ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

GRADUATE PROGRAM

This is to certify that this thesis prepared by Ferehiywot Abera, entitled; "The Effect of Capital Structure on the Financial Performance of Commercial Banks of Ethiopia" and submitted in partial fulfillment of the requirements for the Degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Approved by:

Dean, Graduate studies _____ Signature _____ Date _____

Advisor Felifa Srmolo Signature _____ Date March, 2026

Internal Examiner Dr. Zeleke Duressa Signature _____ Date 10 March 2026

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STATEMENT OF DECLARATION

I, Ferehiywot Abera, hereby declare that this research work entitled; "The Effect of Capital Structure on the Financial Performance of Commercial Banks of Ethiopia" submitted by me for the award of the Degree of Master of Science in Accounting and Finance, is my original work and that all sources of materials used for the study have been duly acknowledged.

March 10, 2026

Signature Date

CamScanner

The Effect of Capital Structure on The Financial Performance of Commercial Banks of Ethiopia

BY: Ferehiywot Abera

Advisor: Kelifa Srmolo Kemal Ph.D

A Thesis Submitted to the Department of Accounting and Finance in Partial Fulfillment of the Requirements for the Degree of Master of Science in Accounting and Finance

Addis Ababa University

Addis Ababa, Ethiopia

March 2026

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_____ _____

Signature Date

ENDORSEMENT

This thesis was submitted to the School of Graduate Studies of Addis Ababa University College of Business and Economics for examination with my approval as a university advisor.

_____ _____

Signature Date

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ACRONYMS AND ABBREVIATION

CLRM- Classical linear regression model

DPA-Deposit to Asset

EBIT-Earnings before Interest and Tax

EPS-Earnings per Share

EU-European Union

FSZ-Firm Size

GPM-Gross Profit Margin

GSE-Ghana Exchange Rate

ICR-Interest Coverage Ratio

KSE-Karachi Stock Exchange

LDPR-Loan to Deposit Ratio

LTDT-Long Term Debt to Total Asset

LIQ-Liquidity

NIM-Net Interest Margin

ROA-Return on Asset

ROE-Return on Equity

STATA- General Purpose Statistical Software Package

STDA-Short Term Debt to Total Asset

TDTA-Total Debt to Total Asset

TDTE-Total Debt to Equity

UK-United Kingdom

ABSTRACT

*This study investigated the effect of capital structure on the financial performance of selected commercial banks in Ethiopia using panel data spanning eleven years (2010 up to 2020). A mixed research approach was employed to explore the relationship between return on asset as dependent variable and short-term debt, long term debt, total debt to asset, and total debt to equity ratios as independent variables, while controlling firm size and liquidity. The study relied on secondary panel data from ten commercial banks selected using purposive sampling techniques, complemented by primary data gathered through in-depth interview with professionals. A random effect regression model was adopted to assess the quantitative data and determine the effect of measures of capital structure. The results indicated short term debt, and total debt to asse*t ratio had *statistically significant negative* effect on ROA, whereas *long-term debt and total debt to equity ratio exhibited a positive effect on performance. Control variables were also found to have positive influence. The interview findings supported the regression results, although they diverged concerning short-term debt. The study underscored the importance of maintaining balanced capital structure to enhance financial performance and recommended banks to closely monitor their financing decisions.*

Keywords: Capital Structure, Financial Performance, Return on asset, Ethiopian Commercial Banks

CHAPTER ONE
INTRODUCTION

1.1. Background of Study

Capital structure has been widely debated in corporate finance literature over the past decades, garnering continued attention from researchers across industries (Niresh, 2012). Understanding capital structure is crucial, as it significantly influences the performance of corporate entities regardless of the sector in which they operate.

As per Goyal (2013), capital structure refers to the mix of debt and equity financing used by firms to maximize shareholder value (Goyal, 2013). Achieving an optimal capital structure minimizes the cost of capital and maximizes firm value. Abor (2005) also emphasized that decisions regarding capital structure are vital due to their potential to enhance returns to various constituencies and improve firm's ability to navigate its competitive environment.

Banking and financial sector have experienced notable growth in the number of institutions, the amount of capital managed, and range of services offered. This makes it important to understand financial performance of banks, as it serves as an indicator of economic condition of a country (Imdadul & Bahadur, 2011).

Several studies have been conducted to assess the effects of capital structure on organizations' performance. Musah (2017) examined short- and long-term and total debt ratios, finding that short- and long-term debt ratios negatively affected the performance of banks, while the total debt had positive impact (Musah, 2017). Similarly, positive, negative, and no effect from short- and long-term and total debt, respectively (Yegon et al., 2014). Abor (2005) observed a positive effect from short term debt and a negative effect from long-term debt except for total debt affecting performance positively. Saeed et al. (2013) reported varied impacts on return on assets (ROA), return on equity (ROE), and earning per share (EPS) from different debt measures.

Zafar et al. (2016) also highlighted inconsistencies, reporting that short- and long-term debts positively influenced return on assets (ROA), but had mixed effects on return on equity (ROE), earnings per share (EPS). Total debt to equity ratio was found to negatively affect profitability.

Most of the existing literature focused on secondary data. Additionally, inconsistencies in findings and limited use of variables weaken the comprehensiveness of these studies. To address these gaps, this study aimed to examine the effects of capital structure on the financial performance of commercial banks operating in Ethiopia, offering both quantitative analysis and qualitative insights to explain the observed relationships.

1.2. Statement of the Problem

Financing decisions are one of the most critical areas for bank managers that have a direct influence on the capital structure and financial performance of the firm. Because the capital structure is related to the financing decision of the organization, it comprises the mix of debt and equity used to finance the firm. Thus, the theories of capital structure are among the most interesting in the field of finance. They give explanations on how much firms should borrow, what is the relationship between capital structure and firm's value, how firms choose their optimal capital structure, and so on (Brealey, Myers & Allen, 2017).

Many kinds of research have been conducted on the effect of capital structure on the financial performance of commercial banks in different countries. However, these studies considered only secondary data. Besides, there are contradictions in their findings. For example, Musah (2017) stated variables that represent capital structure affect the performance of banks negatively, and positively. Yegon et al. (2012) on the contrary stated that capital structure measured in terms of short-and long-term, and total debt respectively has positive, negative, and no effect on banks' performance.

Thus, it is important to address the above-stated gaps because capital structure is crucial for any organization due to the impact such a decision has on a firm's ability to deal with its competitive environment (Abor, 2005). Goyal (2013) also forwarded that it helps to achieve the optimal capital structure goal and in turn would minimize the cost of capital. Moreover, it helps to know why measurements which represent capital structure affect the performance of banks and to take the proper actions by the concerned bodies.

Therefore, this study proposed to examine the effects of capital structure on the financial performance of commercial banks in Ethiopia. It tried to address what effects capital structure has on the financial performance of commercial banks.

1.3. Objectives of the Study

1.3.1. General Objective

The general objective of this study was to examine the effects of capital structure on the financial performance of commercial banks in Ethiopia.

1.3.2. Specific Objectives

- To analyze the effect of short-term debt ratio on the performance of commercial banks.
- To assess the effect of long-term debt ratio on the performance of commercial banks.
- To examine the effect of total debt to asset ratio on the performance of commercial banks.
- To investigate the effect of total debt to equity ratio on the performance of commercial banks.

1.4. Hypothesis of the Study

The hypotheses of this study are grounded in empirical and theoretical evidence from previous research on capital structure and financial performance in banking. Studies have shown that short-term and long-term debt ratios can influence bank profitability through their effects on risk and cost of capital (Booth et al., 2001; Modigliani & Miller, 1963). While higher total debt to asset ratios may increase financial risk and reduce performance (Jensen & Meckling, 1976), a well-managed total debt-to-equity ratio can enhance financial leverage and value creation (Myers, 2001). Additionally, liquidity is widely recognized as a crucial determinant of bank stability and performance (Berger & Bouwman, 2009), and firm size is often associated with economies of scale, market power, and improved profitability (Demsetz & Strahan, 1997). Based on these insights, the study proposed the following hypotheses.

- H1: Short-term debt ratio has a positive and significant effect on bank performance.
- H2: Long-term debt ratio has a positive and significant effect on bank performance.
- H3: There is a negative and significant relationship between total debt to asset ratio and bank performance.
- H4: There is a positive and significant relationship between total debt-to-equity ratio and bank performance.
- H5: Liquidity has a positive and significant effect on bank performance.
- H6: Firm size has a positive and significant effect on bank performance.

1.5. Significance of Study

This study provides valuable insights for financial managers in Ethiopian commercial banks by identifying what effects different components of capital structure have on performance. The findings can help managers determine an optimal capital structure to enhance profitability and shareholder value. regulatory bodies, such as NBE and policymakers, may use the conclusions to refine existing policies and frameworks. Furthermore, the research contributes to the academic literature on capital structure and offers a foundation for future studies incorporating additional variables and wider geographic coverage.

1.6. Scope of the Study

The study focused on examining the effects of capital structure on the financial performance of ten purposively selected commercial banks in Ethiopia that provided audited financial statements. It analyzed data covering eleven years (2010-2020) and used return on asset (ROA) as the performance indicator. The key explanatory variables included short-term debt ratio (STDA), long-term debt ratio (LTDA), total debt to asset ratio (TDTA), and total debt to equity ratio (TDTE). Firm size and liquidity are included as a control variable to enhance the accuracy of the regression results.

1.7. Limitations of the Study

The study encountered some limitations. From the eighteen private commercial banks operating in Ethiopia, only ten were included. Moreover, although several factors may affect banks'

performance, this study focused on only four capital structure variables. The qualitative components were also constrained due to limited respondent availability.

1.8. Organization of the Study

This thesis is organized into five chapters. Chapter One presented the research background, problem statement, objectives, hypotheses, and significance. Chapter two provided a theoretical and empirical review of relevant literature and outlined the research gap and conceptual. Chapter Three presented the methodology, including research design, data sources, and variable definitions. Chapter four incorporated the data analysis and interpretation of the regression results. Chapter Five summarized the key findings and offered conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Theories and empirical studies related to capital structure and financial performance of firms are summarized in this chapter. The theoretical review discussed different relevant theories which are related to capital structure and firms' performance. Different studies conducted on financial performance and capital structure concerning the variables of the study and that support the objectives were presented under the empirical review.

2.2. Conceptual and Theoretical Literature Review

This section provides conceptual and theoretical literatures with prior theories which are related to the concept of relation between capital structure and firm’s performance.

