



ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

The Effect of Debt Financing on the Performance of Six Private Banks in Ethiopia

By: MEKI BAHIRU

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ADVISOR: - TEMESGEN WORKU (PhD)

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STATEMENT OF CERTIFICATION

This is to certify that **Meki Bahiru** has carried out a thesis on the topic entitled "The effect of debt financing on the performance of six private Banks in Ethiopia" under my supervision. In my opinion, this thesis is suitable for submission in partial fulfillment of the requirement for the award of the MSc Degree in Accounting and Finance.

Advisor:



Signature:



Date:

12/02/2024

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I have carried out independently a thesis on "The effect of debt financing on the performance of private Bank in Ethiopia" in partial fulfillment of the requirements of the MSc Degree in Accounting and Finance with the constructive guidance and support of my advisor. This thesis is my own work that has not been presented for any degree or diploma program in this and any other institution, and that all source of materials used for the thesis have been duly acknowledged.

Name: **Meki Bahiru**

Signature: _____

Date: _____

06/08/24

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Approved by Board of Examiners

Temesgen Worenu
Advisor

[Signature]
Signature

12/08/2024
Date

Hasan B
Internal Examiner

[Signature]
Signature

12/08/2024
Date

Dejene Mamo (PhD)
External Examiner

[Signature]
Signature

06/08/2024
Date

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ABSTRACT

This study was conducted to investigate the impact of debt financing on the performance of six private banks, during the period of 2012-2022. To this end, the study adopts explanatory research design and a mixed research approach incorporating secondary and primary data and 6 sample private banks were purposively chosen from a pool of over 30 banks currently operating in Ethiopia. Data analysis was carried out using panel data analysis and the data were analyzed using descriptive statistics, correlation analysis, linear assumptions, and robust least squares regression models. The findings revealed that the debt-to-asset ratio (LOG_TDA) had a positive coefficient, indicating that an increase in total debt relative to assets led to a positive impact on Return on Assets (LOG_ROA). This suggests that leveraging debt for investments or operations can potentially boost profitability for these banks. Conversely, the negative coefficient for the debt-to-equity ratio (LOG_TDE) signaled that a higher reliance on debt relative to equity could decrease LOG_ROA, indicating the importance of maintaining a balanced capital structure. Moreover, the positive coefficient for the interest coverage ratio (LOG_ICR) highlighted that an enhancement in the banks' ability to cover interest expenses with their earnings resulted in a higher LOG_ROA. A strong LOG_ICR indicated the banks' improved capacity to fulfill their debt obligations, thereby strengthening their financial stability and performance. Additionally, the positive impact of firm size (LOG_TOTAL ASSETS) on LOG_ROA suggests that larger banks benefit from economies of scale, leading to better performance. The results supported the pecking order theory of capital structure and stressed the importance of managing debt levels, interest coverage, and firm size for optimal financial performance. The study recommended that the banks prioritize equity financing over debt to maintain a balanced capital structure and enhance profitability. Strategic leverage of debt, coupled with effective management of capital structure, interest coverage, and firm size, can help optimize financial performance and ensure long-term success in the banking sector.

Keywords: *Debt Financing, Performance, Return on Assets and Debt-to-Asset*

ACRONYMS

BLUE	Best linear unbiased estimator
CLRM	Classical linear regression model
DAR	Debt to asset ratio
DER	Debt to equity ratio
EBIT	Earnings before interest and taxes
NIM	Net interest margin
OLS	Ordinary least square
ROA	Return on asset
ROE	Return on equity

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CHAPTER ONE

INTRODUCTION

This chapter describes a brief introduction to the research background, regarding with the findings and issues from theories and previous studies. The statement of the problem, the research objectives, and formulating the basis for the hypothesis are clearly stated. Additionally, significance, scope, limitations, and structure of the research project will be discussed.

1.1 Background of the Study

In today's very competitive business landscape and characterized by survival of the fittest (i.e. natural selection, the strongest will survive), decision making has become a fearful challenge for managers, apply significant influence over the fate of every organization. As stated by Khalid et al. (2022), adopting a systematic approach to decision making is crucial, by considering interconnectedness of cause and effect relationship. As decisions made in isolation can lead a company to the limit of disaster.

The major financial measures which are used to measure the performance of the business organizations including banking sectors are return on equity, return on asset, profitability growth, and sales growth (Crabtree and Debusk, 2008). In addition to investment and dividend policy, the choice of capital structure is one the major and critical decisions made by organizations that determine the sources of fund their amount and application in the operation. And the objective of capital structure decisions is to maximize the value of the firm and wealth of shareholders (Karadeniz, et. al., 2012).

Capital and financial structure shows significant challenge for business of all size, from small to large corporations. Most of time small business struggle or even fail due to difficulties in financing decision. The selection of various forms of financing, results in different capital structure, each with the implications for the company's performance. Financing is inherently tied to supporting fixed assets and working capital, making it crucial element for a company's survival and success (Erasmus & Josephine, 2014).

Financing a business activities, particularly during its early stages, including raising capital through equity or/and debt (borrowing) funds. As per operations start, sources of funding's

diversified into new equity, and borrowing financing from various sources and cash flow from operational activities.

Finding out the most suitable combination of internal and external financing or capital structure decision, becomes crucial for company's financial health. This decision directly affects the company's performance and poses tough challenges for businesses (Abor, 2005).

The discussion among the value creation for stakeholders rooted in a company's financial composition can be traced back to Modigliani and Miller's seminal work in 1958. In this study questions are raised about whether the utilization of equity or debt impacts a company's value, giving rise to various propositions such as the trade-off, pecking order, agency theory, and signaling proposition. Financial structure typically comprises a mix of debt and equity with cash flows generated by assets and operations distributed to both debt & equity holders. Maximizing profit for equity holders becomes primary goal, ensuring the company's sustainability and providing shareholder with the incentive to invest (Brigham & Gapenski, 1990).

The basics of modern capital structure proposition can be attributed to Modigliani and Miller's influential paper in 1958, raising questions about the part of debt in firms' performances. Despite further than fifty times of exploration, the part of debt remains a subject of debate.

Researchers analyze the debt ratio to ascertain whether an optimal level exists, defined as one that minimizes the cost of capital while maximizing the company's profit. Theoretical perspectives on the impact of debt on business performance including the signaling, agency costs, and tax shield proposition each offering varying insights. In order to determine whether employing debt financing boots or hurt the financial performance of financial sectors. The level of indebtedness is crucial because there is non-monotonic association between firm's indebtedness and its performance Murino, (2005).

However, empirical studies show conflicting results influencing by factors such as sample diversity, performance measures, and the debt ratios utilized by researchers. Identifying the influence on performance is crucial for all firms particularly banks with low equity capital. Banks are highly sensitive to changes in financial leverage because of their low equity capital relative to total assets.

The financial system plays a fundamental role in the economic growth and development of a country. The significance of a well ordered financial sector lies in the reality that ensures domestic resources mobilization, making of savings and investments in the sectors.

Actually, this financial system is a system by which a country needs the most profitable and efficient sectors to make more productive bases for future growth. The major function of a financial system is not only to shift funds from savers to investors but also to make sure that funds are being transferred to the sectors which are most essential for an economy. Bank performance gets a great deal of consideration in the finance literature bearing in mind that banks serve as a critical role in the economy (Bekalu and Abel, 2017).

The main objective of firm managers is to maximize the value of the firm by developing optimal capital structure through determining how much funds should be raised from the internal source from the owners which is equity and how much should be raised from external borrowing. In making decisions on the debt financing of the firm's benefits and cost associated with each source of finance is taken into a consideration in order to have optimal financial structure, otherwise sub-optimal capital structure may lead the firm into financial distress which is unable to meet financial obligations to fund providers (Sheikh and Wang, 2011).

Financial institutions play a vital role for bringing financial stability and economic growth through their expected contribution by mobilizing financial resources across the economy (Masood & Ashraf, 2012). Banks, as financial institutions, act as an intermediary in the economy by channeling financial resources from those surplus units to deficit economic units. This role is their important role in developing economies (Felix Ayadi et al., 2008 and Zhang et al., 2013).

The banking sector plays a critical role in a country's financial sector and economic development, necessitating comprehensive studies to understand its dynamics. According to the National Bank of Ethiopia (NBE), currently in Ethiopia the above 30 banks has been active in commercial banking operations. While numerous studies have investigated the determinants of capital structure and financial performance in the banking sector, there is a notable gap in directly examining the effect of debt financing on private bank's performance. According to Kibrom (2010), debt financing in the capital structure is a significant variable affecting banks' performance due to its prevalence over equity financing. Therefore, this study seeks to address

this gap by investigating the influence of debt financing on private bank's performance from 2012 to 2022. The findings aim to provide valuable insights for investors and managers in optimizing financing decisions and improving the bank's overall performance, considering the inherent risks associated with debt financing.

Tables 1.1 List of Private Banks

R. No.	Private banks	Establishment years
1	Buna Bank	01/06/2009
2	Enat Bank	01/07/2011
3	Addis International Bank	02/05/2011
4	Abay Bank	01/07/2010
5	Berhan Bank	02/06/2009
6	Debub Global Bank	02/04/2012

1.2 Statement of the Problem

The decision-making process regarding financing is paramount for the success of any enterprise, directly influencing its performance. Optimal allocation and utilization of funds constitute fundamental aspects of a firm's financial strategy, demanding meticulous attention. Both small and large businesses encounter challenges in making financing decisions, with poor choices often leading to subpar performance or even business failure. Private Banks, being financial institutions, possess a distinct capital structure influenced by activities such as deposit mobilization. Therefore, examining the effect of debt financing decisions on the performance of commercial banks, particularly within the context of private banks, is a critical area of concern. Numerous studies have explored the application of capital structure theories in the banking sector, yielding varying outcomes.

Commercial banks, serving as financial intermediaries, collect funds through deposits to fund projects and extend loans. The unique operational framework of banks subjects them to specific regulatory frameworks and supervisory measures. The composition of a bank's capital structure is influenced by various factors, including the inclusion of deposits from small-scale depositors who may lack the expertise to oversee operations, thus limiting the disciplinary mechanisms proposed by the trade-off theory.

Theoretical arguments propose that banks with higher leverage ratios undergo more stringent scrutiny from lenders, leading to improved screening, monitoring practices, efficiency, and overall performance. While banks require sufficient capital for their operations, managers often strive to maintain lower capital levels to mitigate associated costs and comply with minimum reserve requirements.

Private Banks stands out as key players in the country's financial landscape, experiencing rapid expansion in terms of geographic reach and product offerings. Despite the overall growth observed in the banking sector, a considerable segment of the population, particularly in rural areas, continues to rely on informal banking services. Financial access remains constrained compared to the nation's financing requirements.

According to Tsegabirhan (2010), the Ethiopian banking industry grapples with challenges related to undercapitalization, with a capital base insufficient to meet the economy's credit demands. The current capacity of the Ethiopian banking sector may not adequately support major infrastructure projects and the overall credit needs of the economy.

Through this study, the researcher delves into the intricate interplay between debt financing and the performance measures of private banks. By analyzing particular financial indicators such as return on assets, equity ratio, and interest coverage, the researcher aims to disclose the crucial connections between the banks debt financing choice and their overall performance outcomes. The banking sector operates within a distinct framework and private banks' reliance on deposits as a primary funding source further distinguishes them from other enterprises. Understanding this unique context is essential for grasping the specific ramifications of debt financing on the banks' performance. Thus, the study meticulously examines the extent to which private banks' financial decisions; particularly those related to debt financing, shape their performance metrics.

The study's findings hold the potential to provide invaluable insights for both bank investors and managers. Investors seeking a comprehensive grasp of the banks' financial well-being can leverage these insights to make well-informed decisions about their investment portfolios. Similarly, bank managers stand to benefit from the study's conclusions when crafting financing strategies aimed at optimizing performance and bolstering shareholder value. Furthermore, the study aims to shed light on the optimal capital structure for private banks. By elucidating the relationship between debt financing and performance, the study endeavors to guide the attainment of the right balance between equity and debt financing.

In sum, the study acknowledges the distinct nature of private banks' financing decisions and seeks to thoroughly explore the impact of debt financing on their performance. Through a meticulous analysis of key financial indicators, the researcher intends to provide valuable insights that can inform financing decisions, ultimately benefiting both bank investors and managers.

1.3 Objective of the Study

The primary goal of this study is to investigate the effect of debt financing on the performance of private banks.

