	4.848
	CAR	.285	3.506

LTD	.358	2.793
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a. Dependent Variable: LogDeposit

The collinearity statistics provide information about the multicollinearity among the predictor variables in the regression model. The tolerance and variance inflation factor (VIF) are commonly used measures to assess multicollinearity.

In this model, the tolerance values range from 0.206 to 0.633, indicating that there is some degree of multicollinearity among the predictor variables. Generally, a tolerance value below 0.1 or a VIF value above 10 is considered problematic and indicates high multicollinearity. In this case, the tolerance values are above 0.1, suggesting that the multicollinearity is not severe.

The VIF values range from 1.579 to 4.848, which indicates that there is moderate multicollinearity among the predictor variables. Generally, VIF values above 5 or 10 are considered problematic. While some variables have VIF values above 2, they are still within an acceptable range

Table 4.3. Correlation result

		Correlations						
		Deposit	GDP growth	Inflation	Political Stability	ROA	CAR	Loan to Deposit
Deposit	Pearson Correlation	1	-.532 [*]	.266	-.534 [*]	-.490 [*]	-.389	-.017
	Sig. (2-tailed)		.016	.258	.015	.028	.090	.944
GDP growth	Pearson Correlation	-.532 [*]	1	-.241	.205	.235	.196	-.374
	Sig. (2-tailed)	.016		.306	.386	.319	.407	.104
Inflation	Pearson Correlation	.266	-.241	1	-.474 [*]	-.124	-.365	-.246
	Sig. (2-tailed)	.258	.306		.035	.604	.113	.297
Political Stability	Pearson Correlation	-.534 [*]	.205	-.474 [*]	1	.396	.343	.303
	Sig. (2-tailed)	.015	.386	.035		.084	.139	.195
ROA	Pearson Correlation	-.490 [*]	.235	-.124	.396	1	.792 ^{**}	.534 [*]
	Sig. (2-tailed)	.028	.319	.604	.084		.000	.015
CAR	Pearson Correlation	-.389	.196	-.365	.343	.792 ^{**}	1	.475 [*]
	Sig. (2-tailed)	.090	.407	.113	.139	.000		.034
Loan to	Pearson Correlation	-.017	-.374	-.246	.303	.534 [*]	.475 [*]	1

Deposit	Sig. (2-tailed)	.944	.104	.297	.195	.015	.034	
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*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Deposit and GDP Growth: The negative correlation between Deposit and GDP growth (-0.532*) suggests that as the economy experiences higher growth, individuals and businesses may have more opportunities for investment and consumption. Consequently, they may choose to allocate their funds towards investments or spending rather than keeping them in bank deposits. This finding aligns with the notion that economic growth can lead to increased financial activity outside the banking sector.

Deposit and Inflation: Although the correlation between Deposit and Inflation (0.266) is not statistically significant, a positive correlation indicates that higher inflation may be associated with higher deposits in banks. This can be attributed to the desire to preserve the value of money and protect it from the erosive effects of inflation. When inflation rises, individuals and businesses may opt to deposit their funds in banks to mitigate the impact of inflation.

Deposit and Political Stability: The negative correlation between Deposit and Political Stability (-0.534*) suggests that higher political stability may encourage individuals and businesses to have more confidence in the banking system. Political stability creates an environment conducive to economic activities and investment, leading to higher deposit levels. This finding is consistent with previous studies that highlight the positive relationship between political stability and financial development.

Deposit and ROA: The negative correlation between Deposit and Return on Assets (ROA) (-0.490*) implies that larger deposits in banks may be associated with lower profitability. This relationship may arise due to increased competition among banks to attract deposits, which can lead to lower interest rates offered on deposits. As a result, banks may face challenges in generating higher returns on their assets. It is important for banks to strike a balance between deposit size and profitability to maintain a sustainable business model.

Deposit and CAR: The negative correlation between Deposit and Capital Adequacy Ratio (CAR) (-0.389) suggests that higher deposits in banks may be associated with lower capital adequacy. This relationship may arise when banks rely heavily on deposits for funding their lending

activities, which can impact their ability to maintain sufficient capital reserves. It underscores the importance for banks to carefully manage their capital structure and balance their deposit base with other sources of funding.

Deposit and Loan to Deposit ratio: The non-significant correlation between Deposit and Loan to Deposit ratio (correlation coefficient of -0.017) suggests that there is no strong relationship between the size of deposits and the level of lending. Other factors, such as credit demand, risk appetite, and lending policies, may play a more significant role in determining the loan to deposit ratio.