2.2.1 Conceptual Literature Review

2.2.1.1 Capital Structure

The capital structure companies choose to utilize to business activities is defined in various ways. Firms differ in capital structures in their quest to maximize the overall value. As a result, various capital structure theories have emerged to describe how organizations' capital structures change over time or across countries (Shah & Hijazi, 2004).

As per Pandey (2005) capital structure is related to choose of firm internal and external financial instruments. A company's capital structure is made up of three main capital components or sources of finance, which are presented in the financial statement specifically on the balance sheet's equity and liability sides that are available to support new investment opportunities. These are internal finance or the utilization of retained earnings, external finance or the issuance of new shares, and debt finance or the use of debt instruments to borrow money (Huang and Vu Thi, 2003). Abor (2005) said a company's capital structure is made up of a variety of different securities. The proportional quantities of debt, equity, and other instruments that a company applies to create its capital structure according to (Berk and DeMarzo, 2007, p. 428).

As stated by Brigham and Daves (2004), raising capital is mandatory for companies to manage business activities. However, how funds are raised can have a significant impact on a company's performance. This concept is relevant to not only new businesses but also existing firms. The management's beliefs and objectives, firms' features, economy, and other factors are the reason for the different proportions of debt and capital companies use in their capital structure. Management's first objective, according to Karadeniz et al. (2009), is to examine the various advantages and costs connected with the usage of both debt and equity.

2.2.1.2. Concept of Debt Financing

Debt is a major thing for a company's capital structure, according to Zietlow, Hankin, and Seidner (2007), and it serves as a tool for corporate financing as organizations borrow money to fund capital expenditures. It represents an agreement between lender and borrower.

Shah & Hijazi (2004) studied key features of debt financing is the original borrowed money and interest to be repaid within a certain period. Thus, the interest rate and the maturity period are determined by lender and borrower arrangement. If the borrower fails to meet contractual obligations, their credit rating will decline, which leads to financial distress resulting from difficulty of obtaining required funds for the intended purpose in the future. Even if a company is having financial problems and is unable to make scheduled payments, it still owes money to debtors.

According to Zietlow, Hankin, and Seidner (2007), debt is classified into two categories. These are short-term debts that are used to operate daily operations. The maturity period for this kind of debt is at least a year. The other one is long-term debt. As can be understood from its name the payback period is more than one year and is used to finance activities like the purchase of buildings, equipment, and others.

2.2.1.3. Financial Performance

The financial performance of a company is a quantitative indicator of how successfully resources are utilized in generating income. Market, accounting, and surveys have typically been used to assess a company's financial success (Masadeh et al., 2015). From these methods, stockholders prefer to use market-based performance since it shows an increase in the wealth of the equity

holders acquired due to investment return (Masadeh et al., 2015). The most widely used metrics to measure equity holders' financial well-being are returns on assets (ROA) and returns on equity (ROE) ratios stated in financial statements (Mahoney et al., 2008; Fauzi & Idris, 2009). The major goal of any firm is to acquire profit to survive and grow over a long period. Firms will not exist in the long run if they are not profitable. As a result, evaluating current and historical profitability is necessary. Income and expenses are used to measure profitability. Brealey and Myers (2003) stated that a highly productive firm can provide a big return on investment to its owners.

Murthy & Sree (2003) and Alexandru et al. (2008), applied various ratios as net interest margin (NIM), return on equity (ROE), and return on asset (ROA), are used to quantify the profitability of commercial banks. Among these indicators, return on asset was adopted as a measure of financial performance for this study. Particularly so, the study sought to analyze the relationship between financial performance and capital structure.

Return on assets is one of the most important measures for determining a bank's profitability. According to Khrawish (2011), return on assets (ROA) is measured as a ratio of earnings, before interest and tax (EBIT) to total assets. It is one of the most important metrics for determining how effective bank management is at making an income by utilizing the company's assets and maximizing the maximum profit available to them. Return on asset in other words also demonstrates that management effectively utilizes the company's resources to generate revenue. The major theories which show effect of debt financing on the performance of commercial banks are:

2.2.2. Theoretical Literature Review

2.2.2.1. Trade-off Theory

The trade-off theory’s particular idea was to emphasize that in the real world of business, companies are generally financed by some percentage of debt and equity in their capital structure. It suggested that the use of debt has an advantage of tax shield if the firm is levered and the benefit arises from interest payments on debt are being free from tax minimizes the financial obligation (Myres, 2001) whereas, interest payments on equity are deducted directly from profit. This inspires owners of firms to prefer the usage of more debt. The disadvantage of debt is the cost of financial

distress which includes bankruptcy costs meaning the act of possession of a firm's assets by the shareholders is passed and non-bankruptcy costs. This can involve demanding inconvenient payment methods, conflicts between shareholders, and other costs (Myres, 1984).

Thus, in relation to the above points, this theory presented a company's optimal capital structure can be determined by matching advantage of debt in terms of tax with cost of financial stress , holding assets and investment plans constant to finance activities (Modigliani & Miller, 1963). As stated by Heshemi (2013) this theory equates the returns and the cost of debt, whereby the equilibrium point is referred to as the optimal capital structure. Accordingly, optimum debt reduces the cost of capital while increasing the value of firms that shows strong firms prefer to use more debt as a financing tool due to its tax shield benefit (Myres, 2001).

Trade-off theory also indicates that large companies have control of the market without incurring more debt costs since they are diversified, have a better reputation, and lower the risk of inconvenient conditions. Therefore, big companies can overcome a situation financial difficulties and bankruptcy (Mohammed, 2014).

2.2.2.2. Pecking order Theory

The pecking order theory or pecking order model popularized by Myers and Majluf (1984), postulates that cost of funding increases alongside asymmetric information. Asymmetric information indicates that managers know about their firm values and risks better than outsiders and investors do.

According to pecking order theory, there is no clear-cut point for optimal capital structure to exist. However, pecking order model explains that firms should follow a hierarchy of order to finance their operation. Because there are two equity types namely, internal and external, one at the top of the pecking orders hierarchy and the other at the bottom. In another word, this theory suggests that firms should prioritize sources of finance by first preferring internal equity or retained cash flow, then debt and thereafter external equity of share issuance as a last resort. Myers and Majluf (1984) argue that the higher profitable a firm is the lesser a probability of using more debt due to the availability of internal retained earnings to finance its operations. In contrast with tradeoff and agency cost theories, this theory predicts that less profitable firms will use more debt finance

because they do not have internal funds sufficient for their investment programs and due to that debt financing is first on the pecking order of external financing before equity. Highly profitable firms with limited investment opportunities work down to low debt ratios. Firms whose investment opportunities exceed internally generated funds are forced to borrow more (Brealey and Myers, 2003). This indicates that unlike trade off and agency cost theories of capital structure, pecking order model predicts the existence of negative relationship between firm's profitability and its leverage implying that more profitable firms will become less levered over time due to utilization of their internally generated cash flows to finance operations. The negative prediction of pecking order theory for the relation of profitability and leverage seems reliable and supported by plenty of empirical studies. Besides, it predicts that tangibility of assets appears to have negative impact on leverage (Frank and Goyal, 2005). On the other hand, pecking order theory predicts a positive impact of growth opportunities and dividend payout factors on leverage.

2.2.2.3. Market Timing Theory

The theory perceives that managers issue securities depending on the time varying costs of relative equity and debt and thus issuance decisions have a long term effect on capital structure because the observed capital structure at any particular date is the outcome of prior issuance decision thus firms prefer to issue equity when the relative cost is low and prefer to issue debt when equity cost is high (Linus M. 2013).

Since the promised payments to bondholders are fixed, stockholders are entitled to what is left over after the fixed payments; stock prices are more sensitive than bond prices to any proprietary information about the firm's future performance. If management has favorable information that is not yet reflected in market prices, the release of such information will cause a larger increase in stock than in bond prices, and so the current stock price will appear more undervalued to managers than current bond prices (Molyneux and Thornton 1992). Implication of this theory is that for a firm to avoid diluting the value of existing stockholders' claims, the companies that are profitable uses for more capital but believe their shares not to be undervalued will generally choose to issue debt rather than equity. Conversely, managers who think their companies are overvalued are more likely to issue equity and, what amounts to the same thing, to make stock-for-stock acquisitions. The importance for management to recognize here is that most companies are issuing new equity,

those that are undervalued as well as those that are overvalued should expect a drop in their stock prices when they announce the offering

2.3. Empirical Literature Review

2.3.1 International Empirical Studies

Banking companies in Bangladesh were also included in the study conducted by Abu, N. and Sumon, H. (2019). They also focused on the impact of firm size on the financial performance of banks based on five years of data. The results of empirical analyses show that firm size (total assets, number of employees, and number of branches) positively affects firms' profitability indicators return on assets and return on equity.

Banks' profitability was measured by the dependent variables return on asset, return on equity, and net interest margin in the study conducted by (Pradhan & Khadka, 2017). The explanatory variables were short-term debt to total assets, long-term debt to total asset, and total debt to total assets, debt to equity ratio, interest coverage ratio, and size. The secondary data was gathered for 22 selected commercial banks from banking and financial statistics and bank supervision report published by Nepal Rastra Bank. The results showed a positive relationship of banks' profitability with short-term debt to total assets, interest coverage ratio, and size of the banks. Although, profitability decreased with the increase in long-term debt to total assets, total debt to total assets, and debt to equity ratio.

The main objective of the study made by Musah (2017) was to investigate the effects of the short-term debt ratio, long-term debt ratio, and total debt ratio on return on assets. The study sampled twenty-three banks over six years. The researcher applied descriptive statics, correlation evaluation, and panel regression. The regression evaluation provided that short-term debt and long-term debt were poorly related to the profitability of the banks found in Ghana. Contrarily, profitability and the total debt ratio were associated positively.

Nikoo (2015) in his study found out the impact of capital structure on the performance of Iranian banks in the period 2009-2014 on Tehran Stock Exchange also found a positive relationship between capital structure and financial performance of banks. That is between return on equity, return on asset, earning per share, and debt to equity.

Yegon et al. (2014) investigated the relationship between capital structure and firm profitability in Kenyan banking sector using panel data covering a nine-year period from 2004 onwards. The results showed that short-term debt had a significant positive relationship with profitability but a negative relationship between long-term debt and profitability. It concluded with no relationship between total debt and profitability.

Hadlock & James (2002) also stated that companies prefer debt financing because they anticipate higher returns. Similarly, Saeed et al. (2013) assessed the impact of capital structure on the performance of banks in Pakistan listed at Karachi stock exchange for 5 years from 2007 up to 2011 and reported a positive relationship between measurements of capital structure and performance of the banking industry measured by return on asset and return on equity.