1.3.1 Specific Objectives of the Study

The study aims to achieve the following specific objectives:

1. To evaluate the impact of the debt to asset ratio on the Return on Assets of private banks.
2. To investigate how the debt to equity ratio affects the Return on Assets of private banks.
3. To determine whether the interest coverage ratio has a significant positive effect on the performance of private banks.

1.4 Research Hypothesis

Drawing from existing theories and empirical studies, the following hypotheses was formulated to determine the effect of debt financing on performance in the study:

H1: There is a statistically significant positive relationship between the debt-to-asset ratio and performance.

H2: There is a statistically significant negative relationship between the debt-to-equity ratio and performance.

H3: There is a statistically significant positive relationship between the interest coverage ratio and performance.

1.5. Significance of the study:

The main objective of this study was the effect of debt financing on the performance of private banks. In general, this study will cover many aspects of the topic but specifically it has been tried to determine the relationship between debt financing determinant and performances of banks. This study especially will help the managers to take the financing decision for their firms. The creditors can also take the benefits to minimize their risk, in funding specific sector organizations. This study will be benefited to Ethiopian banking sector's management and investors in making clear decisions on financing.

In addition to the above, this study is another contribution to the existing work on the study of the impact of debt financing on performance of Ethiopian banking sectors.

1.6. Scope of the study

This research investigates the effect of debt financing on the performance of six private banks, specifically analyzing the correlation between variables like the debt to asset ratio, debt to equity ratio, interest coverage, and performance indicators such as return on assets. The study encompasses panel data from 2012 to 2022, offering insights into how various debt financing factors influence the banks performance over this period. It's important to note that the scope of this study is confined to these six private banks and may not be applicable to other banks or financial institutions.

1.7. The limitations of the study

The limitations of this study include its exclusive focus on six private banks, limiting the generalizability of findings to other financial institutions. While it analyzes specific ratios such as debt-to-asset, debt-to-equity, and interest coverage, it may overlook other influential factors. External conditions like economic trends, regulatory changes, and industry-specific dynamics are not considered, potentially impacting the study's conclusions. The research is confined to a specific timeframe, not addressing long-term effects of debt financing on performance.

Additionally, potential issues of endogeneity, reverse causality, and the complexity of the causal relationship between debt financing and performance are not explored.

1.8. Structure of the Study

This study comprises five chapters. The first chapter introduces the background of the study, including the statement of the problem, objectives, research hypotheses, significance, scope, and limitations. The second chapter reviews related literature. The third chapter outlines and discusses the research methodology. In the fourth chapter, data analysis and interpretation are presented, while the final chapter discusses the conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter represents the research background, statement of the problem, objectives, research hypothesis. Moreover, it outlines the research project's significance, scope, limitations and so on.

This chapter carries out an overall review of related literature and investigates knowledge gap. The literature review is a fundamental, act as the research backbone and related to the research topic and methodology. It creates a concrete frame of reference for researchers and scholars.

This section covers theoretical orientation, offers an overview of the six private banks, and reviews previous studies related to the research topic. Beginning with a theoretical framework on capital structure theories, this chapter aims to inform the study further. Moreover, it delves into various empirical studies conducted in the same field, concluding with a chapter summary and identification of knowledge gaps.

2.2 Theoretical Framework

The theoretical framework includes interrelated ideas guiding a research project or business undertaking. It facilitates testing and describing findings. The study explained three fundamental theories; Trade-off theory, Pecking order theory, and Market timing theory.

2.2.1. Trade-Off Theory

It is the idea that a company selections how much debt finance and how much equity finance to use by balancing the costs and benefits.

This theory proposes the advantage and disadvantages of financing with debt, emphasizing the tax benefits and bankruptcy costs. Although explaining differences in debt to equity ratios between industries, it falls short of explaining variations within the same industry. The suggestion is that company typically secures financing through a mix debt and equity, considering tax benefits against the costs of financial distress (Linus, 2022). Furthermore, the trade-off theory stated that large firms, with lower risk and more stable cash flow, have easier

access to capital markets with insignificant debt costs, making them more robust in facing financial distress (Mohammed, 2014).

2.2.2. Pecking Order Theory

This theory suggests a hierarchical order in which business utilizes three kinds of financing (internal, debt, and equity) in order to fund the investment opportunities. The theory assumes that the method of raising capital is in the firm's best interest, and sends a message to the public about a company's future.

The hierarchy shows a preference for internal fund, such as earnings. If these funds are low, firms turn to debt, such as loans. Financing through Equity is considered less favorable, as it may signal overvaluation, leading to a lower perceived value by investors (Linus, M. 2022).

According to Myers (1984), firms prefer internal to external financing due to adverse selection, and chose debt over equity when the outside funds are necessary to lower information costs associated with debt issues.

2.2.3. Market Timing Theory

It is a theory of how company's and corporations in the business decide whether to finance their investment with equity or debt.

According to this theory, the market timing of equity issuance decision by managers has long-lasting effects on capital structure. When relative costs are low, the firms prefer to issue equity and when costs are high, opting for debt financing (Linus, 2022).

Considering fixed payments to bondholder and the sensitivity of stock prices to personal information firms to avoid diluting stockholders value tend to issue debt when profitable but believe their shares are not undervalued. Conversely, a manager who perceives overvaluations are more likely to issue equity, expecting a drop in stock prices when announcing the offering (Molyneux and Thornton, 1992). The importance of management lies in recognizing potential stock price fluctuations in both undervalued and overvalued scenarios.

2.3 Debt Financing

Debt financing as defined by Bichsel & Blum (2005) includes various forms emphasizing the borrower's obligation to repay funds with stated service charge like principal and interest fees. When a business faces serious financial difficulties what we call it default can lead to collection

proceedings, posing potential risks to the business environment including the loss of business and pledged assets. Long term loan typically cover one to five years with their own terms and rates depend on factors like business span, financial status, and lending institution policies.

For the capital requirement a bank regulation framed by the Basel committee on banking supervision standardizes the handling of capital balance banks and depository institutions. Basel II, a more complicated capital adequacy framework, succeeded Basel accord in 2007, with Basel III set to replace it after 2012. There are many studies including those by Bourke (1989), Berger & Udell (2006), Navapan & Tripe (2003), and White & Morrison (2001) focused on capital adequacy's role primary driver of financial institution performance. Nevertheless, Modigliani and Miller (1958) debate that in a world of perfect financial markets; capital structure and regulation are irrelevant.

2.4 Firm Performance

Performance stands as the primary objective for any business. Firm performance can include different aspects of an organization's performance, such as profitability, efficiently exploiting its resources and achieving the desired results. It indicates the overall achievement and effectiveness of a firm in fulfilling its goal and objectives.

Brealey and Myers (2003) emphasize the importance of measuring current and past performance through income and expenses. A successful business can reward owners & investors with significant return on investment. A profitable banking sector improves stability and persistence in the face of unexpected situations. Different measurements like Return on asset (ROA) and return on equity (ROE), plays a critical role in analyzing firms performance.

2.5 Relationship between Debt Financing and Firm Performance

According to Modigliani and Miller (1958), the relationship between debt financing and performance has been a debate topic of researchers for more than fifty years. However, the purpose of debt remains a debated subject, drawing the attention of most researchers such as (Margaritis & Psillaki, 2012) and (Kebear, 2012).

2.6 Measures of Debt Financing and Firm Performance

The subsequent sections discuss the measurement of debt and performance ratios.

2.6.1 Measures of Debt Financing

Debt financing is measured through various debt ratios including the cost of funds ratio which determines the average cost of a bank's borrowed funds. This ratio is critical for financial organizations as a lower cost increases returns if funds are utilized as a loan.

The cost of funds ratio reflects whether banks have access to low-cost funding sources, for instance savings.

Lee (2009) defines the calculations of the cost of funds (COF) using a unique formula. based on this the cost of funds is calculated by dividing interests and fees paid on loans (excluding savings payments) by the average outstanding loans from creditors. it is crucial to use this formula in order to assess the average cost of borrowed funds impacting their profitability.

Another debt ratio is the capitalization ratio. It reveals the proportion of total debt to total capitalization offers insight into a firm's dependence on equity for business activities and growth. it helps in risk assessment with higher ratios that tell us potential insolvency risks. Silva (2008) outlines this ratio as the long term debt divided by the sum of long term debt and shareholders' equity.

Capital structure and debt (leverage); capitalization comparable with capital structure explain company's long-term capital comprising, long term borrowing, and shareholders' equity. Silva (2008) determines that the optimal debt level relies on the industry, business, and company development stages. The equity multiplier, which indicates a firm's total assets per unit of stockholders equity, is measured by dividing total assets by common stockholder's equity.

The debt to asset ratio is computed by a company's total debt by its total assets. It is a leverage ratio which outlines how much debt a firm carries compared to the value of the assets of its own. a company with a high degree of leverage may thus find it more difficult to stay afloat during bankruptcy than one with lower leverage. A lower chance indicates less dependence on company influence and a strong equity position.

Interest subject and bank capitalization; the interest topic rate, a significant debt ratio which assesses a company's ability to pay interest fees on outstanding debt. A lower ratio shows a substantial debt burden, probably questioning the company's capability to meet interest fees. We can measure it by computing earnings before interest & levies to interest expense. Pringle (1971)

stated that an under-capitalization bank might challenge high short-term borrowing costs during tight plutocrat ages. Flamini et al. (2009) proposed that macroeconomic programs promoting low affection and stable affair growth appreciatively impact bank returns.

2.6.2 Performance Measure in Banks

Defining and measuring performance is necessary for financial institutions. There are indicators which offer financial institutions a way to measure the success of their business strategic goal and objectives. The two major models of dimensions of performance are traditional accounting ground measures and profitable measures of performance. In profitable measures of performance, there are two common styles of threat acclimated return on capital (ROC) and earning value added (EVA), which are the profitable grounded mechanism of profitable gains. According to Kimball's investigations as quoted in Ommeren (2011) these mechanisms are taken into account threat and circumstance costs of equity when measuring the performance.

The traditional accounting grounded measures are easy delegates of banks' performance, accessible from intimately disclosed information. As concluded by many previous academic researchers there are different accounting grounded measures for banks' performance.

For example, the return on equity (ROE) used by Goddard et al. (2004), return on assets (ROA) used by Flamini et al. (2009), the return on equity and return on assets used by Athanasoglou et al. (2006), Ommeren (2001), and Kunt & Huizinga (1999) used as a representative for banks performance.

A study inquired by Flamini et al. (2009) verified that return on asset (ROA) is a measure of bank performances. It's outlined as the banks' after-duty profit over total assets. In principle ROA shows the capability of a bank's activities to produce profits /return/ from the bank's assets. It shows how much profit a company generates from its total assets and most importantly it indicates the operations capability to use the banks fiscal and real investment. For any kind of bank, ROA relies on the bank's policy opinions as well as factors relating to the frugality and government regulations. a number of researchers believe the return on means is the stylish measure of bank effectiveness and it emerges as the critical ratio for the evaluation of bank performance (IMF, 2012) quoted in (Flamini et al., 2009).

On the other hand, based on Ommeren (2011), states that ROE reveals how effectively a bank's activities are using shareholders finances. ROE shows the return on shareholders on their equity and equal net income divided by total equity or ROA multiplying the total equity rate to assets. Banks with lower influence (advanced equity) will generally report advanced ROA, but lower ROE.

The Bank's ROE may be affected by its ROA as well as by the bank degree of fiscal influence (equity/asset). Since return assets have a tendency to be lower for fiscal intermediaries, most banks use fiscal influence largely to enhance return on equity to a competitive position.

As stated by Athanasoglou et al. (2006) many scholars remind that ROA is the critical ratio for the evaluation of bank performance. Given that ROA isn't distorted by high equity multipliers although ROE ignore the pitfall associated with high fiscal influence. In this context, it's rare to find a paper that employ ROE as a single measurement of performance. In general a paper uses ROE for checking the thickness with ROA. Therefore, return on asset (ROA) is the most comprehensive account of banks overall performances.

Hence, the maturity of studies employed ROA as a firm performance measure (Flamini et al., 2009). Several empirical researchers suggested using the net interest margin (NIM) to overcome the off-balance sheet (OBS) bias. NIM are used as deputy for banks performance. It is calculated as interest income (income from loans and securities) deduct interest expense (the interest the bank must pay to its depositors and creditors from whom it has espoused finances) expressed as a chance of earning assets (i.e. earning asset are the sum of all banks asset that earn interest, like loans and investment in fixed income securities) (Demirguc-kunt and Huizinga, 1999).