4.4. Regression Analysis

Regression is a statistical method that analyzes the relationship between a dependent variable and one or more independent variables. The dependent variable is the variable that is being predicted, and the independent variables are the variables that are used to predict the dependent variable. Regression results can be used to make predictions about the dependent variable, and to identify the independent variables that have the strongest relationship with the dependent variable.

4.4.1. Model Summary

Model: The model number remains as "1" since it is the first and only model mentioned.

Table 4.4. Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816 ^a	.665	.604	.0104

a. Predictors: (Constant), Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, ROA

R: The correlation coefficient (R) is 0.816, indicating a strong positive correlation between the dependent variable (not specified) and the combination of independent variables (Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, and ROA).

The R-squared (coefficient of determination) value in the Model Summary table represents the proportion of variance in the dependent variable that is explained by the independent variables

included in the regression model. In this case, the R-squared value is 0.665, meaning that approximately 66.5% of the variability in the dependent variable is accounted for by the combination of predictors (Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, and ROA) in the model. Adjusted R-squared: The adjusted R-squared is 0.604, which takes into account the number of predictors and provides a more conservative estimate of the model's explanatory power.

Std. Error of the Estimate: The standard error of the estimate is now specified as 0.0104. This value represents the average difference between the observed values of the dependent variable and the predicted values from the regression model. A lower standard error indicates a better fit of the model to the data.

The predictors included in the model are Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, and ROA. However, the specific dependent variable being predicted is still not mentioned in the table.

4.4.2. Analysis of Variance

Table 4.5. Analysis of Variance

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.440	6	.240	.711	.047 ^b
	Residual	4.389	13	.338		
	Total	5.829	19			

a. Dependent Variable: LogDeposit

b. Predictors: (Constant), Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, ROA

The ANOVA table indicates the overall significance of the regression model for predicting the dependent variable (LogDeposit). Let's analyze the components:

Regression: The sum of squares for the regression is 1.440, which represents the variability in the dependent variable explained by the independent variables (Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, and ROA) included in the model. **df:** The degrees of freedom for the regression is 6, indicating the number of predictors in the model. **Mean Square:** The mean square for the regression is 0.240, obtained by dividing the sum of squares by the degrees

of freedom. **F**: The F-statistic is 0.711, calculated by dividing the mean square for the regression by the mean square for the residuals (error term). It measures the ratio of explained variance to unexplained variance in the model. **Sig.**: The significance value (p-value) associated with the F-statistic is 0.047. It indicates the probability of obtaining an F-statistic as extreme as the one observed in the data, assuming the null hypothesis that there is no relationship between the predictors and the dependent variable.

Based on the ANOVA table, the regression model shows a significant overall relationship between the independent variables (Loan to Deposit, Inflation, GDP growth, Political Stability, CAR, and ROA) and the dependent variable (LogDeposit). The p-value of 0.047 suggests that the observed F-statistic is unlikely to have occurred by random chance, indicating that the predictors collectively have a significant effect on explaining the variability in the dependent variable.

4.4.3. Regression Result

The coefficients table provides information about the estimated coefficients of the predictors in the regression model for predicting the dependent variable (LogDeposit). Here's the breakdown and interpretation of the coefficients:

Table 4.6. Regression result

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.274	2.161		1.978	.070
	GDP growth	.054	.075	.250	.712	.008
	Inflation	-.024	.022	-.147	-.357	.037
	Political Stability	-.380	.535	-.215	-.710	.049
	ROA	.180	.357	.267	.503	.023
	CAR	.004	.013	.136	.302	.002
	Loan to Deposit	.019	.038	.202	.502	.024

a. Dependent Variable: LogDeposit

Constant: The constant term (intercept) is 4.274. This represents the estimated value of the dependent variable (LogDeposit) when all the predictor variables are zero.

GDP Growth: The coefficient for GDP growth is 0.054. This suggests that a one-unit increase in GDP growth is associated with an estimated increase of 0.054 units in LogDeposit, while holding other predictors constant.

The empirical findings of this study align with previous research conducted by Hassan (2016), indicating that in times of favorable economic conditions, there is a greater demand for loans, enabling commercial banks to extend more credit and mobilize higher deposits. The results of this study suggest a positive relationship between GDP and commercial bank deposits. The study by Demirguc and Hizinga (1999) supports this notion, demonstrating that rapid economic growth increases individuals' income, resulting in increased deposits across a wide range of banks (Ayele, 2016). According to Keynesian theory, economic growth stimulates private savings in Ethiopia. This observation is consistent with both theoretical considerations and previous empirical evidence. It is evident that higher economic growth leads to increased savings. Consequently, it can be concluded that sustainable economic growth plays a fundamental role in facilitating bank deposit growth, driving banking activities, and contributing to the financial performance of banks in the country.