Contrary to the above studies Siddik et al. (2017) examined the impact of capital structure on the performance of banks in Bangladesh using the panel data of 22 banks from 2005 to 2014. Return on assets, return on equity, and earning per share were considered as performance measures. Results of their study illustrated that capital structure inversely affects commercial banks' performance. Prahalathan & Ranjani (2011) also noted that neither short-term debt to total asset ratio, long-term debt to total debt ratio nor total debt to total asset ratio had a significant impact on firm’s performance measured by return on equity and return on asset respectively.

The ratio of short-term debt to total assets and long-term debt to total assets of mining industries found in Indonesia stock exchange have an effect on their profitability measured by return on equity (ROE) from 2003 up to 2007 (Dwilaksono, 2016). The study used both qualitative and quantitative methods, along with multiple regression analysis. The results indicated that the short-term debt ratio has a positive and significant impact on return on equity. But the long-term debt ratio variable had a poor impact on return on equity.

The effect of debt policy on firms' performance in Ghana reported a negative effect of short-term, long-term debt, and total debt on performance. Panel data of eleven years was collected from five companies listed on the Ghana stock exchange. The result revealed that firms in Ghana used 86% debt capital to finance their operations, which shows that they are highly levered. It is

recommended that firms should increase the level of equity finance and exploit the advantages of leverage (Prempeh et al., 2016).

Nicolae et al. (2015) assessed EU banking system banks' profitability determinants over the period 2004-2011. They classified the factors into two groups. Bank size, credit risk, liquidity risk, business mix, and capital adequacy were classified as internal factors. While banking system concentration, financial growth, and inflation are external factors. The empirical findings were regular with the predicted results. Credit and liquidity risk, management performance, diversification of enterprises, market competition, and financial boom have a direct impact on banks profitability on both return on asset and return on equity.

The relationship between liquidity and profitability of fifteen (15) banks found in Jordan listed at Amman stock exchange was presented in the study made by (Nimer et al., 2013). A profitable bank can resist a bad impact and proportion in a stable financial system. The results of the regression analysis notified the significant effect of liquidity measured through quick ratio on the dependent variable return on asset.

In Jordan, multiple regression analysis was applied on the measure of performance return on asset and profit margins (PM) along with short term debt to total asset ratio, long term debt to total asset ratio, and total debt to equity ratio (Taani, 2013). The results indicated that there is an inverse relationship between long-term and short-term debt ratio to profit margin and return on assets. Although, total debt to equity is positively associated with return on assets (ROA) and inversely associated with profit margins. Debt with a short maturity period had vital relation with return on assets and debts with a maturity of greater than one year had essential relation with a profit margin (PM). Generally, the study concluded that capital structure is not an essential determinant of firm performance.

Different studies have also focused on the relationship between firm size and the performance of banks. Nziok (2013) argued that firm size measured in terms of net assets, total loans, and total deposit had a statistically significant relationship with the performance of commercial banks found in Kenya. Correlation and regression statistics were used to analyze secondary data collected from the central bank of Kenya. Alex & Ngaba (2018) also advocated a positive relationship between

firm size and the financial performance of commercial banks in Kenya. The number of branches, loans and advances, and customer deposits represented firm size. Return on assets was used as a measure of financial performance. Secondary panel data from the year 2012 to 2016 were used to identify the relationship between firm size and the financial performance of commercial banks in Kenya.

Adebayo et al. (2011) studied the degree to which effective liquidity management affects the profitability of commercial banks in Kenya. The results showed significant relationship between liquidity and profitability, meaning that liquidity considerably affected profitability of commercial banks and vice versa. Negasa (2016) took liquidity as a control variable in the study of the effect of capital structure on firms' profitability and stated it has a significant negative relationship with the profitability measure of return on asset.

Nimalathasan & Brabete (2010) pointed out the capital structure and its impact on profitability: a study of listed manufacturing companies in Sri Lanka. The analysis of listed manufacturing companies shows that the debt-equity ratio is positively and strongly associated with all profitability ratios (gross profit, operating profit & net profit ratios).

Ebaid (2009) aimed to investigate the impact of capital structure on the performance of companies listed on the Egyptian stock exchange. To meet its objectives, the researcher considered short-term debt (STD), long-term debt (LTD), and total debt (TD) as independent variables and panel data throughout the year 1999 up to 2005 and analyzed them by using the least square regression model. The dependent variables were return on asset (ROA), return on equity (ROE), and gross profit margin (GPM). The study revealed that short-term debt and total debt have a significant negative influence or impact on the financial performance measured by return on assets, but no significant relationship was found between long-term debt and return on assets. He proposed that there is no significant impact of the debt (STD and LTD) on financial performance measured by both gross profit margin (GPM) and return on equity (ROE). He also indicated that the firm size has no significant effect on financial performance.

Short-term debt was found to be less costly, and therefore, an increase in short-term debt in capital proportion will lead to growth in profit level (Amjed, 2007). This result showed that short-term

debt is the optimal source of financing for profitable companies. But long-term debt is more costly because of certain direct and indirect costs. Consequently, it resulted in low profitability. The statistics were collected from firms listed on Karachi Stock Exchange (KSE). The Variables used within the analysis consist of profitability and leverage ratios.

Study conducted by Abor, (2005) assessed the relationship between capital structure and profitability of firms listed on the Ghana stock exchange (GSE) over five-year period. The researcher used the ratio of earnings before interest and taxes (EBIT) to equity (ROE) as dependent variables whereas short-term debt to the total capital ratio (SDA), long-term debt to total capital ratio (LDA), and total debt to total capital ratio (DA) as independent variables.

The conclusion of the study showed a significant positive relation between short-term debt to the total capital ratio and return on equity, suggesting that profitable firms use more short-term debt to finance their operations which account for 85 percent of the total debt. However, the results showed a negative relationship between long-term debt and return on equity. This means that an increase in long-term debt is accompanied by a decrease in profitability. Concerning the relationship between total debt and profitability, the results showed a significant positive association.

2.4. Empirical Studies in Ethiopia

Menelaos (2025) analyze the effect of capital structure on the financial performance of commercial banks in Ethiopia, using key profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). The study evaluates how components of capital structure, including the debt-to-equity ratio, leverage, and capital adequacy shape bank performance.

The research highlights structural challenges faced by Ethiopian banks in managing capital composition. Limited access to international capital markets, largely due to regulatory restrictions on foreign ownership and investment, constrains external financing opportunities. Consequently, banks rely heavily on domestic funding sources such as customer deposits, retained earnings, and local borrowing. The findings indicate that capital structure significantly affects the performance of Ethiopian commercial banks. While leverage may improve returns, excessive reliance on debt

raises financial risk and interest burdens, potentially undermining profitability. Regulatory requirements particularly minimum capital adequacy standards imposed by the National Bank of Ethiopia further shape financing choices. The authors conclude that prudent capital management is essential for sustaining profitability and financial stability. They recommend that banks adopt a balanced capital mix, improve operational efficiency, and adjust strategies in response to economic developments.

Muhammed et al. (2024) investigated the influence of capital structure on the financial performance of Ethiopian commercial banks, using Return on Assets (ROA) as an indicator of profitability. The study employed quantitative explanatory design and analyzed six years of audited financial statements from 14 commercial banks through a random effects regression model. Capital structure was represented by the loan-to-deposit ratio, asset-to-total equity ratio, total deposit-to-total asset ratio, capital adequacy ratio, and asset growth ratio.

The results showed that the loan-to-deposit ratio and total deposit-to-total asset ratio were positively and significantly associated with financial performance, whereas asset growth exhibited a negative effect. Based on these findings, the authors recommend that banks strengthen deposit mobilization, manage asset expansion efficiently, maintain adequate capital buffers, and optimize leverage levels to enhance profitability and long-term sustainability.

The study conducted by Ayalew (2021) aimed to study the empirical relationship between capital structure as measured by total and short-term debt ratios, and the profitability of private commercial banks in Ethiopia. Sixteen commercial banks were included, and a panel data of six years (2013/14 to 2018/19) was collected from audited financial statements published in the annual reports of respective private commercial banks and NBE to analyze the relationship between capital structure and profitability. A significantly positive association between short-term debt and profitability as measured by ROA and net interest margin was found. The results also disclosed a significantly positive relationship between total debt ratio (TDR) and bank profitability at a 1% level of significance. The effect of size was found negative on performance implying that Ethiopian private banks were operating below their optimal capacity during the study period.

Tilaye (2021) performed research to analyze the effects of capital structure on the performance of Ethiopian commercial banks. He used a quantitative research approach and only secondary data was collected from annual reports of five banks over the past ten years. The study used return on assets (ROA) measure of financial performance as a dependent variable, and capital structure measures total debt ratio (TDR), loan to deposit ratio (LDPR), and deposit to asset ratio (DPA) were as independent variables, and bank's size and growth were control variables. A random effect estimation model was applied for the panel data analysis through EViews 10. The results indicated total debt to total asset and loan to deposit ratio had a positive relationship with profitability and deposit to asset had a negative relationship. On the control variables, growth and asset size had a statistically significant negative relationship with profitability.

The objective of Negasa (2016) examined the effect of capital structure on firms' profitability with special emphasis on Ethiopian private manufacturing firms using panel data of five consecutive years. The study randomly selected thirty-three firms and collected secondary data audited financial statements. The random effect panel data regression model has been selected to empirically test the hypotheses. The findings revealed that there is a significant positive relationship between firms' profitability measured by return on assets and total debt ratio which indicates the firm's capital structure.

Lambebo (2015) conducted a study on the effects of debt financing on the profitability of Commercial Banks in Ethiopia. Return on assets (ROA) was the dependent variable used to measure the profitability of banks. Three independent variables were used. These were debt to asset ratio (TDA), debt to equity ratio (TDE), and interest coverage ratio (ICR) to measure the level of debt. A sample of eight commercial banks was selected using the purposive sampling technique and covered twelve years of data from the years 2002-2013. The study used both quantitative and qualitative research methods to achieve the objectives. Secondary data was mainly used and gathered from NBE. Primary data was collected using an in-depth interview with finance managers to support the quantitative data analysis results. The fixed-effect regression model was used to analyze the effect of debt finance using EViews' Software version 7. The findings of the study conclude that all the independent variables have a statically positive effect on the financial performance of commercial banks during the study period.