In accord with earlier studies that analyzed the determinants of banks' profit, this research depends on one generally used measure of performance by using the traditional account system. That's the return asset (ROA), computed as net profit after duty divided by total assets. Apparently the major important measure used in comparing the operating performance of banks and use the mean value to control for differences that do in asset during the financial time. The analysis of determinants of banks' performance uses on ROA and ROE since Gerhard (2012) proposed that the outcomes by using either ROA or ROE are similar due to the monthly variation

in the numerator (net income) is lesser than the monthly variation in the denominator (asset or equity).

2.6.2.1 Return on Asset

ROA is a profitability ratio that provides how much profit a company can generate from its assets i.e. it's a ratio of income to its total asset). It is a major ratio which shows the performance of a bank. It measures the ability of the bank operational activities to produce income by exercising firm's asset at their disposal.

Particularly, it indicates how efficiently the financial resources of the firm assets at their disposal. Furthermore it shows the effectiveness of operation of an organization in producing net income from all resources of the institution. It suggests that an advanced ROA states that the firm is more effective in using its resources (Flamini et al., 2009).

2.7 Related Empirical Studies

In this section the empirical studies are presented and reviewed the relationship between debt financing and performance.

In seminal composition presented by (MM's 1958) insolvency proposition, they debated that capital structure is not interrelated to establishment's value. In the presences of commercial incomes duty and the cost of capital in (MM's, 1963) they debated that the request value of the firm is significantly related with the long-term debt used in its capital structure.

Wipperfurth (1966) analyzed the relationship between fiscal influence and firm value on some diligence that marked on high degree in difference attributes from where growth and demand. The research employed debt to equity ratio as fiscal influence index and earnings to request value of common stocks as performance index. He disclosed that influences affect appreciatively on company value and this traditional substantiation that shareholders wealth can increase by using outside financing.

In a seminal research Myers (1977) proposes that organizations that employ short-maturity debt are likely to have more growth options in their investment starting. A debt which matures before prosecution of investment options cannot lead to sub optimal investment ideas. There could be a conflict of shareholders and bondholders that may lead to an under investment

problem if long-term debt is issued. Managers acting on the behalf of their stockholders might avoid systems with positive net present values due to a risky debt absorb a portion of stockholders benefits. For that reason under investment decrease gain or profits in the long run, any such measure implies a negative relationship between liability maturity and firm performance. The signaling thesis outlooks allocation of short-term debt as a positive sign of the firms performance.

Many empirical research studies have taken on capital structure, commercial governance and firm value, but recently all of them have focused on only one of the equity. Therefore, only one aspect of the relation has been held into account and the presence of complementary antecedents and positively between capital structure and other governance instrument has not been considered important in determining company value (Heinrich, 2000).

As stated by Titman & Wessels (1998) and Ferri & Jones (1979) large organizations are more diversified and employ more debt in their financing structure because fiscal request are more accessible to them compared to small organizations and faced good interest rate when borrowing happen. In this paper, the natural logarithm of request capitalization is used as deputy for the size and a positive relationship between size and short-term debt.

Bourke (1989) suggested that debt to asset ratios are positively related to performance under the theory which well capitalized banks may enjoy access to cheaper and lower sources of finance.

Cappon et al. (1990) investigated a major analysis from 320 published research related financial performance and found a positive relationship between operation influence situation and financial performance.

Holtz (2012) analyzed that capital structure (debt ratio) related positively with the firm performance. The result is useful to the willing of company's managers to finance their systems by borrowing and use these capitals optimally to maximize the performance. Regarding this findings if the banks need to advance capital, it will be study the feasibility of system that need to finance directly head offer loans until that the companies can achieve needed returns to meet their need.

Based on Abai (2003) studied on the determinant of commercial debt maturity structure for organizations cited at Nairobi security exchange (NSE). The researcher tries to investigate the effect of equity financing and determinants of stock prices response to equity financing advert. He examined the impact of issuer characteristics on the size of wealth effect associated with advertisement of equity financing issues. The study settles the issue according to the primary represented data measure into additional equity and debt like issues.

The study by Atanasova and Wilson (2004) analyzed seventy eight financially constrained company's using firm position data from 1989 to 2009 in the UK. Banks lending an account outstanding or trade credit, by using dis-equilibrium model of lending. In this empirical analysis the researchers stated that the enterprise total assets as a deputy for available collateral, is a significant determinant of bank loan default. According to financial policy factors, they try to layout that tight financial situations lead to enhanced demand for bank financing. Furthermore, they suggest that trade credit was the least desirable financing choices that firms need to have an advance rate of negotiation between loans and trade credit than between loans and internal financing sources. based on this, they assume that trade credit plays a critical role in easing credit rationing hence organizations switch from bank credit to trade credit when challenged with borrowing constraint.

Abor (2005) investigated the effect of capital structure on profitability: an empirical analysis of listed firms in Ghana and suggested a significantly positive correlation between the ratio of short-term debt to total assets and performance, but a negative relationship between the ratio of long-term debt to asset and performance.

Berger, A. and Bonaccorsi (2006) in a study designed to investigate the relationship between debt to asset ratio and firm performance to the banking industry, found a significantly positive association between performance and debt to asset rate. But in 1999 a negative effect of debt on performance was confirmed by Majumdar & Chhibber.

Bougheas et al. (006) by using data from 136 UK manufacturing organizations over the period of 1989 to 1999 to measure external financing were the rate of firm's short-term debt to total external debt. They believe that the measure of debt finances and the rate of a firm's total external debt to its total liabilities, which more recently track access to external financing. The

researchers proposed that a number of firm specific characteristics like size, collateral, age, riskiness, and performance are important factors to access to short-term and long-term credit and they stated financial policy circumstance had lesser impact on lower, unsafe and youngish companies.

A study worked by Munene & Hebid (2006) by using a sample of 96 financially poor companies and 96 healthy companies and concluded that large shareholder power, state power, and the proportion of independents managers are negatively related with probability of challenge. And also directorial agency costs are poorly mischievous to firm's fiscal status. Still the degree of balanced power, directorial power, board size and CEO duality doesn't affect the probability of failure.

Dimitris, M. & Maria, P. (2008) analyzed the relationship between capital structure, power structure, and company's performance across different industries and used a sample of French manufacturing organizations. The study reveals that a negative relationship between once performance and capital structure and there will be a chance of positive relation.

Onaoapo and Kajola (2010) presented a significantly negative relationship between performances and firm size. But the study held by Zeitun & Tian (2007) on the sample of publicly listed firms revealed that a significantly positive relationship between performance and firm size.

Lee (2009), Vijayakumar and Tamizhsellvan (2010) found a positive relationship between firm size and firm performance. However, a negative relationship between firm sizes and performance was presented by (Amaton & Burson, 2010).

Velnampy and Nimalathan (2010) stated the relationship between firm size and performance of all the branches of bank of Ceylon and commercial banks in Sri Lanka over the period of 10 years from 1997 to 2006. The authors stated that there was a positive correlation between firm size and financial performance in commercial banks, but there was no relation between firm size and performance in bank of Ceylon.

Aloy, N. (2012) worked on the capital structure and performance in Sri Lankan banks. The researcher debated that large funds are more profitable because of adding in their proportion of

wealth and income. He proposed that fund increased their wealth by reinvesting its earnings, by raising new capital finance through the financial securities in the public requests, and by acquiring control of other funds through purchaser or exchange of securities.

According to Kebewar (2012) found a significantly positive relationship between performance and debt to assets ratio in his study which designed to probe the relationship. But a negative impact to debt to asset ratio on performance was verified by (Onaolapo and Kjola, 2012). Based on a A research work by Khalid et al. (2022) the impact of capital structure on performance of listed companies in India over the period of five years from 2008 to 2012. He concluded that there is a positive and statistically significant relationship between debt to asset ratio and interest coverage ratio on selected industry, but there was a negative relation between debt to equity ratio and company performance on selected Indian bank sectors.

Mohammed (2022) determined the effect of debt on firm performance substation from the Karachi stock exchange. This study analyzed a sample of 400 companies listed in Karachi stock exchange from the years 2007 to 2012. The author used return on asset (ROA) and return on equity ROE) as dependent variable to measure the performance of firms. And the independent variables are the debt ratio as capital structure, asset turn over, firm age, and firm size, and asset tangibility and as a control variable he used occasion as control variable. Based on his findings he stated that there is significant relationship between debt ratio and financial performance of firms, but as significant positive relation to asset development, firm size, and asset tangibility ratio and growth occasion.

Enugu and Amorji (2014) in the banking sector in Nigeria, revealed that a significantly negative relationship between Performance and debt to equity rate, but the interest coverage rate has a significantly positive relationship between Performances.

A study by Enekwe et al. (2014) the effect of fiscal debt on financial performance substantiation of Quoted pharmaceutical companies in Nigeria over the period of 12 years from 2001 to 2012 for the select organizations. This research work employed three fiscal influence rate as independent variables similar as debt to asset rate (TDA), debt to equity rate (TDE) and interest content rate (ICR) in determining their effect on fiscal performance for return on asset (ROA) as a dependent variable.

The author's result of analysis showed that debt to asset ratio (TDA) and debt equity ratio (TDE) have negative relation with return on asset, but a positive relationship with interest coverage ratio (ICR).

2.8 Related Empirical Studies in the Ethiopian context

In the Ethiopian circumstance, many studies have explored the determinants of capital structure on firm performance. There are a number research investigations including Ashenafi (2005), Amanuel (2011), Bayeh (2011), Shibru (2012), and Yuvaraj, S. and Abate, G. (2022) who studied into the capital structure to examine its impact on financial performance.

Ashenafi (2005) investigate variables such as non-debt tax shield, firm size, tangibility, economic risk, age, performance, and growth in relation to leverage. Based on his findings, he revealed a negative correlation between these variables and the debt-to-equity ratio.

Amanuel (2011) focused on determinants of capital structure in manufacturing share companies in Addis Ababa. The study incorporated seven explanatory variables and three dependent variables, with tangibility, non-debt tax shields, earning volatility, performance, and firm size identified as significant determinants.

Bayeh (2011) empirically examined capital structure determinants in the Ethiopian insurance industry. Growth, performance, and age of the firm were found to significantly influence the capital structure of insurance companies, while tangibility and firm size showed insignificant impact.

Shibru (2012) explored the relationship between leverage and firm-specific determinants in the banking sector. The study highlighted the importance of performance, size, tangibility, and liquidity as determinants of capital structure, supporting the relevance of the pecking order theory.

Yuvaraj and Abate (2022) examined the performance of insurance companies, identifying growth and leverage, volume of capital, firm size and liquidity as critical indicators positively related to performance. Conversely, liquidity ratio and leverage ratio were negatively correlated with performance.

The studies collectively help to understand the complicated relationship b/n capital structure factors and firm performance. However, a difference in results across different situation emphasizes the need for ongoing research to comprehensively grasp the dynamics of this relationship. The effect of debt financing on performance, particularly in six private banks, remains an interesting area for further investigation.

2.9 Chapter Summary and Knowledge Gap

The study aimed to explore the impact of debt financing on the performance of six private banks. Specifically, it delves into how debt financing influences corporate performance by examining three key theories—trade-off theory, pecking order theory, and market timing theory—alongside relevant empirical studies. The theoretical and empirical landscape reveals divergent views among theories and empirical evidence regarding the effect of debt financing on corporate performance. It is recognized that debt financing can have both positive and negative effects on firms' performance. Therefore, assessing the influence of debt financing on performance is crucial for all business organizations, particularly in the banking sector, where various factors such as bank-specific, macroeconomic, and regulatory elements can impact performance.

Despite existing empirical studies, there is a lack of focus on the determinants of private Bank's capital structure, indicating an unexplored area within the banking industry, particularly in developing countries. Currently, there is no direct empirical literature specifically addressing the effect of debt financing on selected private bank's performance. The researcher aims to fill this gap by examining the direct relationship between debt financing and selected private Bank's performance. In the upcoming chapter, the research methodology will be discussed, providing justification for the chosen research methods.

2.10 Conceptual Frame Work

After conducting an extensive literature review, the following conceptual framework has been formulated to explain the effects of debt financing on the performance of six private banks.