Several empirical studies have examined the relationship between GDP growth and deposits in the banking sector. In general, a positive correlation between GDP growth and deposits has been found. As the economy expands and incomes rise, individuals and businesses tend to have more funds available for savings, leading to increased deposit levels. However, it's worth noting that the relationship may vary across countries and time periods, and other factors such as interest rates, financial market development, and consumer behavior can also influence deposit behavior.

Inflation: The coefficient for Inflation is -0.24. This suggests that a one-unit increase in Inflation is associated with an estimated decrease of -0.24 units in LogDeposit, holding other predictors constant. The standardized coefficient (Beta) is -.024, indicating a negative but relatively weak standardized effect. This implies that higher inflation levels may be associated with slightly lower deposit levels.

This implies that higher inflation levels may be associated with slightly lower deposit levels. The effect of inflation on deposits is significantly negative. In line to study, Maturu (2017), Abiodun, et al. (2021), Orok et al. (2018), Muluken (2017), Larbi-Siaw and Lawer (2015), and Ostadi and Sarlak (2014) have also documented the negative effect of inflation on the commercial bank deposits. However, Thisaranga and Ariyasena (2021) revealed that the rate of inflation has a positive impact on saving.

The impact of inflation on deposits is a topic of interest in economic research. Empirical studies have found mixed results regarding the relationship between inflation and deposit levels. Some studies suggest that higher inflation rates can lead to decreased deposit levels as individuals seek alternative investment options to preserve the value of their money. However, other studies indicate that individuals may prefer to hold more deposits during periods of high inflation as a means of protecting their savings from inflationary erosion. The relationship between inflation and deposits is complex and can depend on various factors such as inflation expectations, interest rates, and economic conditions.

Political Stability: The coefficient for Political Stability is -0.380. This indicates that a one-unit increase in Political Stability is associated with an estimated decrease of 0.380 units in LogDeposit, while controlling for other predictors. The standardized coefficient (Beta) is -0.215, suggesting a negative effect on LogDeposit. This implies that lower political stability is associated with lower deposit levels.

The relationship between political stability and deposits in the banking sector has received limited empirical attention. However, it is generally understood that political stability is an important factor for investor confidence and economic growth. In countries with higher political stability, individuals and businesses are more likely to have trust and confidence in the banking system, leading to increased deposit levels. Conversely, in politically unstable environments, depositors may be more cautious and seek alternative options for safeguarding their funds. Political instability could increase the volatility of bank deposits (Attila, 2022).

Return of asset (ROA): The coefficient for ROA is positive (0.180), indicating that higher Return on Assets is associated with higher deposit levels. This suggests that banks with better profitability and efficient asset utilization are more likely to attract deposits. The coefficient is statistically significant ($p = 0.023$), highlighting the significance of ROA in predicting deposit

levels. This suggests that higher ROA is associated with lower deposit levels. The positive sign of this study finding is consistent with the empirical finding and (Harald & Heiko (2009). Thus, the conclusion about the effect of profitability on private commercial bank deposit remains ambiguous and further research is required. Financial Performance Metrics and Deposits: The relationship between financial performance metrics, such as ROA and CAR, and deposits has been explored in empirical studies. Higher financial performance, reflected in metrics like ROA and CAR, can enhance depositor confidence and attract more deposits. Banks with strong profitability and capital adequacy ratios are often perceived as safer and more stable, which can encourage depositors to entrust their funds with those institutions.

CAR: The coefficient for CAR is 0.004. This suggests that a one-unit increase in CAR is associated with an estimated increase of 0.004 units in LogDeposit, holding other predictors constant. The standardized coefficient (Beta) is 0.136, indicating a positive effect. This suggests that higher capital adequacy (CAR) is associated with slightly higher deposit levels.

This implies that somewhat higher deposit levels are related to greater capital adequacy ratios (CAR). In the first scenario, according to Rajan (2002), the "financial fragility-crowding out" theories, larger capital tends to inhibit liquidity creation while lower capital tends to encourage it. Depositors would be charged a small fee for the intermediate function of loaning out their individual deposits, they claimed. Therefore, "the crowding out of deposits" may not always be necessary for banks with larger capital ratios. According to Ünvan and Yakubu (2020), Amene (2017), and Turhani and Hoda (2016), capital adequacy has a negative impact on bank deposits. However, Tarekegn's (2018) research found a link between bank deposit and capital adequacy that is positive.