According to Hailu (2015), capital structure as measured by total debt to asset ratio had a statistically significant negative impact, whereas deposit to asset ratio (DPA) had a statistically significant positive impact on the profitability of core business operations of commercial banks. Moreover, loan to deposit ratio (LD), spread, and asset size also had a statistically significant and positive relationship with profitability. The quantitative research approach was employed to address the objectives. It used panel data obtained from the audited financial statements of eight commercial banks and the National Bank of Ethiopia for the period of twelve years (2001/02 – 2012/13). The data was analyzed using a fixed-effect regression model using statistical package EViews software. Furthermore, the effect of control variables on the profitability of banks in the study showed that there was a positive and statistically significant relationship between spread and profitability.

Shiferaw (2013) studied the relationship between capital structure and performance of commercial banks in Ethiopia. This study established a model to measure the association between capital structure which was measured by total debt to total asset (TDTA) and total debt to total capital (TDTC) and performance which is measured by return on asset (ROA), return on equity (ROE) and net profit margin (NPM). The thirteen years data was collected from eight commercial banks selected based on purposive sampling technique and NBE. The findings of the regression analysis indicated that leverage had a positive effect on the financial performance measured by return on equity. In contrast, it had a significant negative effect on the performance of commercial banks when performance is measured by return on asset and net profit margin. The control variable size of the bank has a significant positive association with all performance measurement variables. That is as size increases the financial performance of banks also improves.

2.5. Conclusion and Research Gap

The study was conducted to explore the effect of capital structure on the financial performance of selected commercial banks in Ethiopia. A variety of theories and empirical studies which are associated with this study were discussed in this chapter. Trade-off theory, pecking order theory, and market timing theory are the major theories discussed in this section that explain the relationship between components and optimal level of capital structure and performance of firms. Various empirical studies have been conducted in capital structure and performance of different

kinds of firms. However, the results reported by these studies were contradictory to each other, which showed the existence of a research gap and the need to conduct further research on the area.

For example, the studies conducted by Lambebo (2015), and Shiferaw (2013) used total debt to asset ratio and total debt to equity ratio as a proxy of capital structure. But Lambebo (2015) concluded total debt to asset ratio and total debt to equity had a positive effect on performance. On the contrary, Shiferaw (2013) found a negative relationship between these variables and the performance of banks. In addition, the study conducted by Ayalew (2021) and Musah (2017) reported opposite findings of the effect of short-term debt to asset ratio on the profitability of commercial banks.

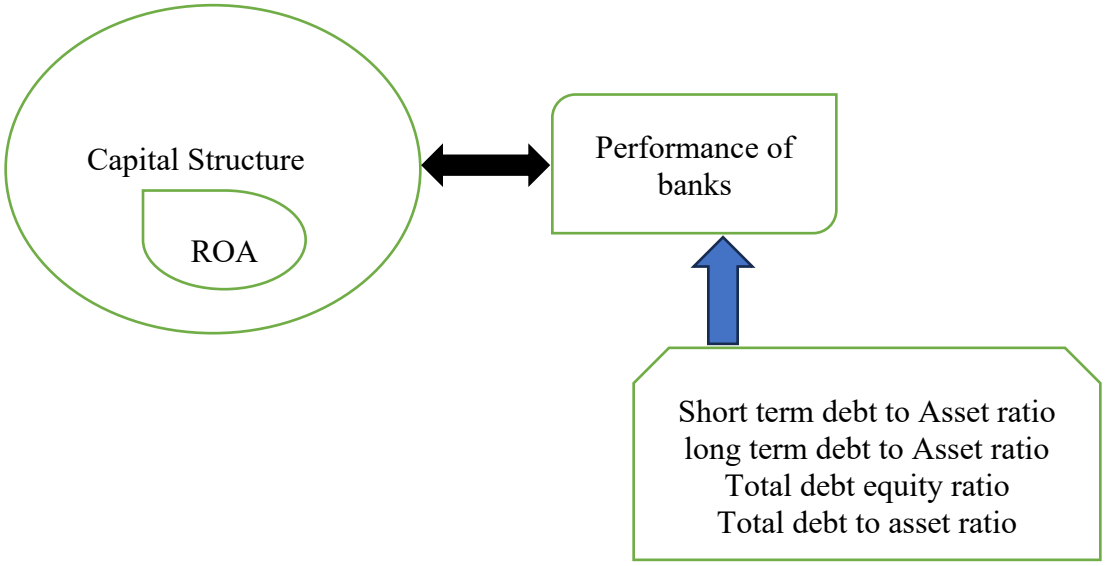
Besides, to the extent of knowledge of the researcher and review of previous empirical studies, most of them used secondary data excluding primary data in other words the qualitative approach in determining the relationship between capital structure and performance of banks except the study conducted by Lambebo (2015). Consequently, the quantitative research approach was the only method applied to address this objective. In addition, short-term debt and the long-term debt ratio were used by a few studies to measure the capital structure of banks. Therefore, the study tried to address these potential gaps by including the above variables and investigating the effect of capital structure on the financial performance of banks.

2.6. Conceptual Framework

In identifying the effect of capital structure on the overall performance of banks as discussed above within the empirical review, several variables had been used by different authors. Figure 2.1 below demonstrates the relationship between the explanatory variables specifically long-term debt, short-term debt, total debt to asset ratio, and overall debt to equity ratio, and control variables liquidity and firm size with the dependent variable return on asset (ROA) selected from different previous literature works.

Source: Researcher design based on literatures

Figure 2. 1 Conceptual Framework of the Study



CHAPTER THREE
RESEARCH METHODOLOGY

3.1. Introduction

This section outlined the methodology employed to accomplish the study's objectives. It consists of details of the research design, approach, definitions and measurements of variables, data types and sources, sampling technique, data collection method, analysis procedures.

3.2. Research Design

Research design serves as a framework for achieving research objectives and addressing research questions. It provides a systematic plan that outlines the methods and procedures for data collection and analysis, ensuring that the study remains aligned with the research problem and employs efficient and appropriate techniques. Kothari (2004) identifies three main types of research design, among which hypothesis-testing designs, also referred to as explanatory or experimental studies, focus on examining causal relationships among variables. Accordingly, an explanatory research design was adopted in this study to analyze quantitative findings, supported by qualitative evidence to enhance interpretation (Creswell, 2009).

3.3. Research Approach

Creswell (2003) identified three principal types of research techniques: quantitative, qualitative, and mixed techniques. Each design has distinct advantages and limitations, and the selection should depend on the research problem, researcher experience, and the intended audience.

The quantitative research approach is grounded in post-positivist assumptions aimed at generating knowledge through empirical investigation (Creswell, 2009). Post-positivism adopts a deterministic perspective, whereby outcomes are viewed as being influenced by identifiable causes. Consequently, studies guided by this philosophy focus on examining and evaluating the factors that shape observed results. Quantitative research therefore facilitates the testing of objective theories by analyzing associations among measurable variables. These variables are typically quantified using research instruments, allowing numerical data to be analyzed through

statistical techniques (Creswell, 2009). The primary objective is to measure and explain variables relationships within a value-neutral framework.

Qualitative research approach is one in which the investigator often makes knowledge claims based primarily on the multiple meanings of individual experiences, socially and historically constructed meanings, participation in issues, collaboration or change oriented with an intent of developing a theory or pattern (Creswell 2003, p. 18). It aimed to understand individual and organizational perceptions concerning the research problem (Creswell, 2009). Interview with bank managers offered insights, as discussed in the data collection section.

Mixed methods research integrates both qualitative and quantitative approaches within a single study (Creswell, 2009). A key advantage is that it provides a more comprehensive understanding of the research problem by drawing on the strengths of both methodologies (Leedy & Ormrod, 2005, as cited in Semu, 2010). Furthermore, Greene et al. (1989, as cited in Yesegat, 2009) argue that since every research method has inherent limitations and potential biases, relying on a single approach may produce incomplete or constrained findings. Therefore, for this research mixed methods were adopted based on past studies.

3.4. Type and source of data

The study utilized panel data which integrates cross-sectional and time series data covering ten commercial banks over the period from 2010 to 2020. Panel data helps to control unobserved heterogeneity, reduce estimation biases that may result from aggregating group data into a single time series, and less-collinearity among the variables (Baltagi, 2005).

To address the research objectives, both primary and secondary types of data were employed. Primary data, which is qualitative in nature, was collected through unstructured, in-depth interviews. These interviews were conducted face-to-face with bank professionals, as they are considered the most informed parties regarding relationship between capital structure and bank performance. The researcher manually recorded their insights.

The secondary data which had quantitative nature, was obtained from National Bank of Ethiopia (NBE). It consisted of audited annual financial statements of the selected banks, including balance sheets, income statements, and financial ratios, spanning eleven consecutive years.

3.5. Sample, Sampling Technique & Sample size

According to the National Bank of Ethiopia, there are currently thirty two commercial banks operating within the country. For this study, all commercial banks in Ethiopia were considered the target population.

To ensure data availability, banks with complete financial data covering the eleven-year period were included in the sample. Using purposive or judgmental sampling technique ten (10) commercial banks where the audited financial statements required for eleven years were found legible and selected as a sample for the quantitative study.

Maxwell (1996) described judgmental sampling as a technique where specific individuals, institutions, or situations are intentionally chosen to gather insights not readily available from other sources. In this context, purposive sampling was also applied to identify participants for the qualitative component of the study. Bank managers were chosen to participate in unstructured interviews, as they were deemed to possess relevant knowledge regarding their bank's capital structure decisions. The following table presented the list of sample commercial banks along with their respective years of establishment.

Table 3.1. List of Sample Commercial Banks

S/N	Name	Year of Establishment
1	Awash International Bank	1994
2	Berhan International Bank	2010
3	Bunna International Bank	2009
4	Cooperative Bank of Ethiopia	2005
5	Dashen Bank	1995
6	Nib International Bank	1999
7	Oromia International Bank	2008
8	United Bank	1998

9	Wegagen Bank	1997
10	Zemen Bank	2009

Source: National Bank of Ethiopia Website (http://www.nbe.gov.et)

3.6. Data Collection Method

Document Review

According to Creswell (2009), survey-based studies aim to generalize findings from a sample to the broader population, thereby enabling researchers to infer characteristics, or attributes of that population. In this study, document review was selected as a cost-effective and efficient method to access a substantial volume of recorded financial data that may not be readily available through other means. The secondary data consisted of audited annual financial statements of the selected commercial banks. These documents included key financial records such as balance sheets, income statements, and financial ratios, which provided the foundation for the quantitative analysis.