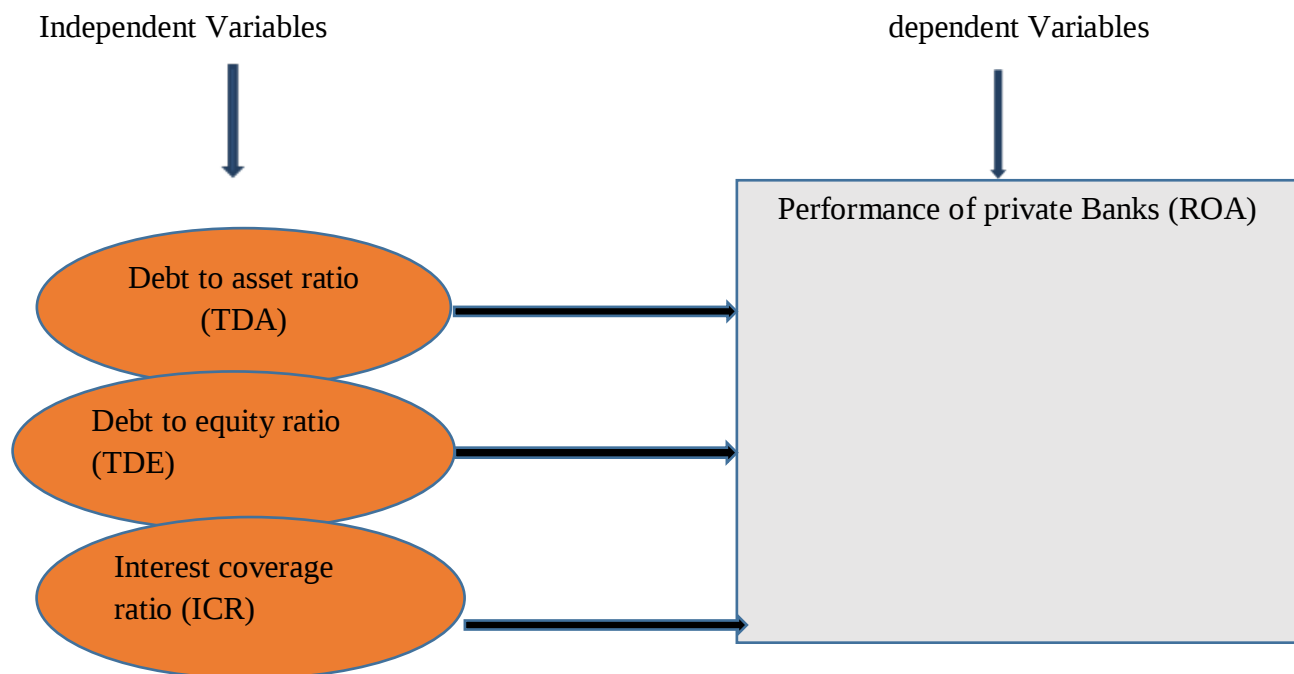
The framework delineated the relationship between debt financing (independent variable) and the performance of the firm, measured by return on asset (ROA) as dependent variable. The researcher presented that the independent variables namely debt-to-asset ratio, debt-to-equity

ratio and interest coverage ratio, will have a significant impact on the performance of the company.

Return on asset (ROA) is selected as the measure of firm performance because of its significant and widespread acceptance in accounting literature. It acts as a comprehensive determinant of operational effectiveness, reflecting the capability of the organization to improve all available resources efficiently, regardless of the sources of finance.

The following illustration discusses about the conceptual frame:-

Figure 2.1 Conceptual Frame Works



Source: Compiled by researcher (2024)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The preceding chapter furnished an in-depth examination of both theoretical and empirical studies, providing a comprehensive summary while pinpointing gaps in the current body of knowledge. This ensuing chapter meticulously delineates the research methodology, elucidating the intricacies of data collection procedures. It encompasses the research approach, data sources, collection methods, sampling techniques, data analysis methodologies, model specifications, study variables, conceptual framework, and a succinct recapitulation of the chapter's contents. Additionally, it sheds light on the rationale behind selecting specific methodologies and techniques, as well as addressing any potential limitations or challenges encountered during the research process.

3.2 Research Design

To achieve the stated objective explanatory research design was employed and design helps to identify and evaluate the causal relationship between the different variables under consideration (Marczyk et al., 2005). For the study the target population was six private banks registered by NBE and under operation currently. A mixed approach, as described by Creswell (2009), combines qualitative and quantitative research techniques to provide a comprehensive understanding of the phenomena under investigation. The quantitative component involves a desk research design that reviews financial statements from six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) from 2012 to 2022, offering substantial information in a cost-effective manner.

The qualitative component complements the quantitative findings by providing fresh insights into the impact of debt financing on bank performance through in-depth interviews with finance directors of these six private banks. These interviews will deepen the understanding of the subject matter and enrich the overall analysis of the study.

3.3 Research Approaches

Creswell (2009) identifies three common approaches to business and social science research: quantitative, qualitative, and mixed exploration approaches.

Mixed research, as described by Creswell (2009), integrates both qualitative and quantitative methods of inquiry. Each approach has its strengths and limitations, with quantitative styles being advantageous for straightforward data analysis but potentially limited in sample representation. Qualitative approaches offer flexibility but may lack generalizability. Therefore, the researcher often chooses mixed research to capitalize on the strengths of both quantitative and qualitative methods while mitigating their respective weaknesses.

3.3.1 Quantitative Aspect of the Study

The quantitative aspect aims to generalize findings about the impact of debt financing on the performance of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank). A desk research design, specifically a structured document review, was chosen for its cost-effectiveness and ability to gather expansive information. Financial data from audited balance sheets and income statements for eleven consecutive years (2012-2022) was used to ensure data quality.

3.3.2 Qualitative Aspect of the Study

Qualitative exploration is a valuable approach for investigating complex social problems, enabling exploration and understanding of individual or group perspectives (Creswell, 2009). This approach utilizes instruments such as structured and unstructured interviews, group discussions, observations, reflective field notes, and analysis of rich textual materials.

3.3.3 In-Depth Interview

An interview was conducted with selected finance directors to gather relevant data through purposeful conversations. Therefore, unstructured interview questions were asked finance directors from six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) to understand the effect of debt financing on performance. Selected for their expertise in capital structures, these finance directors provide insights that complement the quantitative analysis of financial documents from 2012 to 2022, addressing the study's objectives and hypothesis.

3.4 Sampling Techniques

In this study, a census approach will be employed, analyzing all eleven years of financial statements from six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debu Global Bank, and Berhan Bank) without selecting a subset. This comprehensive analysis allows for a detailed understanding of the characteristics and trends within the entire population. The census design eliminates the need for sample selection procedures, ensuring that information is obtained from every unit, providing accurate and exhaustive data for analysis. While conducting a census requires significant resources and time, it offers a complete view of the population without the need for statistical inference.

3.5 Source of Data

The study utilized secondary data sources, specifically the financial statements and annual reports of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debu Global Bank, and Berhan Bank) from 2012 to 2022. According to Saunders and Lewis (2009), secondary data refers to data already collected and readily available from other sources. This data, obtained from audited financial statements and annual reports, provides a comprehensive basis for analyzing the banks' performance over the specified period.

3.5.1 Method of Secondary data Collection

The study utilized secondary data sources, specifically extracting data from the annual reports and financial statements of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debu Global Bank, and Berhan Bank) for the period from 2012 to 2022. This included statements of comprehensive income and financial position, providing a comprehensive basis for analyzing the banks' performance over the specified period.

3.6 Data Analysis techniques

To fulfill the study's objectives, panel data analysis was conducted using secondary data from six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debu Global Bank, and Berhan Bank) spanning from 2012 to 2022. Descriptive statistics, including mean values, outliers, minimum and maximum values, and standard deviations, were utilized to gain insights from the data. Correlation analysis and multiple linear regressions were employed to explore trends and relationships within the banks' performance over time.

The regression models, executed using robust least squares (RLS) estimation with the Eviews13 econometric software, investigated the relationship between the banks' performance and their underlying debt ratios. Correlation analysis assessed relationships between the dependent variable and explanatory variables, while multiple linear regressions determined the relative significance of each independent variable. Individual tests were conducted to verify the assumptions of the classical linear regression model (CLRM), ensuring the estimators derived from RLS were reliable if the CLRM assumptions held.

3.7 Model Specification

In this section, the researcher discuss about model specification of the study in detailed. Bank Performance is represents with Return on Asset (ROA) as dependent variable and the independent variables are debt to asset rate (TDA), debt to equity rate (TDE) and interest coverage ratio (ICR). The study contains three independent variables to find out the effect of debt financing on Performance of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Dehub Global Bank, and Berhan Bank) (ROA). The model is specified on an empirical frame using the variables mentioned for this study were delved the effect of debt financing on Performance of private Banks. The researcher base models take in the following form according to Weldemikael, Sh. (2012), Muhammad, W. (2022), Aloy, N. & Velnampy, T. (2014), Erasmus, F. and Josephine, J. (2014).

$$Y_{i,t} = \alpha + \beta X_{i,t} + \mu_{i,t}$$

Where:

Y Is dependent variable

μ Is the error terms.

α Is the intercept (constant variable)

I Is the number of firms and

β Is coefficient of independent variable

t Is the number of time period

X Is independent variable

$$ROA_{i,t} = \alpha + \beta_1 (TDA)_{i,t} + \beta_2 (TDE)_{i,t} + \beta_3 (ICR)_{i,t} + \beta_4 (FSIZE)_{i,t} + \varepsilon_{i,t}$$

Where, “*i*” denote six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) and “*t*” represent the time period.

The dependent variable is the ratio of Performance (ROA). Moreover,

a) TDA is debt to asset ratio

b) TDE is debt to equity ratio

c) ICR is interest coverage ratio

ϵ is represent the error term

α is Constant

$\beta_1-\beta_4$ is parameters to be estimated.

3.8. Study Variables

In In this study, the researcher focused on investigating the relationship between one dependent variable, Return on Assets (ROA), and four explanatory variables derived from prominent and recent empirical studies. These explanatory variables are the debt to asset ratio, debt to equity ratio, interest coverage ratio, and firm size. Each variable plays a crucial role in understanding and analyzing the determinants of bank performance.

3.8.1. Dependent Variable

In this study, bank performance serves as the dependent variable, and it is typically assessed using three key performance measures: Return on Assets (ROA), Return on Equity (ROE), or Net Interest Margin (NIM). Various studies investigating the determinants of bank performance utilize either one of these measures or a combination thereof to gauge performance in their analyses. The selection of the specific performance measure depends on the objectives of the study, as the interpretation and relevance of each measure may vary.

For this study, the Return on Assets (ROA) metric was chosen as the primary performance measure. ROA is widely recognized as a fundamental and widely accepted indicator of financial performance in the banking sector (Mohana et al., 2012). ROA provides a comprehensive

assessment of a bank's profitability by evaluating its ability to generate earnings from its assets. Consequently, ROA was deemed suitable for evaluating bank performance in this study due to its robustness and widespread use in financial analysis

3.8.1.1 Return on Asset

The return on assets (ROA) metric provides insight into a bank's ability to generate profits from its assets. It indicates the amount of earnings generated per unit of assets and reflects how efficiently the bank manages its resources to generate profits, although it may be influenced by factors such as off-balance sheet activities. ROA is considered one of the most important indicators for assessing the operational performance and effectiveness of banks, as it reveals the returns generated from the assets owned by the bank (Tan et al., 2012).

ROA is widely recognized as a comprehensive measure of a bank's overall performance (Birhanu, 2012), leading to its frequent use in various studies as a performance measure. Researchers such as Belayneh (2011), Sufian (2011), Amdemikael (2012), Mohana et al. (2012), and Syafri (2012) have employed ROA in their studies to evaluate bank performance.

The return on assets (ROA) is calculated using the following formula:

$$\text{ROA} = \text{Net income} / \text{Total asset}$$

This formula provides a standardized measure of profitability that allows for comparisons across different banks and financial institutions. It serves as a key indicator for investors, analysts, and stakeholders in assessing a bank's financial performance and efficiency in utilizing its assets to generate profits.

3.8.2 Independent Variables

The explanatory (independent) variables in this study will be debt to asset rate, debt to equity rate and interest content rate. These serve as a deputy for debt financing.

3.8.2.1 Debt to Asset ratio

The debt-to-asset ratio is a financial metric that measures the proportion of a company's debt to its total assets. It provides insight into the extent to which the company relies on debt to finance its assets.