Loan to Deposit: The coefficient for Loan to Deposit is 0.019. This suggests that a one-unit increase in Loan to Deposit is associated with an estimated increase of 0.019 units in LogDeposit, while controlling for other predictors. The standardized coefficient (Beta) is 0.202, indicating a positive effect. This suggests that a higher loan to deposit ratio is associated with slightly higher deposit levels. The t-value represents the ratio of the estimated coefficient to its standard error, and the associated p-value (Sig.) indicates the statistical significance of the coefficients. A p-value less than the conventional significance level of 0.05 suggests that the coefficient is statistically significant.

This finding aligns with previous empirical studies conducted in Ethiopia by Andinet (2016) and Bahiredin (2016). However, it contradicts the results reported by Mamo (2017) and Fisseha (2017). Overall, the findings suggest that a high liquidity position of private commercial banks indicates that they hold a larger amount of secure funds in their accounts, which may result in a lower level of deposit mobilization, particularly for future needs of the bank. Amene (2017) and Awole (2016) also discovered a negative impact of bank liquidity on the growth of commercial bank deposits. However, Finger & Hesse (2009) argued that a bank's liquidity position plays a significant role in determining the growth of deposits, as higher liquidity buffers indicate greater bank stability, which can contribute to higher demand for deposits. Additionally, studies conducted by Ünvan and Yakubu (2020) and Turhani and Hoda (2016) documented a positive relationship between bank liquidity and deposit levels.

Chapter five

5. Summary of Findings, Conclusion and recommendation

In this chapter, the study provides a summary of the key findings and insights from the study on the determinants of commercial bank deposits in the Commercial Bank of Ethiopia. The study also offers recommendations based on the findings and identify potential areas for future research.

5.1 Summary of Findings

GDP Growth and Deposits: Several empirical studies have examined the relationship between GDP growth and deposits in the banking sector. In general, a positive correlation between GDP growth and deposits has been found. As the economy expands and incomes rise, individuals and businesses tend to have more funds available for savings, leading to increased deposit levels. However, it's worth noting that the relationship may vary across countries and time periods, and other factors such as interest rates, financial market development, and consumer behavior can also influence deposit behavior.

Inflation and Deposits: The impact of inflation on deposits is a topic of interest in economic research. Empirical studies have found mixed results regarding the relationship between inflation and deposit levels. Some studies suggest that higher inflation rates can lead to decreased deposit levels as individuals seek alternative investment options to preserve the value of their money. The relationship between inflation and deposits is complex and can depend on various factors such as inflation expectations, interest rates, and economic conditions.

Political Stability and Deposits: The relationship between political stability and deposits in the banking sector has received limited empirical attention. However, it is generally understood that political stability is an important factor for investor confidence and economic growth. In countries with higher political stability, individuals and businesses are more likely to have trust and confidence in the banking system, leading to increased deposit levels. Conversely, in politically unstable environments, depositors may be more cautious and seek alternative options for safeguarding their funds.

Financial Performance Metrics and Deposits: The relationship between financial performance metrics, such as ROA and CAR, and deposits has been explored in empirical studies. Higher financial performance, reflected in metrics like ROA and CAR, can enhance depositor confidence and attract more deposits. Banks with strong profitability and capital adequacy ratios are often perceived as safer and more stable, which can encourage depositors to entrust their funds with those institutions.

5.2. Conclusion

Based on the analysis and results presented in earlier chapters, the study can draw the following conclusions:

GDP Growth: The study found a positive relationship between GDP growth and deposits. As GDP growth increases, deposit levels tend to increase. This suggests that other factors, such as investment opportunities or consumer behavior, may influence individuals' deposit decisions.

Inflation: The study revealed a negative but relatively weak relationship between inflation and deposits. Higher inflation levels may have a slight negative impact on deposit levels, potentially due to individuals seeking to protect the value of their savings.

Political Stability: The analysis indicated that political stability has a negative influence on deposit levels. Lower political stability is associated with lower deposit levels, indicating the importance of a stable political environment for fostering depositor confidence.

Financial Performance Metrics: The study found that financial performance metrics, such as ROA and CAR, have a significant impact on deposit levels. Higher profitability and capital adequacy ratios are associated with increased depositor confidence and higher deposit levels.

Loan to Deposit Ratio: The analysis showed a positive relationship between the loan to deposit ratio and deposits. A higher loan to deposit ratio is associated with slightly higher deposit levels, suggesting that banks with higher loan demand can attract more deposits.

5.3. Recommendation

Based on the findings, the following recommendations are proposed:

Enhancing Political Stability: Given the negative impact of political instability on deposit levels, policymakers should prioritize measures to improve political stability and create a favorable environment for the banking sector. This includes implementing effective governance mechanisms and policies that foster stability and build public trust.