Interview

According to Saunders et al. (2003), an interview is a structured conversation or purposeful dialogue between two or more individuals, designed to gather reliable and relevant information that aligns with the research objectives. In line with this understanding, the present study employed unstructured interview questions to collect qualitative data. These interviews were conducted with bank managers of commercial banks. The qualitative insights obtained were intended to supplement the quantitative findings.

3.7. Data Analysis Method

This study employed both quantitative and qualitative data analysis methods. Panel data from banks was processed using Excel subsequently analyzed using STATA version 13.

Descriptive statistics including mean, standard deviation values were used to summarize the variables. A correlation matrix explored the linear association and strength among dependent and independent variables. Various diagnostic tests were also conducted to ensure the validity and

reliability of the model in line with Classical Linear Regression Model (CLRM) assumptions, followed by multiple linear regression analysis to assess the impact of capital structure on performance.

Meanwhile, the qualitative data obtained through interviews with managers was analyzed thematically to capture participants' views and experiences, offering contextual support to the quantitative findings.

3.8. Model Specification

Impact of capital structure on the financial performance of commercial banks in Ethiopia is analyzed using regression techniques. The dependent variable, bank performance, was measured by Return on Assets (ROA), while capital structure served as the main explanatory factor. A panel data regression model was applied and formulated as follows:

$$ROA_{it} = \beta_o + \beta_1 STDA_{it} + \beta_2 LTDA_{it} + \beta_3 TDTA_{it} + \beta_4 TDTE_{it} + \beta_5 LIQ_{it} + \beta_6 FSZ_{it} + \varepsilon$$

Where:

ROA	Return on Asset
β_0	Constant term
STDA	Short-Term Debt to Asset Ratio
LTDA	Long-Term Debt to Total Asset Ratio
TDTA	Total Debt to Total Asset Ratio
TDTE	Total Debt to Total Equity Ratio
LIQ	Liquidity
FSZ	Firm Size
i	Commercial Banks - cross-sectional data; *i= 1,2, 3, …, 10*
t	Time period- time serious data; *t= 1, 2, 3…11*
β1, β2….β6	Coefficients of explanatory and control variables

ε Error term

3.9. Operational Definitions and Measurements of Variable

The study considered four independent variables Long-term Debt, Short-term Debt, Total debt to Asset, and Total Debt to Equity, one dependent variable Return on Asset, and two control variables (liquidity and company size) described as follows:

3.9.1. Dependent Variable

Return on assets (ROA)

It measures performance of banks and indicates profitability relative to total assets and reflects how efficiently a bank utilizes its resources to generate profit (Ghosh, 2007). ROA for banks can be computed by the ratio of annual earnings after tax and total assets (Khrawish, 2011).

3.9.2. Independent Variables

Short Term Debt Ratio

Short-term debt comprises all obligations that are due within a period of less than one year (Shah & Hijazi, 2004; Zietlow et al., 2007).

Short term debt to asset (STDTA) = Short term debt/Total Asset

Long Term Debt Ratio

Long-term debt refers to obligations that are due for beyond one year (Shah & Hijazi, 2004; Zietlow et al., 2007).

Long term debt to asset (LTDA) = Long term debt/ Total Asset

Total Debt Ratio

The debt to asset ratio is proportion of total liabilities relative to total assets. It reflects the extent to which a company's assets are financed through debt (Brigham & Ehrhardt, 2013).

Total debt to asset (TDTA) = Total debt/ Total Asset

Total Debt to Equity Ratio

The total debt to equity ratio represents the proportion of a company's financing sourced from debt relative to shareholders funds (Brigham & Ehrhardt, 2013).

Total Debt to Equity (TDTE) = Total debt/ Equity

3.9.3. Control Variables

Firm Size

Measured by the natural logarithm of total assets, which is a common proxy in previous studies (Onaolapo and Kajol, 2010).

Liquidity

Liquidity represents capacity to meet current obligations using current assets, measured by the proportion of current asset-to-current-liability (Bodie et al., 2014).

Table 3.2. Summary of variables in the study, abbreviations, and their computation

Dependent Variable	Acronym	Computation
Return On Asset	ROA	ROA= Net profit after tax/Total Assets
Independent Variables		
Short Term Debt	STDA	STDA= Short term debt/ Total Asset
Long Term Debt	LTDA	LTDA= Long term debt/ Total Asset
Total Debt Ratio	TDTA	TDTA= Total liabilities/ Total Asset
Total Debt to Equity Ratio	TDTE	TDTE= Total Debt/ Total Equity
Control Variables		
Liquidity	LIQ	LIQ= Liquid deposit/ Liquid asset
Firm Size	FSZ	FSZ = Ln (Total Asset)

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1. Introduction

This chapter provided a comprehensive analysis and interpretation of results derived from the empirical investigation using STATA version 13. The descriptive statistics and correlation analysis, test of classical linear regression model assumptions, and regression outputs, along with a discussion of the findings.

4.2. Descriptive Statistics

This section outlined the descriptive statistics for the dependent variable (ROA) and independent variables (STDA, LTDA, TDTA, TDTE), as well as the control variables (firm size and liquidity). The statistics included mean, median, maximum, minimum, and standard deviation values for 110 observations drawn from ten commercial banks over 11 years for each variable.

Table 4. 1. Descriptive Statistics of Dependent and Independent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
roa	110	.032397	.0168972	-.022148	.105009
stda	110	.7631859	.0550833	.500425	.867064
ltda	110	.0995654	.0436037	.035564	.246413
tdta	110	.8628592	.0487012	.651953	1.01496
tdte	110	6.521577	1.832619	1.851025	11.70406
liq	110	.3692339	.1952577	.131697	1.042766
fsz	110	4.016878	.4915735	2.579235	4.950793

Source - STATA 13

As shown in table 4.1, the mean for ROA of the sampled commercial banks was 3.24%. This indicated that, on average, banks earned 3.24% in return on the total resources invested, or a post-tax profit of 0.0324 return for each birr invested in total assets during the study period. The highest recorded ROA was 10.5%, while the lowest was -2.2%, meaning that profits per birr of asset

ranged between 0.105 and 0.022. Additionally, the standard deviation from the mean on each side was 0.016.

As presented in table 4.1 above, the mean value of the first independent variable, short-term debt to total asset ratio was 76.31% which indicated that on average, 76% of banks' total assets were financed through short-term debt, implying that banks primarily rely on short-term debt due to its ease of accessibility. The maximum and minimum values were 0.867 and 0.5, respectively, with a standard deviation of 5% from the mean. For the second variable, long-term debt to total asset ratio, mean value was 9.96 %, indicating that around 10% of the total assets financed using long-term debt. The maximum and minimum values recorded were 24.6% and 3.6%, respectively.

The third variable- total debt to asset ratio had a mean value of 0.863. This value indicated that the sampled commercial banks financed their assets using 86.3 percent of debt. This suggested that debt financing, primarily from customer deposits, dominated the capital structure of commercial banks. The highest and lowest values recorded for TDTA were 1.01 and 0.65, respectively, with a standard deviation of 4%. The final explanatory variable, total debt to equity ratio, had a mean of 6.52 indicated that commercial banks relied more on debt than equity for financing their operations.11.70 and 1.85 were the maximum and minimum recorded value.

Regarding the control variables, firm size had a mean value of 4.017. This implied that the size of banks varied, with a maximum value 4.95 and a minimum 2.58, and a standard deviation of 0.4 indicating variations in total assets among the sample banks. Liquidity on the other hand had a minimum of 0.13 and a maximum 0.369, showing variation in the liquidity positions of the banks during the study period.

4.3. Correlation Test

Correlation coefficient is a statistical indicator that measures the degree and direction of association among variables, ranging from -1 and 1. A value of -1 signifies a perfect inverse linear relationship, whereas a value of +1 indicates a perfect positive linear association. Contrarily, a coefficient of zero implies no linear association between the variables (Brooks, 2008). Table 4.2 illustrated the strength of associations linking the dependent and independent variables.

Table 4. 2. Correlation Matrices

	ROA	STDA	LTDA	TDTA	TDTE	LIQ	FSZ
ROA	1.0000						
STDA	-0.0529	1.0000					
LTDA	0.1171	-0.5323	1.0000				
TDTA	0.0442	0.6529	0.2934	1.0000			
TDTE	-0.1069	0.7084	0.0204	0.8178	1.0000		
LIQ	0.1670	-0.5821	0.3477	-0.3488	-0.3150	1.0000	
FSZ	-0.1399	0.5953	-0.1689	0.5233	0.5459	-0.7920	1.0000

Source: STATA 13

The above table indicated that LTDA, TDTA, and LIQ have a positive association with return on asset, with coefficients of 0.117, 0.044, and 0.167, respectively. While STDA, TDTE, and FSZ exhibited negative correlations with ROA, with corresponding values of -0.0529, -0.1069, and -0.1399.

4.4. Inferential Analysis

4.4.1 Assumptions of Classical Linear Regression Model (CLRM)

To conduct multiple linear regression analysis and specify regression models, certain key assumptions must be satisfied. Accordingly, the researcher conducted this study within the framework of the classical linear regression model (CLRM) assumptions, and the relevant tests for these assumptions are presented below.

4.4.1.1. Test for the Average Value of The Error Term is Zero (E (Ut) = 0)

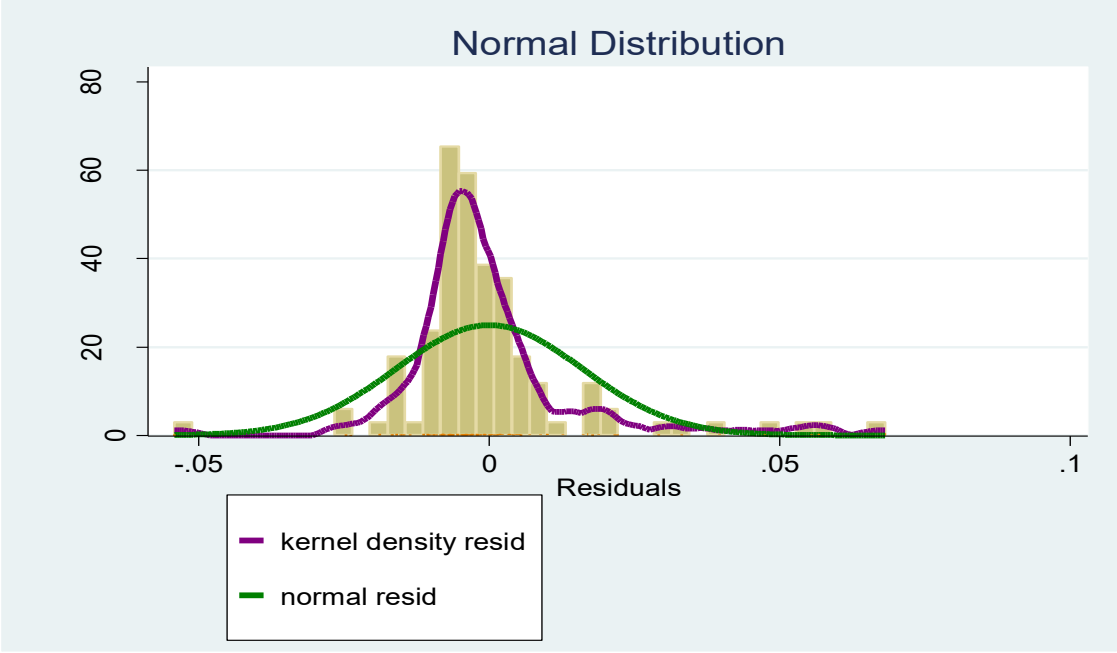
Zero mean of the error term: states that the random variable u_i should have a mean of zero for each corresponding value of X_i. That is, $E(u_i) = 0$. Indeed, the inclusion of a constant term in the regression equation ensures that this assumption is always satisfied. Since the equation used in this study included a constant term, the mean value of the error term is assumed to be zero.