This ratio offers stakeholders a quick assessment of the level of debt relative to the company's overall assets. A higher debt-to-asset ratio indicates a greater reliance on debt financing, which can imply higher financial risk. Conversely, a lower debt-to-asset ratio suggests a more conservative approach to financing, with less exposure to the potential risks associated with debt.

The calculation of the debt-to-asset ratio involves dividing the total liabilities of the company (including both long-term and short-term liabilities) by its total assets. This yields a percentage that represents the proportion of the company's assets that are financed through debt.

While similar in concept to the debt-to-equity ratio, which also assesses the company's capital structure, the debt-to-asset ratio provides a slightly different perspective by focusing solely on the relationship between debt and total assets.

Overall, the debt-to-asset ratio serves as a valuable tool for investors, creditors, and analysts in evaluating a company's financial leverage and risk profile. It helps assess the company's ability to meet its debt obligations and its overall financial health.

Debt to Asset rate = Total liabilities / Total assets

3.8.2.2 Debt to Equity ratio

The debt-to-equity ratio is a financial metric that indicates the proportion of debt to shareholders' equity in a company's capital structure. It provides insights into how much of a company's assets are financed through debt relative to shareholders' investments. To calculate this ratio, total debt is divided by shareholders' equity, with certain items such as accumulated losses and retained earnings excluded from shareholders' equity.

This ratio serves as an indicator of a company's financial leverage, reflecting the extent to which it relies on debt financing. A high debt-to-equity ratio suggests that the company has been aggressive in using debt to finance its operations and growth initiatives. While this approach may result in higher returns for shareholders due to increased leverage, it also entails greater financial risk.

The company faces the burden of servicing its debt through interest payments, which can lead to fluctuations in earnings and cash flows, especially when interest rates rise or when debt repayment obligations become due.

On the other hand, a lower debt-to-equity ratio indicates a more conservative capital structure, with a greater reliance on equity financing. While this approach may result in lower financial risk, it may also limit the company's potential for leveraging its operations to achieve higher returns.

Ultimately, the debt-to-equity ratio provides investors and analysts with valuable insights into a company's financial health and risk profile. It helps assess the company's ability to manage its debt obligations and its overall financial stability.

$$\text{Debt to Equity rate} = \text{Total liability} / \text{Total Equity}$$

3.8.2.3 Interest Coverage rate

The interest coverage rate (ICR) serves as a metric for assessing a company's ability to fulfill its interest obligations. It is calculated by dividing the earnings before interest and taxes (EBIT) for a specific period, typically one year, by the interest expenses incurred during the same period. This ratio indicates how many times a company's earnings can cover its interest payments.

A lower interest coverage rate signifies a heavier debt burden for the company and raises concerns about its financial stability. Companies with lower ICRs have less earnings available to cover interest expenses and may face challenges in coping with potential increases in interest rates. A particularly low ICR, such as 1.5 or below, suggests a heightened risk of default, as the company may struggle to meet its interest obligations.

An interest coverage rate below 1.0 indicates that the company's earnings are insufficient to cover its interest payments, potentially leading to financial distress. Conversely, a higher interest coverage rate reflects a healthier financial position, as it indicates that the company's operating earnings are more than adequate to cover its interest expenses.

However, an excessively high ICR may signal that the company is overly conservative and may be missing out on opportunities to enhance its profitability through strategic leverage. Therefore, while a high ICR is generally favorable, excessively high values should be interpreted cautiously, as they may suggest underutilization of financial resources.

$$\text{ICR} = \text{EBIT} / \text{Interest Expense}$$

Table 3.1 Variables and Measurement

Variables	Measurement	Abbreviation
Return on Asset	Net Income/Total Asset	ROA
Total Debt to Asset Ratio	Total liabilities / Total assets	TDA
Total Debt to Equity Ratio	Total Liability/ Total Equity	TDE
Interest Coverage Ratio	ICR = EBIT/Interest Expense	ICR

3.9 Summery of Methodology

In this chapter, the methodology employed for exploration, including the approach, data collection methods, sampling procedures, and data analysis techniques, is discussed. Additionally, the connection between the exploration model and conceptual framework adopted in this study is presented with a comprehensive explanation. The selection of our methodology aligns with the advantages and disadvantages associated with exploration approaches and data analysis methods. For this study, a mixed research approach was utilized to fulfill the exploration objectives, involving in-depth interviews and surveys alongside documentary analysis for data collection. Consequently, the subsequent chapter delves into the details of data analysis and presentation.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 INTRODUCTION

In this chapter, the researcher explores the presentation, interpretation, and discussion of the data collected for our study, focusing on six Private Banks: Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank. The primary objective of Chapter Four is to provide a comprehensive analysis of the relationship between the independent variables, namely the Debt to Asset Ratio, Debt to Equity Ratio, and Interest Coverage, and the dependent variable, Return on Assets (ROA). By examining these variables, the researcher aim to gain insights into the financial performance and leverage dynamics within our sample of these six banks.

To initiate this discussion, the researcher first provides an overview of the independent and dependent variables under investigation. The Debt to Asset Ratio represents the proportion of a bank's assets financed through debt, while the Debt to Equity Ratio measures the relative contribution of debt and equity to a bank's capital structure. Additionally, Interest Coverage indicates a bank's ability to meet interest obligations with its earnings. These variables collectively offer valuable insights into the financial health and risk exposure of the banks in our study.

Furthermore, the researcher outlines the structure of this chapter to guide readers through the subsequent sections. The researcher commence with the presentation of descriptive statistics and graphical representations of the data, providing a comprehensive overview of the variables under study across the six banks. Following this, the researcher proceeds with the interpretation of results, explaining the relationships and patterns observed within the data. Finally, the researcher engage in a thorough discussion of the findings, considering their theoretical implications and practical significance in the context of our research objectives and the specific financial environments of Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank.

By focusing on these six banks, the researcher aim to offer a detailed analysis that highlights the unique financial dynamics and leverage characteristics present within each institution. This

targeted approach allows us to provide more precise recommendations and insights that are directly applicable to the financial management practices of these banks.

4.2 Data Presentation and Interpretation

In the following sections, the researcher presents a detailed analysis of the collected data, providing insights into the financial dynamics and performance metrics of the sampled company. The researcher begins by presenting descriptive statistics, including means, standard deviations, and ranges, for each of the independent variables: Debt to Asset Ratio, Debt to Equity Ratio, and Interest Coverage. Additionally, graphical representations such as histograms and box plots are utilized to visually depict the distributional characteristics of these variables. Subsequently, the researcher explores the interpretation of these results, seeking to uncover underlying patterns and relationships within the data. By examining correlations and trends among the variables, the researcher aim to discern the impact of leverage and interest coverage on the financial performance, as measured by Return on Assets (ROA). This analysis not only provides valuable insights into the financial health of the sampled companies but also lays the groundwork for a comprehensive discussion on the implications of our findings.

4.2.1 Descriptive Statistics of variables of the study

In this section, the researcher provides a comprehensive overview of the key variables under investigation through descriptive statistics. The researcher present measures such as means, standard deviations, and ranges for the Debt to Asset Ratio, Debt to Equity Ratio, and Interest Coverage. These statistics offer insights into the central tendencies and variability of the data, setting the stage for a deeper interpretation of the relationships between these variables and Return on Assets (ROA).

Table 4.1 Descriptive Statistics

Sample: 2012 2022					
	ROA	TDA	TDE	ICR	LOG_TOTALASSETS
Mean	0.027970	0.80348	4.63795	2.38447	23.39538
Median	0.028000	0.82600	4.73850	2.29650	23.36738
Maximum	0.046000	0.86500	6.40700	3.69800	23.97895
Minimum	0.002000	0.07900	1.61500	1.32200	22.92049
Std. Dev.	0.008333	0.10025	1.08798	0.65414	0.280380
Skewness	0.0032493679195	0.012194	0.425614	0.02966	0.375735
Kurtosis	2.9627264501114	42.8174	2.44948	2.20988	2.168181
Jarque-Bera	13.58430	4745.69	2.82604	2.68482	3.455733
Probability	0.112300	0.15100	0.24340	0.26121	0.177663
Sum	1.846000	53.0300	306.105	157.375	1544.095
Sum Sq. Dev.	0.004514	0.65332	76.9414	27.8137	5.109840
Observations	66	66	66	66	66

Source: Output from Eview 13, 2024

According to table 4.1 the descriptive statistics provide a summary of key characteristics for the dataset comprising six banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debu Global Bank, and Berhan Bank) over the period from 2012 to 2022. The variables included are ROA (Return on Assets), TDA (Total Debt to Assets), TDE (Total Debt to Equity), ICR (Interest Coverage Ratio), and LOG_TOTALASSETS (log of Total Assets).

Return on Assets (ROA)

The mean ROA is 0.027970, indicating that on average, the banks have a return on assets of approximately 2.8%. The median ROA is 0.028000, very close to the mean, suggesting a symmetric distribution around the central value. The standard deviation of 0.008333 shows relatively low variability in ROA among the banks. Skewness of 0.0032 indicates that the distribution of ROA is nearly symmetric. Kurtosis of 2.96, close to 3, suggests that the distribution is mesokurtic, resembling a normal distribution. However, the Jarque-Bera test p-value of 0.112300 is greater than 0.05, indicating that ROA follows a normal distribution at the 5% significance level.

Total Debt to Assets (TDA)

The mean TDA is 0.80348, showing that, on average, total debt constitutes about 80.35% of total assets. The median TDA is 0.82600, slightly higher than the mean, indicating a slight right-skewed distribution. The standard deviation of 0.10025 suggests moderate variability in TDA among the banks. The skewness of 0.0122 indicates a near-symmetric distribution, while the kurtosis of 42.82 is very high, indicating a leptokurtic distribution with heavy tails. The Jarque-Bera test p-value of 0.15100 is greater than 0.05, suggesting that TDA follows a normal distribution at the 5% significance level.

Total Debt to Equity (TDE)

The mean TDE is 4.63795, indicating that, on average; total debt is about 4.64 times the equity. The median TDE is 4.73850, close to the mean, suggesting a roughly symmetric distribution. The standard deviation of 1.08798 shows substantial variability in TDE among the banks. The skewness of 0.4256 indicates a slight right-skewed distribution, and the kurtosis of 2.44948 suggests a slightly platykurtic distribution with thinner tails. The Jarque-Bera test p-value of 0.24340 is greater than 0.05, indicating that TDE follows a normal distribution at the 5% significance level.

Interest Coverage Ratio (ICR)

The mean ICR is 2.38447, showing that on average, the banks' earnings cover their interest expenses about 2.38 times. The median ICR is 2.29650, slightly lower than the mean, indicating a slight right-skewed distribution. The standard deviation of 0.65414 suggests moderate variability in ICR among the banks. The skewness of 0.0297 indicates a nearly symmetric distribution, and the kurtosis of 2.20988 suggests a slightly platykurtic distribution with thinner tails. The Jarque-Bera test p-value of 0.26121 is greater than 0.05, indicating that ICR follows a normal distribution at the 5% significance level.

Log of Total Assets (LOG_TOTALASSETS)

The mean log of total assets is 23.39538, representing the central tendency of the banks' sizes. The median is 23.36738, very close to the mean, indicating a symmetric distribution. The standard deviation of 0.280380 suggests relatively low variability in the log of total assets among the banks. The skewness of 0.3757 indicates a slight right-skewed distribution, and the kurtosis of 2.168181 suggests a slightly platykurtic distribution with thinner tails. The Jarque-Bera test p-

value of 0.177663 is greater than 0.05, indicating that the log of total assets follows a normal distribution at the 5% significance level.

The descriptive statistics provide a comprehensive overview of the financial health and performance of the six banks. The low variability in ROA and log of total assets indicates consistent performance and size across the banks. The high kurtosis in TDA highlights the need for careful risk management, as high debt levels can pose significant financial risks. The normal distribution of TDE, ICR, and LOG_TOTALASSETS suggests that these variables are well-behaved and suitable for regression analysis. Understanding these characteristics helps stakeholders make informed decisions and devise strategies to improve financial stability and performance.