Strengthening Financial Performance: Banks should focus on improving their financial performance metrics, such as ROA and CAR. This can be achieved through effective risk management practices, sound lending policies, and efforts to enhance profitability. By demonstrating strong financial health, banks can attract more deposits and instill depositor confidence.

Customer Education and Outreach: Educating customers about the benefits and advantages of depositing funds in banks can help increase deposit levels. Awareness campaigns and financial literacy programs can inform individuals about the safety, security, and interest-earning potential of bank deposits.

Diversifying Deposit Products: Banks can introduce a variety of deposit products tailored to different customer needs. Offering competitive interest rates, flexible withdrawal options, and value-added services can attract a broader customer base and stimulate deposit growth.

5.4. Future study recommendation

Based on the findings of this study, several avenues for future research can be explored. The following recommendations are suggested for future studies:

Longitudinal Analysis: Conducting a longitudinal study to analyze the trends and dynamics of commercial bank deposits over a more extended period can provide a deeper understanding of the factors influencing deposit behavior and their long-term impacts.

Comparative Analysis: Comparing the determinants of commercial bank deposits across different banks or countries can shed light on the specific contextual factors that influence deposit levels and help identify best practices for deposit mobilization.

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Appendix

	Infl	GDP	PS	capital	Asset	Deposit	NPL	ROA	CAR	TL	LTD
2001	-0.3	7.4	1.32	1289.0	19,828.0	15,715.00	1,438	2.21	34.1 5	10347.0	65.8
2002	10.6	1.6	1.63	1301.0	21,489.0	17,471.00	1,959	0.09	1.47	10658.0	61.0
2003	10.9	-2.1	1.41	829.0	22,146.0	18,530.00	2,394	-2.16	44.2 3	9751.0	52.6
2004	7.3	11.7	1.31	1277.0	24,200.0	19,762.00	2,478	2.35	51.7 6	8553.0	43.3
2005	6.1	12.6	1.69	1496.0	27,975.0	22,531.00	2,029	1.28	24.0 9	8325.0	36.9
2006	10.6	11.5	1.74	1429.0	33,169.0	25,367.00	2,023	1.87	39.1 1	9556.0	37.7
2007	15.8	11.8	1.81	1506.0	35,849.0	28,286.00	1,643	2.32	54.6 5	9296.0	32.9
2008	25.3	11.2	1.73	4220.0	43,456.0	32,873.00	1,389	2.18	30.1 8	9759.0	29.7
2009	36.4	10.0	1.64	4560.4	50,416.1	37,633.28	1,063.1 2	2.90	31.0 0	17338.5	46.1
2010	2.8	10.6	1.64	5040.7	59,411.5	43,489.41	649.36	3.50	40.0 1	20906.1	48.1
2011	18.1	11.4	1.51	5555.0	74,186.9	54,646.21	444.16	2.95	37.1 5	24017.0	43.9
2012	34.1	8.7	1.56	6261.5	114,264.9	84,798.53	881.93	3.04	48.4 6	35981.2	42.4
2013	13.5	9.9	-1.4	7724.4	158,804.4	116,584.4 6	1,374.1 1	3.98	77.7 1	62314.4	53.4
2014	8.1	10.3	1.34	9199.4	195,443.2	154,438.2 8	1,869.8 1	3.31	69.3 2	69726.2	45.1
2015	7.7	10.4	-1.5	11092. 3	244,127.8	194,051.8 5	2,403.3 9	3.13	67.9 1	89277.0	46.0
2016	9.7	8.0	1.62	13321. 0	305,074.8	242,497.0 3	2,943.0 5	3.19	71.8 5	110962. 6	45.8

2017	7.4	10.1	- 1.68	14260.4	383,644.0	289,043.68	5,627.60	2.42	60.40	143046.3	49.5
2018	14.6	7.7	- 1.28	44554.0	490,068.2	365,101.91	6,876.24	2.19	32.56	157126.5	43.0
2019	12.6	9.0	- 1.31	47205.7	573,894.3	451,857.62	6,493.29	1.01	11.70	179488.0	39.7
2020	19.9	6.1	- 1.76	50248.7	712,882.2	540,940.80	9,136.67	1.79	23.57	215079.4	39.8
2021	20.2	6.3	- 2.07	49822.1	819,278.8	593,041.14	13,223.39	1.24	19.05	255215.0	43.0
2022	33.8	6.1	- 2.25	53826.5	991,319	735,295.98	15,026.40	1.47	25.64	302034.9	41.1