4.4.1.2. Normality Test ($u_t \sim N(0, \sigma^2)$)

Normality is an essential assumption in statistical data analysis which uses the standard for statistical strategies. The normality graph reflects data distribution shape for a given metric variable, often assessed using both graphical and statistical tests. For evaluating normality, the histogram graph can be reviewed visually, as illustrated below.

Normality of error term u-The values of each u_i are normally distributed as shown in the Figure. i.e. $U_i \sim N(0, \sigma^2)$

Figure 4. 1: Normality Test



Source - STATA 13

Figure 4.1 illustrated the normality test by residual is normal at $U_i \sim N(0, \sigma^2)$, indicated the data are normally distributed with a zero mean and variance of 0.0025.

4.4.1.3. Test for Autocorrelation Assumption

The Autocorrelation test used to assess the presence or absence of serial correlation among independent variables. If the covariance between error terms is zero, it implies no relation; however, if the errors are correlated, there is an autocorrelation issue (Brooks 2008). To examine this in the study, the Wooldridge test for panel data was employed.

Ho= No autocorrelation

H1= Existence of autocorrelation

Table 4. 3. Test for Autocorrelation

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F( 1,     10) =     27.185
           Prob > F =      0.3678
```

Source- STATA 13

Table 4.3 shows a p-value of 0.367, which exceeds the 5% significance level. Therefore, the null hypothesis is accepted, indicating autocorrelation is not an issue in this study.

4.4.1.4. Test of multi-collinearity

As one of the key assumptions of the CLRM, it is essential to test for multi-collinearity before running a regression analysis. It ensures that the independent variables are not highly correlated. Nachane (2006) suggested that a VIF below 10 is acceptable. According to table 4.4, the highest variant inflation factor is 3.76. This indicated that multi-collinearity is not a concern in this study, and the explanatory variables can be used in the analysis.

Table 4. 4. Multi-collinearity test through VIF

Variable	VIF	1/VIF
FZS	3.76	0.266286
LIQ	3.20	0.312415
TDTE	1.85	0.541420
TDTA	1.79	0.558226
STDA	1.60	0.623623
LTDA	1.57	0.637811
Mean VIF	2.29	

Source- STATA 13

4.5. Model selection

According to Brooks (2003), selecting the appropriate model is a critical step prior to conducting panel data regression analysis. The two major estimation approaches are the fixed effects and random-effects models. To determine which model best fits; this study applied the Hausman test.

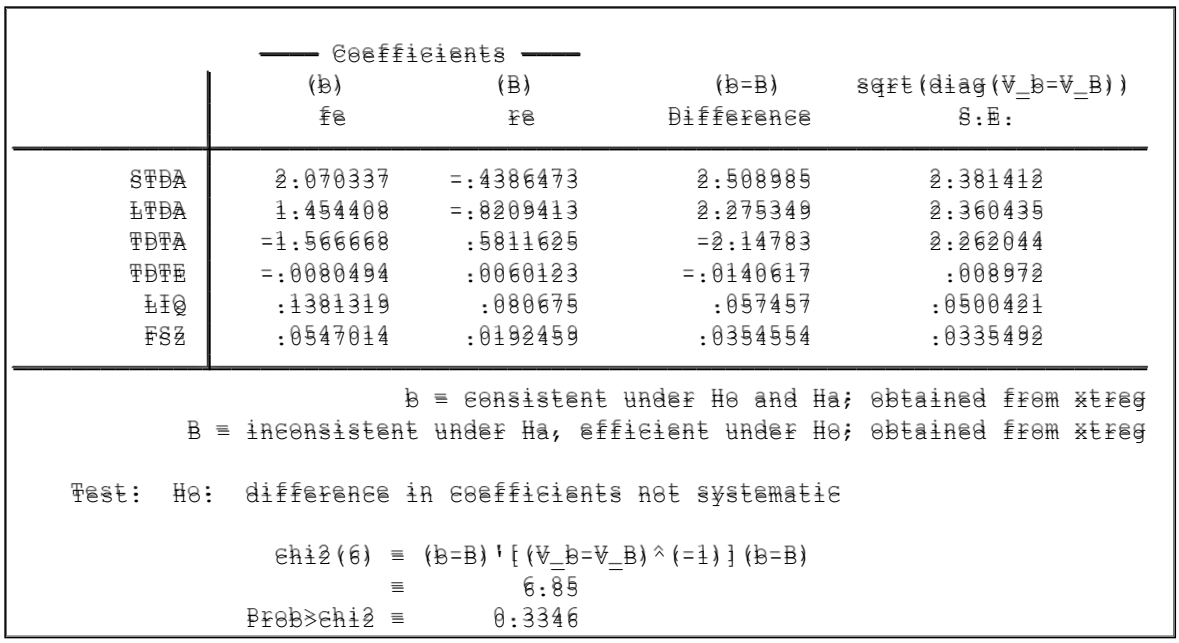
Null hypothesis H_0: Random Effect model is appropriate.

Alternative hypothesis H_1: Fixed Effect model is appropriate.

If the p-value is less than 0.05, the fixed effect model is preferred. Conversely, the random effect model is considered suitable if the p-value exceeds 0.05.

If the p-value is below 0.05, the fixed effects model is selected. In contrast, when the p-value is greater than 0.05, the random effects model is deemed more appropriate.

Table 4. 5. Hausman Test of Model Selection



	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
STDA	2.070337	-.4386473	2.508985	2.381412
LTDA	1.454408	-.8209413	2.275349	2.360435
TDTA	-1.566668	.5811625	-2.14783	2.262044
TDTE	-.0080494	.0060123	-.0140617	.008972
LIQ	.1381319	.080675	.057457	.0500421
FSZ	.0547014	.0192459	.0354554	.0335492

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 6.85
Prob>chi2 = 0.3346

Source- STATA 13

Decision: As shown in the Hausman test, the value prob>chi2=0.3346 exceeds the 5% significance level. Therefore, the null hypothesis is not rejected, indicating that the is random effect model is appropriate for this study.

4.6. Regression analysis

Multiple regression analysis was employed to examine the effect of capital structure on banks' performance. As outlined in the study design, the following panel data regression model is used to analyze performance across both cross-sectional and time-series dimensions.

$$ROA_{it} = \beta_0 + \beta 1\,(STDA)_{it} + \beta 2\,(LTDA)_{it} + \beta 3\,(TDTA)_{it} + \beta 4\,(TDTE)_{it} + \beta 5\,(LIQ)_{it} + \beta 6(FSZ)_{it} + \varepsilon_{it}$$

Where $i = for\ cross-sectional\ data\ of\ the\ commercial\ banks$

$$t = for\ time-series\ data$$

The random effect model regression output included beta coefficients, P-values, and R2.

Beta coefficients quantify the direction and magnitude of each independent variable's effect on ROA.

P-value evaluated the statistical significance of each explanatory variable in affecting ROA.

R-squared values indicated the proportion of the variance in ROA explained by the independent variables. The findings are discussed in the following paragraphs.

Table 4. 6. Regression Analysis Results

ROA	Coef.	Std. Err.	Z-statistic	Prob
STDA	-0.21986	0.464275	-0.47	0.0636**
LTDA	0.077893	0.064696	1.2	0.0229*
TDTA	-0.42281	0.323798	-1.31	0.0192*
TDTE	0.041796	0.039752	1.05	0.0293*
LIQ	0.369463	0.131936	2.8	0.005*
FSZ	0.000841	0.000617	1.36	0.00173*
Cons	0.052023	0.034114	1.52	0.0127*
R-sq	0.6658			
Adj R-squared	0.5786			
SE.reg	0.0072412			
Residual SS	0.000181575			
Prob > chi^2	0.0014*			
Observn	110			
sigma_u	0.00039894			

sigma_e	0.00137471
Rho	0.07767511 (fraction of variance due to U_i)

Source- STATA 13

The R- squared describes how well the model fits the observed data and measures the degree of relationship. In addition, it reflects the extent to which the independent variables explain variations in the dependent variable (Brooks, 2008).

According to the regression results (table 4.6), the R-squared value is 0.665. This implies approximately 66% of variation in commercial banks' performance measured by ROA was explained by the explanatory variables.

As shown in table 4.7, short term debt to assets, and total debt to asset ratios had a negative effect on ROA, with coefficients of -0.219 and -0.422, significant at 10%, and 5% levels, respectively. In contrast, long-term debt ($\beta = 0.077$) and total debt-to-equity ratio ($\beta = 0.042$) show positive and significant effects on ROA at the 5% level. Additionally, both control variables—liquidity ($\beta = 0.369$) and firm size ($\beta = 0.0008$) are positively associated with ROA indicating that increases in liquidity and asset size contribute positively to bank performance.

4.6.1. Discussion of Regression Analysis Results

This section interprets regression output, examining the impact of each explanatory variable on the performance of banks. The findings are also compared with previous empirical studies.

Short term debt to asset ratio

H1: short-term debt ratio has a positive and significant effect on performance.

Contrary to expectations, the regression results indicated that STDA had a significant negative effect at 5% significance level on ROA. Specifically, if other factors are kept constant, a one percent increment in STDA ratio decreases return on asset by 21.9 percent. Therefore, the hypothesis was rejected. The outcome aligned with studies by Taani (2013), Musah (2017),

Abeywardhana & Magoro (2017), and Mugisha et al. (2020), who also reported a negative association. However, the results didn't align with findings by Abor (2005), Saeed et al. (2013), Yegon et al. (2014), and Zafar et al. (2016), who reported a positive relationship, and with studies by Prahalathan & Ranjani (2011) and Sivalingam & Kengatharan (2018), who found no significant effect.

Bank managers explained that one source of finance for banks is customer saving and allocated to investors or borrowers for various purposes. They noted a favorable association emphasizing that debt is a relatively low-cost source of finance associated with mobilizing customer deposits, making it an efficient means of supporting banking operations (Saunders et al., 2003).

Long term debt to asset ratio

H2: long-term debt ratio has a positive and significant effect on performance.

The regression analysis confirms a statistically significant positive relationship between LTDA and ROA at the 5% level. A 1% increase in LTDA improves ROA by 7.78%, supporting the hypothesis. This finding is consistent with Amidu (2007) and Abeywardhana and Magoro (2017), who also observed a positive impact of long-term debt on bank profitability. However, it contradicts the results reported by Abor (2005) and Musah (2017). Sivalingam and Kengatharan (2018) and Prahalathan and Ranjani (2011) found no significant relationship in their studies on Sri Lankan financial institutions. According to interviewees, long-term debt tends to enhance bank performance when used to finance income-generating activities due to its relatively low cost.

Total debt to total asset

H3: negative and significant relationship between total debt to asset ratio and performance.

The model revealed a significant negative association between TDTA and ROA. A 1% increase in total debt to asset ratio reduces ROA by 42.2%, validating the hypothesis. This result supported the findings of Hailu (2012), and Shiferaw (2013), who also found a negative association in the Ethiopian banking sector. The outcome also aligned with the pecking order theory (Myers &