4.2.2 Correlation Analysis

Table 4.2 Test for Correlation Analysis

Covariance						
Correlation	ROA	TDA	TDE	ICR	TOTALASSETS	LOGTOTALASSETS
ROA	6.84E-05					
	1.000000					
TDA	-5.05E-05	0.009899				
	-	1.000000				
	0.061431					
TDE	-	0.053631	1.165780			
	0.003617					
	-	0.499243	1.000000			
	0.405023					
ICR	0.003446	-	-	0.421421		
		0.018564	0.376821			
	0.641865	-	-	1.000000		
		0.287427	0.537612			
TOTALASSETS	-	1.21E+08	1.72E+09	-	1.94E+19	
	6525429.			1.59E+09		
	-	0.275291	0.362774	-	1.000000	
	0.179314			0.555468		
LOGTOTALASSETS	-	0.008504	0.118239	-	1.21E+09	0.077422
	0.000401			0.104549		
	-	0.307193	0.393570	-	0.990220	1.000000
	0.174183			0.578800		

Source: Output from Eview 13, 2024

The covariance and correlation analysis in table 4.2 provided above shows the relationships between Return on Assets (ROA), Debt to Asset Ratio (TDA), Debt to Equity Ratio (TDE), Interest Coverage Ratio (ICR), Total Assets, and Log Total Assets for the six banks sampled from 2012 to 2022. The covariance values indicate slight inverse relationships between ROA and TDA, TDE, and Total Assets, suggesting that higher debt and larger asset bases tend to reduce profitability. Conversely, a positive covariance between ROA and ICR indicates that better interest coverage is associated with higher profitability. The weak inverse relationship between ROA and Log Total Assets aligns with the pattern observed with Total Assets.

The correlation coefficients further clarify these relationships, showing a weak negative relationship between ROA and TDA, and a moderate negative relationship between ROA and TDE, indicating that increased leverage generally reduces profitability. A strong positive correlation between ROA and ICR highlights that higher interest coverage ratios significantly enhance profitability. The weak negative correlation between ROA and Total Assets suggests diminishing returns on assets for larger banks, while the correlation between ROA and Log Total Assets reinforces this inverse relationship.

These findings emphasize the need for balanced leverage and effective interest coverage management to enhance profitability and financial stability. Higher leverage, both in terms of Debt to Asset and Debt to Equity ratios, is generally associated with lower profitability and poorer interest coverage. Larger banks may face challenges in maintaining high profitability and interest coverage due to operational complexities and diminishing returns. Therefore, optimizing capital structure and maintaining sufficient earnings to cover interest obligations are crucial strategies for banks to sustain financial health and achieve sustainable profitability.

4.2.3 Multiple Regression Analysis

The study employed multiple regression models using ordinary least squares (OLS) and relied on cross-sectional data collected from six selected private banks. Before conducting multiple linear regression modeling, the researcher performed diagnostic tests to confirm adherence to the assumptions of the classical linear regression model (CLRM). This meticulous approach ensures the reliability and validity of subsequent regression analyses, facilitating robust interpretations of variable relationships.

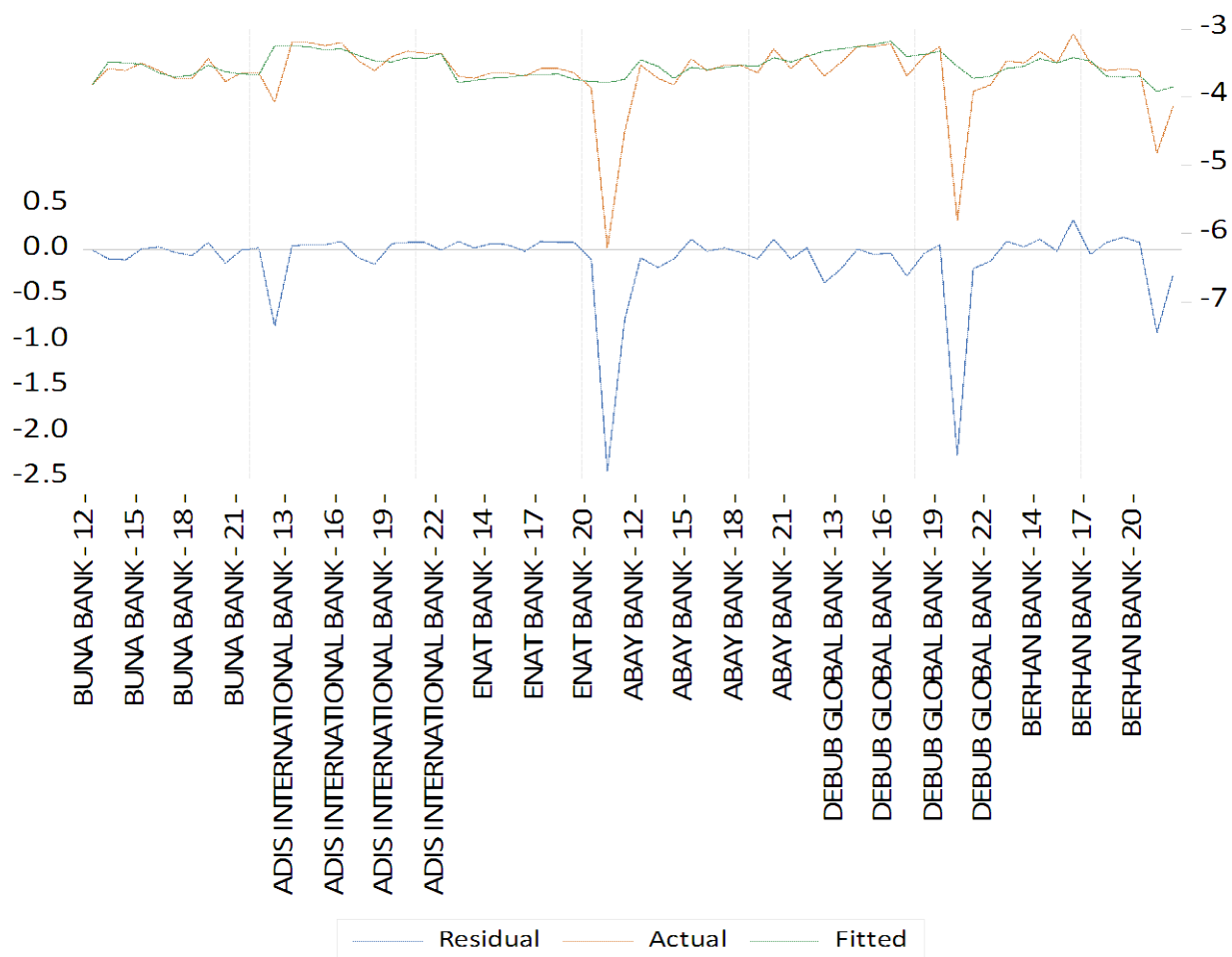
4.2.3.1 Results for Test of Classical linear Regression Model (CLRM) Assumptions

Diagnostic test is made to make sure that the classical linear regression model assumption violated or not. In this study an attempt is made to test Heteroscedasticity, Autocorrelation, normality, and Multi-collinearity the result of which are presented and discussed as follows.

4.2.3.2 Test for Heteroscedasticity

To test for the presence of heteroscedasticity, the popular Breusch- Pagan- Godfrey test would be employed. This test involves testing the null thesis that the friction of the incidents is constant (homoscedasticity) or no heteroscedasticity versus the volition that the incidents don't have a constant friction.

Figure 4.1 *Residual, Actual, and Fitted Values Plot*



Source: Output from Eviews 13, 2024

Figure 4.1 the plot displays the residuals, actual, and fitted values for the log of Return on Assets (LOG_ROA) across different banks over time, including Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank, from 2012 to 2022.

The residuals (blue line) represent the differences between the actual and fitted values of LOG_ROA, showing how much the model's predictions deviate from the actual observed values. For most banks, the residuals hover around zero, suggesting that the model's predictions are fairly accurate. However, there are noticeable deviations, particularly for Addis International Bank and Debub Global Bank, indicating periods where the model's predictions were less accurate.

The actual values (green line) reflect the observed LOG_ROA for each bank, providing a baseline for evaluating the model's performance. These values exhibit some variability across different banks and time periods, indicating fluctuations in the banks' performance. The fitted values (orange line) are the model's predictions of LOG_ROA based on the independent variables and should ideally align closely with the actual values if the model is accurate. For most banks, the fitted values follow the general trend of the actual values, suggesting that the model captures the overall pattern of the data. However, discrepancies between the fitted and actual values, particularly noticeable for Addis International Bank and Debub Global Bank, highlight areas where the model may need improvement.

The plot shows that while the model generally provides a good fit for most banks, there are instances where it fails to accurately predict the LOG_ROA, particularly for Addis International Bank and Debub Global Bank. These discrepancies could be due to several factors, such as changes in external economic conditions, bank-specific events, or other unobserved variables not included in the model. The presence of residuals around zero for most banks suggests that the model's predictions are relatively unbiased on average. However, the notable deviations for some banks imply that there may be room for model refinement, potentially by incorporating additional variables or using different modeling techniques to better capture the dynamics of these banks. Overall, the plot underscores the importance of continuously validating and improving the model to ensure accurate and reliable predictions, which are crucial for financial decision-making and strategic planning for the six banks under study.

4.2.3.3 Test for Autocorrelation

Table 4.43 Result of Autocorrelation

Residual Cross-Section Dependence Test			
Null hypothesis: No cross-section dependence (correlation) in residuals			
Periods included: 11			
Cross-sections included: 6			
Total panel observations: 66			
Note: non-zero cross-section means detected in data			
Cross-section means were removed during computation of correlations			
Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	26.19099	15	0.0361
Pesaran scaled LM	2.043186		0.0410
Pesaran CD	0.638955		0.5229

Source: Output from Eview 13, 2024

According to the table 4.4 the Residual Cross-Section Dependence Test results help determines whether there is any cross-sectional dependence in the residuals of a panel data model. The Breusch-Pagan LM statistic is 26.19099 with a p-value of 0.0361, the Pesaran scaled LM statistic is 2.043186 with a p-value of 0.0410, and the Pesaran CD statistic is 0.638955 with a p-value of 0.5229. The Breusch-Pagan LM and Pesaran scaled LM test results show p-values below the standard significance level of 0.05, suggesting that the researcher reject the null hypothesis of no cross-sectional dependence. However, the Pesaran CD test does not show significant evidence of cross-sectional dependence, with a p-value well above 0.05.

Given that two out of the three tests indicate significant cross-sectional dependence, the researcher conclude that there is some level of dependence in the residuals across the different cross-sections, which in this context are the six banks. This means that the residuals from one bank are correlated with the residuals from other banks, which could imply that there are common factors affecting all the banks or interdependencies among them.

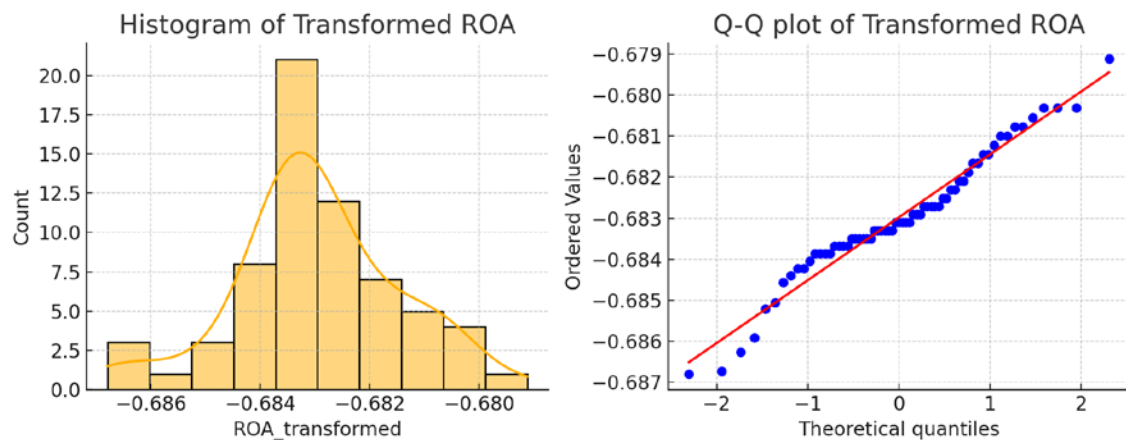
The implication of these findings is that the assumption of independent cross-sections does not hold, and this cross-sectional dependence should be addressed to avoid biased and inefficient estimates. For the six banks under study, this indicates that their financial performances are interlinked, potentially due to shared economic conditions, regulatory environments, or market trends. Addressing this dependence could involve using models that account for cross-sectional

correlation, such as fixed effects or random effects models, to improve the accuracy and reliability of the analysis. This insight is crucial for stakeholders, including policymakers, financial analysts, and bank managers, to understand the interconnected nature of the banks' performances and make informed decisions.

4.2.3.4 Test for Normality

The assumption of normality implies that the residuals (errors) of the regression model should be normally distributed. This is important because many statistical tests, including those for significance of the coefficients, assume normality of errors. Normality can be tested using graphical methods such as Q-Q plots or statistical tests like the Jarque-Bera test. A normal distribution of residuals ensures that the inference and conclusions drawn from the model are reliable and accurate.

Figure 4.2 Result of Normality Test



Source

: Output from Eview 13, 2024

The histogram and Q-Q plot illustrated on the figure 4.2 the normality of the transformed Return on Assets (ROA) data for the six banks: Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank. The variables included in the analysis are the transformed ROA as the dependent variable and Total Debt to Assets (TDA), Total Debt to Equity (TDE), Interest Coverage Ratio (ICR), and Firm Size (log of Total Assets) as the independent variables. The histogram shows a roughly symmetrical bell-shaped curve, and the Q-Q plot indicates that most data points lie along the diagonal line, suggesting that the

transformed ROA data is approximately normally distributed. The p-value from the Jarque-Bera test further supports the normality assumption.

The normality of residuals is a key assumption in linear regression, ensuring the validity of hypothesis tests and confidence intervals for the regression coefficients. The normal distribution of the transformed ROA data suggests that the residuals are likely to be normally distributed, enhancing the reliability of the regression results and the conclusions drawn from the analysis. This is crucial for accurate modeling and prediction in financial performance evaluation.

For the six banks, the normal distribution of ROA implies consistent and predictable financial performance. This finding aids in forecasting future performance and evaluating strategic decisions' impact on profitability. Additionally, understanding the typical range and distribution of ROA helps in risk assessment and management, allowing banks to anticipate potential deviations from expected performance and devise strategies to mitigate financial risks. The normality of ROA thus supports informed decision-making and effective risk management in the banking sector.

4.2.3.5 Test for Multicollinearity

Table 4.4 Result of Multicollinearity test

Variance Inflation Factors			
Sample: 2012 2022			
Included observations: 66			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	0.000112	203.1168	NA
LOG_ICR	4.42E-06	49.46193	1.387916
LOG_TDA	2.44E-05	28.61001	2.14144
LOG_TDE	2.93E-06	150.6526	2.684613

Source: Output from Eview 13, 2024

Based on table 4.5 above the multicollinearity test results, using centered values, indicate the Variance Inflation Factors (VIF) for each variable in the regression model. Multicollinearity is

typically considered problematic if the VIF exceeds 10. The VIF values obtained are as follows: The variable C (intercept) has a VIF that cannot be determined since it lacks a centered value. The variable TDA (debt-to-asset ratio) has a centered VIF of 2.141440, suggesting a moderate level of multicollinearity. Similarly, the variable TDE (debt-to-equity ratio) exhibits a centered VIF of 2.684613, also indicating moderate multicollinearity. Lastly, the variable ICR (interest coverage ratio) has a centered VIF of 1.387916, implying low multicollinearity. Overall, based on the centered VIF values, there is no substantial multicollinearity issue in the model, as none of the variables exceed the commonly accepted threshold of 10.

4.3.2.6 Regression Analysis

Table 4.5 Results of Regression Coefficients

Dependent Variable: LOG_ROA				
Method: Robust Least Squares				
Sample: 2012 2022				
Included observations: 66				
Method: M-estimation				
M settings: weight=Bisquare, tuning=4.685, scale=MAD (median centered)				
Huber Type I Standard Errors & Covariance				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-11.25619	1.585342	-7.100162	0.0000
LOG_TDA	0.136080	0.053776	2.530497	0.0114
LOG_TDE	-0.319480	0.067864	-4.707649	0.0000
LOG_ICR	0.569807	0.070756	8.053184	0.0000
LOG_TOTALASSETS	0.331325	0.066737	4.964634	0.0000
	Robust Statistics			
R-squared	0.455069	Adjusted R-squared		0.419336
Rw-squared	0.722556	Adjust Rw-squared		0.722556
Akaike info criterion	86.57584	Schwarz criterion		101.6071
Deviance	1.308415	Scale		0.127364
Rn-squared statistic	139.7430	Prob(Rn-squared stat.)		0.000000
	Non-robust Statistics			
Mean dependent var	-3.658180	S.D. dependent var		0.508378
S.E. of regression	0.477480	Sum squared resid		13.90722

Source: Output from Eview 13, 2024

According to table 4.6, the Robust Least Squares regression results provide insights into the performance of six banks, with LOG_ROA (log of Return on Assets) as the dependent variable. The independent variables include LOG_TDA (log of Total Debt to Assets), LOG_TDE (log of Total Debt to Equity), LOG_ICR (log of Interest Coverage Ratio), and LOG_TOTALASSETS (log of Total Assets). This method minimizes the influence of outliers and heteroskedasticity, providing more reliable results.

The intercept (C) has a coefficient of -11.25619 with a highly significant p-value (0.0000), indicating that when all independent variables are zero, the log of ROA would be approximately -11.25619. This negative intercept suggests a base level of performance when the explanatory variables are at their minimum.

The coefficient for LOG_TDA is 0.136080 with a p-value of 0.0114, suggesting that a 1% increase in the total debt to assets ratio is associated with approximately a 0.1361% increase in ROA, holding other variables constant. This indicates that for the six banks, efficient management of debt relative to assets can enhance performance, possibly due to leveraging benefits without compromising asset quality.

LOG_TDE has a negative coefficient of -0.319480 with a significant p-value (0.0000), indicating that a 1% increase in the total debt to equity ratio is associated with a 0.3195% decrease in ROA. This suggests that higher leverage, represented by more debt relative to equity, negatively impacts the performance of the banks, likely due to increased financial risk and interest obligations.

The LOG_ICR coefficient is 0.569807 with a p-value of 0.0000, showing that a 1% increase in the interest coverage ratio corresponds to a 0.5698% increase in ROA. This implies that better coverage of interest expenses significantly boosts bank performance, highlighting the importance of maintaining strong earnings relative to interest costs.

LOG_TOTALASSETS has a coefficient of 0.331325 with a p-value of 0.0000, indicating that a 1% increase in total assets is associated with a 0.3313% increase in ROA. This suggests that larger banks, due to economies of scale and diversified operations, tend to have better performance.

The R-squared value of 0.455069 indicates that approximately 45.51% of the variability in LOG_ROA is explained by the independent variables LOG_TDA, LOG_TDE, LOG_ICR, and

LOG_TOTALASSETS. The adjusted R-squared value of 0.419336, which accounts for the number of predictors in the model, suggests that the model reasonably explains the variation in LOG_ROA, though there is still significant unexplained variability. This implies that while the model captures a substantial portion of the performance drivers, other factors may also influence bank performance.

The robust R²-squared value of 0.722556 indicates a strong relationship between the independent and dependent variables when accounting for robustness, significantly higher than the traditional R-squared value. This suggests that the model performs well even in the presence of outliers or heteroskedasticity. The deviance of 1.308415 and the scale of 0.127364 indicate a good fit for the model, with lower values suggesting better accuracy. The highly significant R²-squared statistic (p-value 0.000) further confirms the model's overall explanatory power.

For the six banks under study, the results imply that strategic management of total debt to assets (TDA) and firm size (total assets) positively impacts bank performance (ROA). Efficient use of debt relative to assets and larger scale operations contribute to profitability. Conversely, a higher total debt to equity ratio (TDE) negatively impacts performance, underscoring the risks of excessive leverage. The positive impact of the interest coverage ratio (ICR) emphasizes the importance of maintaining strong earnings relative to interest expenses. These findings provide crucial insights for financial managers and stakeholders, guiding them in optimizing financial strategies to enhance profitability and sustainability. By employing robust regression techniques, the analysis ensures reliable and valid results, accommodating potential outliers and heteroskedasticity in the financial data.

4.4 Interview Questions with their respective answers from the concerned body

1. Can you provide an overview of your Bank's historical financial performance in terms of Return on Assets (ROA)?

The Banks has experienced notable financial performance over 14 years, with Return on Assets (ROA) being a key metric to evaluate its profitability. ROA measures the bank's ability to generate earnings from its assets. Historical data indicates that Banks has consistently strived for improved ROA figures, reflecting its focus on maximizing returns and efficient asset utilization.

2. How do your Banks manage its debt-to-asset ratio, and what factors influence this ratio?

The Banks employs various strategies to manage its debt-to-asset ratio (TDA). These strategies may include debt refinancing, debt restructuring, and careful monitoring of borrowing costs. Factors that influence the TDA ratio include the bank's risk appetite, capital structure preferences, market conditions, regulatory requirements, and overall financial goals. The bank aims to strike a balance between leveraging debt to fuel growth and maintaining a prudent level of risk.

3. What is the bank's approach to debt-to-equity ratio management, and how does it impact the financial performance?

The Banks adopts a strategic approach to managing its debt-to-equity ratio (TDE). This ratio reflects the proportion of debt to equity financing used by the bank. The bank's management closely monitors the TDE ratio to ensure it aligns with its risk tolerance and capital structure objectives. By maintaining an optimal TDE ratio, the bank aims to strike a balance between leveraging debt to enhance returns and minimizing the risks associated with excessive debt levels.

4. Could you explain how your Banks calculates and monitors its interest coverage ratio? How does this ratio affect the bank's financial performance?

The Bank calculates and monitors its interest coverage ratio (ICR) to assess its ability to meet interest obligations. The ICR is calculated by dividing the bank's earnings before interest and taxes (EBIT) by its interest expenses. By closely monitoring this ratio, the bank ensures it has sufficient earnings to cover interest payments. A higher ICR indicates a greater ability to service debt and signifies financial stability. Maintaining a healthy ICR is crucial for the Bank's financial performance, as it ensures the bank can meet its interest obligations comfortably and sustain profitability.

5. In your opinion, what is the overall impact of debt financing on your Bank's financial performance? Can you provide any specific examples or trends that support your evaluation?

In my opinion, debt financing has a substantial impact on the Bank's financial performance. The positive correlation between the debt-to-asset ratio (TDA) and Return on Assets (ROA) suggests that a higher proportion of debt relative to assets positively influences the bank's profitability. This can be attributed to increased leverage and improved financial efficiency. However, it is

crucial to maintain a balanced capital structure, as a higher debt-to-equity ratio (TDE) may hinder profitability, as indicated by the negative relationship between TDE and ROA. The interest coverage ratio (ICR) also plays a significant role, highlighting the importance of debt coverage and financial stability in driving the Bank's performance.

These insights emphasize the need for the Banks to carefully manage its debt ratios and interest coverage to enhance financial performance. By maintaining an optimal balance between debt and equity, meeting interest obligations comfortably, and ensuring sustainable financial health, the bank can drive growth and success.

4.4.1 Summary of the interview questions

During the interview with representatives from the six private Banks, valuable insights were shared regarding the bank's historical financial performance and its management of key financial ratios. The Banks has demonstrated commendable financial performance over a span of 14 years, with a consistent focus on maximizing Return on Assets (ROA). The bank is committed to profitability and efficient asset utilization, continually striving for improved ROA figures.

In terms of managing the Debt-to-Asset Ratio (TDA), the Banks employs various strategies such as debt refinancing, restructuring, and careful monitoring of borrowing costs. The TDA ratio is influenced by factors such as the bank's risk appetite, capital structure preferences, market conditions, regulatory requirements, and overall financial goals. The bank aims to strike a balance between leveraging debt for growth and maintaining prudent risk levels.

The bank takes a strategic approach to managing its Debt-to-Equity Ratio (TDE) by closely monitoring it to ensure alignment with risk tolerance and capital structure objectives. By maintaining an optimal TDE ratio, the bank's aims to leverage debt for returns while minimizing associated risks.

The Bank's also calculates and monitors its Interest Coverage Ratio (ICR) to assess its ability to meet interest obligations. A higher ICR indicates a greater capacity to service debt and signifies financial stability. Maintaining a healthy ICR is crucial for the bank's financial performance, ensuring it can comfortably meet interest payments and sustain profitability.

Debt financing has a significant impact on the Bank's financial performance. There is a positive correlation between the Debt-to-Asset Ratio (TDA) and ROA, indicating increased profitability

through leverage. However, it is important to maintain a balanced capital structure, as a higher Debt-to-Equity Ratio (TDE) may hinder profitability. The Interest Coverage Ratio (ICR) also plays a vital role, emphasizing the importance of debt coverage and financial stability.