Majluf, 1984), which posits that firms prefer internal financing and that higher debt levels are associated with declining profitability.

However, studies including those by Tilaye (2021), Lembabo (2015), and Musah (2017), reported a positive association. Interview responses also indicated a negative effect, suggesting that higher total debt increases leverage risk, potentially harming performance.

Total debt to total equity

H4: There is a positive and significant relationship between total debt to total equity ratio and performance.

The analysis showed that TDTE has a statistically significant positive effect on ROA at the 5% level. A 1% increase in TDTE increases ROA by approximately 4.2%, supporting the hypothesis. This agrees with findings by Lembabo (2015), Taani (2013), and Saeed et al. (2013), who observed a similar positive relationship. In contrast, Shiferaw (2013), and Pradhan & Khadka (2017) reported a negative relationship, with the latter noting that a 1% increase in TDTE led to a 0.01% decrease in ROA.

Liquidity

H5: Liquidity has a positive and significant effect on banks' performance.

Liquidity, measured by the ratio of liquid assets to deposits, was found to have a significant positive influence on ROA. A 1% increase in liquidity improves profitability by approximately 0.369. This aligns with the results of Nimer et al. (2013) and Adebayo et al. (2011), who found liquidity to be positively associated with profitability in Jordanian and Nigerian banks, respectively. Zaphaniah (2013), however, reported a negative impact of liquidity risk on performance. Interviewees emphasized that maintaining adequate liquidity helps banks respond to risks and meet obligations, thereby improving performance.

Firm size

H6: Firm size has a positive and significant effect on banks' performance.

Regression results indicate that firm size positively influences ROA. A 1% increase in bank size leads to a 0.08 percent increase in ROA, supporting the hypothesis. This supports the trade-off theory, which suggests that larger firms benefit from economies of scale and improved access to capital.

Different previous research works had also supported the result such as Lambebo (2015), Abor (2005), Yegon et al. (2014), and (Saeed et al., 2013). However, other researchers, including Woldemariam (2016), Liku (2017), and Tilaye (2021), observed firm size had an adverse influence on ROA. The finance managers emphasized that bank size exerts advantageous influence on financial performance. They explained that an expansion in branch coverage, employee numbers, and total assets generally enhances performance, provided that these resources are utilized and managed efficiently.

- What are the other factors (qualitative) that affect the performance of commercial banks?

The finance managers noted that, besides capital structure, other qualitative factors influence bank profitability. Service efficiency, which relates to both the quality and variety of services offered, particularly those associated with deposit mobilization, reflected in staff competence, and motivation, as well as adopting advanced technologies that enhance service quality, thereby improving financial outcomes. They also emphasized the importance of customer experience, explaining that satisfied clients are more likely to use various banking services, which strengthens profitability.

Product differentiation was mentioned as another driver, as banks offer diverse and user-friendly, and reliable products and services can attract and retain more customers, which contributes favorably to financial performance. Finally, the regulatory framework set by the National Bank of Ethiopia was also noted as a principal factor influencing performance.

Table 4. 7. Comparison between hypothesized and empirical results

Independent Variables	Hypothesized Relationship	Empirical result
Short term debt to asset ratio	Positive and significant	Negative and significant
Long term debt to asset ratio	Positive and significant	Positive and significant
Total debt to asset ratio	Negative and significant	Negative and significant
Total debt to equity ratio	Positive and significant	Positive and significant
Liquidity	Positive and significant	Positive and significant
Firm Size	Positive and significant	Positive and significant

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The section provides a brief overview of key findings, conclusions, and practical recommendations derived from the analysis and discussion of results.

5.2. Summary of Findings

The primary objective was to assess how capital structure decisions influence the financial performance (profitability) of commercial banks in Ethiopia. The analysis was based on a sample of ten (10) commercial banks that provided audited financial statements covering eleven (11) consecutive years, from 2010 to 2020.

Return on Assets represented banks performance, while capital structure was represented by short-term debt, long-term debt, total debt to assets, and total debt to equity. Firm size and liquidity served as control variables.

The regression results revealed that long-term debt and total debt-to-equity exhibited direct relationships with ROA, suggesting that long-term financing and balanced leverage can improve performance. Whereas short-term debt and total debt-to-assets ratio had a significant inverse relationship, implying that increased total debt adversely affects performance. The control variables, firm size and liquidity, demonstrated positive relationships indicating that larger banks with adequate liquidity levels tend to be more profitable. Interview findings aligned with these findings show that efficient use of long-term financing enhances profitability, while excessive short-term debt and high leverage reduce it.

5.3. Conclusions

Since the seminal work of Modigliani and Miller (1958), the optimal composition of capital structure has remained a central debate in corporate finance. Theories such as the pecking order theory, trade-off theory, and agency cost theory have attempted to explain how firms choose optimal capital structures to balance risk, cost, and return. Effective capital structure decisions are crucial for ensuring sustainable growth and maximizing shareholder wealth.

Based on the analysis, the conclusions drawn are outlined below

- STDA demonstrated insignificant inverse effect during the study period, which implied that changes did not influence profitability.
- TDTA showed significant inverse relations indicating that higher overall leverage reduces profitability.
- LTDA and TDTE exhibited significant positive influence, implying that an increase in long-term financing and appropriate leverage relative to equity contributes to improved performance.
- Size and liquidity exhibited positive and significant effects demonstrating maintaining adequate liquidity and larger assets tend to perform better.

Overall, findings confirmed that capital structure plays a crucial role in shaping the financial performance of banks, and careful management of debt and equity proportions is essential for sustainable growth.

5.4. Recommendations

Considering the study's conclusions, the following recommendations are presented.

Capital Structure Management: Bank management should prioritize optimal mix of debt and equity when financing operations, focus on key factors to maximize shareholder value and enhance profitability.

Leverage Strategy: As long-term debt and total debt-to-equity ratio are positively linked to performance, management should focus on optimizing long-term financing options and using debt strategically to strengthen profitability.

Operational Efficiency: Expanding bank size and effective utilization of resources, and technological innovation can further strengthen performance.

Debt Risk Control: Management should minimize the adverse effects of short-term and total debt using effective debt management strategies, including balancing short- and long-term financing to mitigate these risks.

Future Research Directions: Subsequent studies are encouraged to broaden the scope by incorporating additional variables, moreover, employing stronger qualitative components such as structured interviews or case studies could provide deeper insights to support quantitative findings.

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APPENDIXES

Appendix I

Raw Data

Year	Firm	ROA	STDA	LTDA	TDTA	TDTE	LIQ	FSZ
2010	Awash	0.034461	0.768547	0.246413	1.014960	8.575372	0.662068	3.900082
2011	Awash	0.039936	0.765515	0.198617	0.964131	7.455293	0.522755	4.004999
2012	Awash	0.035771	0.771098	0.190189	0.961287	7.125630	0.343357	4.076884
2013	Awash	0.031311	0.780196	0.197300	0.977496	7.815305	0.284700	4.206274
2014	Awash	0.034231	0.750905	0.223163	0.974068	7.725124	0.336466	4.301655
2015	Awash	0.029401	0.775900	0.146842	0.922741	7.127120	0.209606	4.377845
2016	Awash	0.027815	0.771102	0.147969	0.919071	7.132250	0.253692	4.471433
2017	Awash	0.028033	0.728791	0.227736	0.956527	8.610987	0.228842	4.622989