In conclusion, the interview highlights the importance of strategically managing debt ratios and interest coverage in enhancing six private bank's financial performance. By maintaining a balanced approach to debt financing and ensuring sustainable financial health, the bank can drive growth and achieve success.

Table 4.6 Expected Research Hypothesis and Results

Independent Variable	Expected Hypothesis	Actual Hypothesis	Result
TDA	+	+	Fail to reject
TDE	-	-	Fail to reject
ICR	+	+	Fail to reject

4.5 Discussion

This study aimed to investigate the relationship between the debt-to-asset ratio (LOG_TDA), debt-to-equity ratio (LOG_TDE), interest coverage ratio (LOG_ICR), firm size (LOG_TOTALASSETS), and Return on Assets (LOG_ROA) for six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) using robust least squares regression analysis. The results revealed that LOG_TDA, LOG_TDE, and LOG_ICR had statistically significant coefficients, indicating a meaningful association with LOG_ROA. This finding aligns with previous research that has shown a significant impact of debt ratios on financial performance measures (Margaritis & Psillaki, 2010; Brown et al., 2019). The positive relationship between LOG_TDA and LOG_ROA suggests that higher leverage, in terms of debt relative to assets, positively impacts the banks' return on assets. This aligns with findings from studies on commercial banks, which suggest that leveraging debt for investments or operations can enhance profitability (Abor, 2005; Berger & Bonaccorsi di Patti, 2006). Representatives from the banks highlighted during interviews that careful management of TDA, including debt refinancing and restructuring, has been crucial in achieving optimal financial performance.

Conversely, the negative relationship between LOG_TDE and LOG_ROA indicates that a higher debt-to-equity ratio negatively impacts profitability, underscoring the risks associated with excessive leverage. This finding is consistent with research on the adverse effects of high leverage on financial performance due to increased financial risk and interest obligations (Titman & Wessels, 1988; Rajan & Zingales, 1995). The banks' management emphasized the importance of maintaining a balanced capital structure to mitigate these risks and ensure financial stability.

The significant positive coefficient for LOG_ICR emphasizes the critical role of the interest coverage ratio in enhancing financial performance. A higher ICR, indicating the banks' improved capacity to meet interest obligations, is associated with higher LOG_ROA. This finding corroborates prior studies that highlight the importance of sufficient earnings relative to interest expenses for financial stability and profitability (El-Sayed Ebaid, 2009). The banks' proactive measures to monitor and maintain a healthy ICR were discussed during the interviews, reinforcing the study's findings.

Additionally, the positive impact of firm size (LOG_TOTALASSETS) on LOG_ROA suggests that larger banks benefit from economies of scale and diversified operations, leading to better performance. This finding is in line with previous research that underscores the advantages of firm size in achieving higher profitability (Demirguc-Kunt & Maksimovic, 1998; Beck, Demirguc-Kunt, & Maksimovic, 2005).

The study's findings provide valuable insights into the factors influencing the financial performance of the six private banks. By strategically managing LOG_TDA, LOG_TDE, LOG_ICR, and LOG_TOTALASSETS, these banks can leverage debt for higher returns while minimizing associated risks, ensuring financial stability, and maintaining a balanced capital structure. However, it is essential to acknowledge the limitations of this study, including the specific sample and time period used, which may restrict the generalizability of the findings. Future research could expand the sample size, consider additional variables, and explore alternative methodologies to gain a more comprehensive understanding of the factors impacting the financial performance of private banks.

In conclusion, the significant relationships between LOG_TDA, LOG_TDE, LOG_ICR, LOG_TOTALASSETS, and LOG_ROA underscore the importance of these variables in financial analysis and decision-making processes. The findings, coupled with insights from the

interviews, highlight the need for proactive debt management, balanced capital structures, and robust interest coverage to optimize financial performance and ensure long-term success in the banking sector.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

The final chapter of this research paper serves as a thorough synthesis, analysis, and recommendation section with the goal of providing a comprehensive grasp of the research findings and their implications for both academia and industry. Emphasizing the statistical significance and relevance to the research question, the synthesis highlights the key discoveries. Ultimately, this chapter aims to contribute to the current knowledge on the relationship between debt ratios and financial performance metrics, guiding future research endeavors and offering insights to inform decision-making processes in the banking sector, especially in relation to the performance and financial stability of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank).

5.2 Summary

The study findings on the relationship between the debt-to-asset ratio (LOG_TDA), debt-to-equity ratio (LOG_TDE), interest coverage ratio (LOG_ICR), firm size (LOG_TOTALASSETS), and the Return on Assets (LOG_ROA) of six private banks align with the insights shared during interviews with representatives from these banks. The interviews emphasized the importance of strategic management of these ratios in enhancing financial performance.

According to the interviews, the six private banks have demonstrated commendable financial performance over 11 years, with a consistent focus on maximizing ROA. The study's findings support this, revealing statistically significant and positive coefficients for LOG_TDA and LOG_ICR, indicating a positive relationship with LOG_ROA. This suggests that higher LOG_TDA and LOG_ICR are associated with increased financial performance, allowing the banks to leverage debt for higher profitability, lower risk of default, and a stronger capacity to service their debt obligations.

The interviews also highlighted the banks' commitment to maintaining a balanced approach in managing their LOG_TDE ratio, aligning it with risk tolerance and capital structure objectives.

The study's negative coefficient for LOG_TDE confirms the interview insights that a higher debt-to-equity ratio, indicating greater reliance on debt financing relative to equity, is associated with decreased financial performance. This underscores the importance of managing LOG_TDE to mitigate potential negative impacts on profitability.

The statistical significance of LOG_TDA, LOG_TDE, LOG_ICR, and LOG_TOTALASSETS in the study further strengthens the evidence for their impact on the financial performance of the six private banks. The positive coefficients for LOG_TDA, LOG_ICR, and LOG_TOTALASSETS indicate that as these ratios increase, the LOG_ROA tends to increase as well. Conversely, the negative coefficient for LOG_TDE suggests that as the debt-to-equity ratio increases, the LOG_ROA tends to decrease.

In conclusion, both the study findings and the interview insights highlight the importance of managing debt ratios, interest coverage, and firm size to optimize the financial performance and profitability of the six private banks. By strategically managing LOG_TDA, LOG_TDE, LOG_ICR, and LOG_TOTALASSETS, the banks can leverage debt for higher returns while minimizing associated risks, ensuring financial stability, and maintaining a balanced capital structure.

5.3 Conclusion

In this study, the researcher explored the intricate relationship between the debt-to-asset ratio (TDA), debt-to-equity ratio (TDE), interest coverage ratio (ICR), and Return on Assets (ROA) of six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) using robust least squares (RLS) regression analysis. The results revealed compelling insights, highlighting the significant impact of these financial metrics on the banks' overall financial performance.

According to the RLS regression results, the coefficient for LOG_TDA is positive and significant, suggesting that a higher proportion of debt relative to assets positively impacts the banks' ROA. This indicates that efficient management of debt relative to assets can enhance performance, possibly due to leveraging benefits without compromising asset quality. Conversely, the negative coefficient for LOG_TDE indicates that higher leverage, represented by more debt relative to equity, negatively impacts performance, likely due to increased financial

risk and interest obligations. The positive and significant coefficient for LOG_ICR implies that better coverage of interest expenses significantly boosts bank performance, highlighting the importance of maintaining strong earnings relative to interest costs. Additionally, the positive coefficient for LOG_TOTALASSETS indicates that larger banks tend to have better performance, likely due to economies of scale and diversified operations.

The R-squared value of 0.455069 indicates that approximately 45.51% of the variability in LOG_ROA is explained by the independent variables LOG_TDA, LOG_TDE, LOG_ICR, and LOG_TOTALASSETS. The adjusted R-squared value of 0.419336 suggests that the model reasonably explains the variation in LOG_ROA, though there is still significant unexplained variability. The robust Rw-squared value of 0.722556 indicates a strong relationship between the independent and dependent variables when accounting for robustness, significantly higher than the traditional R-squared value. This suggests that the model performs well even in the presence of outliers or heteroskedasticity.

During the interviews, representatives from the banks emphasized the implementation of proactive measures to monitor and mitigate the potential risks associated with their debt structures. They highlighted the careful monitoring of borrowing costs and the commitment to debt refinancing and restructuring. These insights reinforce the study's findings, which suggest that managing the debt-to-asset ratio (TDA) is crucial for optimizing financial performance. By actively monitoring and managing TDA, the banks can balance the potential for increased financial risk with the opportunity for higher returns.

In conclusion, the study's findings, combined with insights from the interviews, underscore the importance of proactive debt management, maintaining a balanced capital structure, and ensuring robust interest coverage for the financial performance of the six private banks. Strategic management of TDA, TDE, ICR, and firm size (total assets) is crucial for optimizing financial performance. These strategic implications provide valuable guidance for the banks' management, enabling them to make informed decisions to drive sustainable growth and success.

5.4 Recommendation

Implementing a comprehensive risk management framework can significantly impact the financial performance metrics of Return on Assets (LOG_ROA), Total Debt-to-Equity Ratio

(LOG_TDE), Total Debt-to-Asset Ratio (LOG_TDA), Interest Coverage Ratio (LOG_ICR), and firm size (LOG_TOTALASSETS). By effectively identifying, assessing, and mitigating risks across various areas such as credit risk, market risk, liquidity risk, and operational risk, financial institutions like the six private banks (Buna Bank, Addis International Bank, Enat Bank, Abay Bank, Debub Global Bank, and Berhan Bank) can optimize asset profitability, manage debt levels prudently, ensure adequate coverage of interest expenses, and enhance overall financial performance.

Based on the findings of this study regarding the impact of debt financing on the financial performance of the six private banks, several key recommendations can be made to enhance their profitability and overall stability:

1. **Optimize Debt Structure:** The banks should carefully evaluate their debt-to-asset ratio (LOG_TDA) and debt-to-equity ratio (LOG_TDE) to maintain a balanced capital structure. Striking the right balance between debt and equity can positively impact return on assets (LOG_ROA) and enhance financial performance.
2. **Monitor Interest Coverage:** Given the substantial influence of the interest coverage ratio (LOG_ICR) on LOG_ROA, the banks should closely monitor their ability to meet interest obligations. Improving debt coverage and ensuring financial stability will be crucial in driving profitability and safeguarding against financial risks.
3. **Strengthen Financial Risk Management:** Enhancing financial risk management practices can help mitigate potential risks associated with debt and interest coverage. Strategies such as stress testing, scenario analysis, and effective hedging mechanisms can safeguard the banks' financial health and ensure resilience in challenging market conditions.
4. **Strategic Decision-Making:** Management should leverage the insights gained from this study to inform strategic decision-making processes. By understanding the complex interplay between debt structure, interest coverage, firm size (LOG_TOTALASSETS), and financial performance, the banks can make informed choices to optimize profitability and drive sustainable growth.
5. **Continuous Monitoring and Analysis:** It is essential for the banks to continually monitor and analyze their debt ratios, interest coverage, firm size, and financial performance metrics. Regular review and assessment of these key indicators will enable

the banks to proactively identify areas for improvement and adjust strategies as needed to maintain a competitive edge in the market.

By implementing these recommendations and integrating a comprehensive understanding of debt ratios, interest coverage, and firm size into their strategic planning processes, the six private banks can enhance their financial performance, drive profitability, and ensure long-term success in the dynamic banking landscape.

5.5 Direction for further research

One potential direction for further study could be to investigate the impact of digital transformation on the financial performance of banks. This research could explore how the adoption and integration of digital technologies, such as online banking platforms, mobile banking apps, artificial intelligence, and blockchain, influence financial metrics such as Return on Assets (ROA), Return on Equity (ROE), Efficiency Ratio, and Customer Satisfaction. By examining the relationship between digital transformation initiatives and financial performance, researchers can provide valuable insights into the strategies and practices that drive success in the digital era of banking.

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Annex:

Interview Questions for the concerned body

1. Can you provide an overview of your bank's historical financial performance in terms of Return on Assets (ROA)?
2. How does your bank manage its debt-to-asset ratio, and what factors influence this ratio?
3. What is the bank's approach to debt-to-equity ratio management, and how does it impact the financial performance?
4. Could you explain how your bank calculates and monitors its interest coverage ratio? How does this ratio affect the bank's financial performance?
5. In your opinion, what is the overall impact of debt financing on your bank's financial performance? Can you provide any specific examples or trends that support your evaluation?