2018	Awash	0.030695	0.786193	0.096276	0.882469	10.014945	0.267709	4.742475
2019	Awash	0.037562	0.798764	0.072089	0.870853	9.278426	0.190730	4.872945
2020	Awash	0.031698	0.790452	0.075425	0.865877	8.567926	0.204554	4.950793
2010	Dashen	0.029344	0.821196	0.087870	0.909066	9.996943	0.518047	4.091786
2011	Dashen	0.033366	0.807736	0.097010	0.904746	9.498261	0.525768	4.166128
2012	Dashen	0.040523	0.802829	0.0928547	0.895684	8.584975	0.410549	4.243535
2013	Dashen	0.032564	0.802711	0.0936949	0.896406	8.653024	0.382363	4.295505
2014	Dashen	0.034164	0.805081	0.0766422	0.881723	7.454725	0.370041	4.341676
2015	Dashen	0.031209	0.800121	0.0818079	0.881929	7.469492	0.279090	4.393819
2016	Dashen	0.027261	0.796408	0.0860886	0.882497	7.510399	0.301893	4.456008
2017	Dashen	0.023927	0.802393	0.0822853	0.884678	7.671361	0.189137	4.563773
2018	Dashen	0.0232094	0.792218	0.0786336	0.870852	6.743035	0.195657	4.657299
2019	Dashen	0.0200068	0.795496	0.0827154	0.878211	7.210928	0.136175	4.749879
2020	Dashen	0.0246965	0.783663	0.0945321	0.878195	7.209843	0.163406	4.834175
2010	Birhan	-0.022148	0.627137	0.098136	0.725273	2.689111	0.827136	2.579235
2011	Birhan	0.032815	0.759746	0.076111	0.835857	5.094038	0.761942	2.960851
2012	Birhan	0.030578	0.725059	0.091177	0.816236	4.441739	0.609756	3.108913
2013	Birhan	0.021294	0.725036	0.101321	0.826356	4.758957	0.464410	3.341891
2014	Birhan	0.017967	0.715064	0.088153	0.803217	4.075853	0.487924	3.449241
2015	Birhan	0.029689	0.735364	0.090424	0.825788	4.740142	0.405234	3.620338
2016	Birhan	0.046759	0.736007	0.116663	0.852670	5.787445	0.293859	3.857109
2017	Birhan	0.037318	0.723853	0.096427	0.820280	4.564197	0.316088	4.020729
2018	Birhan	0.026701	0.772086	0.071412	0.843498	5.389662	0.246436	4.148231
2019	Birhan	0.027553	0.780505	0.073663	0.854168	5.857214	0.204331	4.282680
2020	Birhan	0.027299	0.777731	0.061872	0.839603	5.234522	0.168312	4.329505
2010	Bunna	0.000146	0.500425	0.151529	0.651953	1.851025	1.042766	2.681341
2011	Bunna	0.030882	0.629090	0.073770	0.702860	2.361690	0.769690	2.892651
2012	Bunna	0.025949	0.661749	0.127992	0.789741	3.756029	0.446739	3.135142

2013	Bunna	0.026463	0.727106	0.096757	0.823863	4.684981	0.375364	3.328063
2014	Bunna	0.031109	0.714353	0.114076	0.828429	4.828505	0.415257	3.478846
2015	Bunna	0.035812	0.778062	0.071324	0.849386	5.639492	0.234069	3.653183
2016	Bunna	0.033119	0.789420	0.069665	0.859085	6.096509	0.232682	3.833846
2017	Bunna	0.024202	0.761668	0.100555	0.862222	6.258089	0.275806	3.992112
2018	Bunna	0.027605	0.763940	0.083738	0.847677	5.565003	0.268396	4.114649
2019	Bunna	0.033535	0.730377	0.092397	0.822774	4.642524	0.215821	4.161212
2020	Bunna	0.026429	0.723521	0.101749	0.837143	5.140358	0.222187	4.275706
2010	Zemen	0.096609	0.651772	0.197992	0.849764	5.656193	0.888255	3.023508
2011	Zemen	0.105009	0.720554	0.130742	0.851296	5.706084	0.608161	3.207747
2012	Zemen	0.072151	0.748832	0.133970	0.882802	7.532571	0.502043	3.379168
2013	Zemen	0.057965	0.771293	0.076979	0.848272	5.583925	0.448317	3.511679
2014	Zemen	0.093704	0.772242	0.060356	0.832598	4.976883	0.492850	3.593814
2015	Zemen	0.062891	0.784365	0.058720	0.843086	5.375872	0.301922	3.687916
2016	Zemen	0.054996	0.744106	0.120045	0.864151	6.359261	0.402487	3.867693
2017	Zemen	0.051585	0.757379	0.106648	0.864027	6.355330	0.420109	3.985393
2018	Zemen	0.043401	0.820017	0.040046	0.860063	6.146064	0.395838	4.096533
2019	Zemen	0.065868	0.791419	0.049780	0.841200	5.297215	0.217363	4.166993
2020	Zemen	0.079924	0.779498	0.051721	0.831219	4.924165	0.217363	4.267070
2010	United	0.033078	0.801335	0.090536	0.891871	8.248228	0.693089	3.770574
2011	United	0.034038	0.785157	0.098147	0.883305	7.570827	0.586771	3.887933
2012	United	0.036077	0.769048	0.105570	0.874618	6.975622	0.423626	3.943834
2013	United	0.030039	0.807478	0.072238	0.879717	7.313720	0.255730	3.999391
2014	United	0.025447	0.791695	0.075666	0.867361	6.539254	0.359941	4.074684
2015	United	0.021444	0.821981	0.060600	0.882581	7.516511	0.230713	4.157181
2016	United	0.021436	0.754936	0.125058	0.879994	7.332914	0.223868	4.237289
2017	United	0.019489	0.753559	0.131587	0.885146	7.706746	0.193062	4.340502
2018	United	0.022976	0.823342	0.071281	0.894623	8.489742	0.196145	4.447638
2019	United	0.023596	0.813739	0.078258	0.891997	8.259038	0.131697	4.553107
2020	United	0.022698	0.808671	0.066826	0.875497	7.031936	0.153025	4.633453
2010	Oromia	0.026709	0.733913	0.076550	0.810462	4.276040	0.765775	3.048663
2011	Oromia	0.028868	0.777964	0.071104	0.849068	5.627478	0.556776	3.292686
2012	Oromia	0.020852	0.759598	0.083380	0.842978	5.368540	0.522954	3.445198
2013	Oromia	0.019982	0.779918	0.080074	0.859993	6.142476	0.393845	3.592313
2014	Oromia	0.030582	0.813438	0.064884	0.878322	7.218437	0.372583	3.788992
2015	Oromia	0.028277	0.839656	0.056208	0.895864	8.602839	0.209201	3.979313
2016	Oromia	0.014909	0.828594	0.054604	0.883198	7.561092	0.229805	4.052382
2017	Oromia	0.020916	0.823311	0.074457	0.897768	8.781666	0.247449	4.211998
2018	Oromia	0.036304	0.837385	0.053716	0.891101	8.182811	0.291520	4.376517
2019	Oromia	0.026841	0.836680	0.046496	0.883176	7.559884	0.192595	4.502144
2020	Oromia	0.026232	0.819676	0.044381	0.864057	6.356052	0.191816	4.529321
2010	Wegagen	0.041130	0.683184	0.133650	0.816834	4.459540	0.773866	3.759058
2011	Wegagen	0.046842	0.739046	0.095039	0.834085	5.027612	0.695107	3.906392
2012	Wegagen	0.040985	0.689838	0.117985	0.807823	4.203529	0.484679	3.921538

2013	Wegagen	0.036638	0.726458	0.097417	0.823875	4.678254	0.367540	4.016774
2014	Wegagen	0.029051	0.727321	0.086691	0.814012	4.376685	0.358514	4.061783
2015	Wegagen	0.027928	0.719910	0.104005	0.823915	4.679059	0.247868	4.137081
2016	Wegagen	0.025124	0.684294	0.142401	0.826695	4.770160	0.279628	4.209240
2017	Wegagen	0.028658	0.669155	0.170658	0.839813	5.242699	0.278521	4.321167
2018	Wegagen	0.032832	0.748647	0.111653	0.860300	6.158207	0.197446	4.437606
2019	Wegagen	0.021727	0.790906	0.064868	0.855774	5.933553	0.181823	4.473779
2020	Wegagen	0.024488	0.788637	0.077515	0.866152	6.471189	0.211456	4.581604
2010	Coop	0.017984	0.775773	0.117510	0.893283	8.357675	0.620724	3.247561
2011	Coop	0.022148	0.791978	0.109616	0.901594	9.170900	0.614566	3.398042
2012	Coop	0.033062	0.762123	0.124126	0.886248	7.797378	0.441838	3.564752
2013	Coop	0.037011	0.682993	0.210546	0.893538	8.393059	0.767408	3.815410
2014	Coop	0.049419	0.741472	0.110185	0.851657	5.741142	0.322455	3.866309
2015	Coop	0.033216	0.642807	0.234090	0.876896	7.123804	0.330751	4.059263
2016	Coop	0.003524	0.794241	0.091517	0.885758	7.753334	0.251389	4.028870
2017	Coop	0.014629	0.805495	0.108913	0.914408	10.683390	0.244240	4.248567
2018	Coop	0.018450	0.863476	0.057038	0.920513	11.580716	0.314256	4.475497
2019	Coop	0.018353	0.865460	0.055825	0.921285	11.704056	0.259119	4.621081
2020	Coop	0.025088	0.867064	0.035564	0.902629	9.269967	0.149930	4.720064
2010	NIB	0.037281	0.691262	0.155232	0.846494	5.514420	0.743382	3.776047
2011	NIB	0.037675	0.725217	0.110194	0.835411	5.075012	0.706591	3.851992
2012	NIB	0.037204	0.705455	0.109915	0.815369	4.416222	0.510555	3.917820
2013	NIB	0.034370	0.727780	0.090043	0.817823	4.489157	0.338809	3.961184
2014	NIB	0.029899	0.737237	0.079986	0.817223	4.471149	0.241817	4.031299
2015	NIB	0.028086	0.737328	0.098423	0.835751	5.088324	0.183923	4.122416
2016	NIB	0.026802	0.784758	0.056179	0.840938	5.286974	0.239720	4.199491
2017	NIB	0.024065	0.781002	0.078460	0.859462	6.115530	0.199916	4.322627
2018	NIB	0.021583	0.810045	0.063295	0.873341	6.895194	0.179700	4.426331
2019	NIB	0.023864	0.820457	0.048719	0.869176	6.643873	0.142105	4.527854
2020	NIB	0.027399	0.792467	0.071254	0.863721	6.337895	0.158586	4.628018

Appendix II

Addis Ababa University

College of Business and Economic

Department of Accounting and Finance

Interview Questions

Dear Participant,

I am a graduate student at Addis Ababa University College of Business and Economics Department of Accounting and Finance. I am conducting a study entitled "**The Effect of Capital Structure on the Financial Performance of Commercial Banks of Ethiopia"**, in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance.

You have been selected for this interview because of your professional experience and knowledge relevant to the subject. Your participation and honest responses are highly valuable in achieving the study's objectives.

All information provided will be kept strictly confidential and used solely for academic purposes. A copy of the final report can be made available upon request. The interview is expected to take about 45 minutes, and a copy of the final report can be shared upon request.
Thank you for your time and cooperation!

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Questions

- In your opinion, how does the long-term debt-to-total asset ratio influence the profitability of commercial banks in Ethiopia?
- How does the short-term debt to asset ratio impact on the profitability of banks?
- Why does measurement of capital structure variables affect the financial performance of banks?
- What is the effect of the total debt-to-asset ratio on bank profitability?
- How does the total debt-to-equity ratio influence performance of banks?
- What other qualitative factors affect the profitability of commercial banks?