



COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

**THE EFFECT OF LEVERAGE ON ETHIOPIAN PRIVATE BANKS'
PROFITABILITY**

**A Thesis submitted in partial fulfillment for the requirement of the
award of the Degree of Masters Science in Accounting and Finance**

BY

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ADDIS ABABA, ETHIOPIA

DECLARATION

I hereby declare that the thesis entitled “the effect of leverage on Ethiopian private banks’ profitability.” is unique and has not been submitted for other degrees or the similar in this University, College or any other organizations. It does not contain any material, partly or complete, published or written by other than, the references mentioned in the text.

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This is to certify thesis prepared by Huluf Techan, entitled: the effect of leverage on the Ethiopian private banks' profitability: submitted in thesis partial fulfillment for the requirement of the Degree of Masters Science in Accounting and Finance complies with the guidelines of the University and meets the accepted standardsn terms of originality and quality.

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Date _____

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List of Common Abbreviations

ROE - Return on Equity
ATM - Automatic Teller Machine
CLRM- Classical Linear Regression Model
DCL - Degree Combined Leverage
DFL - Degree Financial Leverage
DOL - Degree Operating Leverage
EBIT - Earnings before Interest and Tax
EBF - Earnings before Tax
EPS - Earning Per Shares
Ke- Expect Of Return Equity
ERCA - Ethiopian Revenue and Custom Authority
GDP - Gross Domestic Product
MFIS - Micro-Finance Institutions
MM - Miller & Modigliani
NBE - National Bank of Ethiopia
OLS - Ordinary Least Square
EAT- Earnings After-Tax
WACC -Weighted Average Cost of Capital
VL- Value of a Levered
Vu - Value of Unlevered
NPV- Net Present Value
DTER- Debt to Equity Ratio
TDA -Total Debit Ratio

ABSTRACT

The objective of the study was to examine the effect of leverage on the profitability of private banks in Ethiopia. Data was analyzed using descriptive statistics, correlation analysis as well as panel regression analysis. The research used descriptive research design methodology is content analysis of annual reports of 8 Ethiopian private banks for the period from 2012 to 2019, using multiple linear regression analysis. Secondary data on the 8 listed private banks at NBE was collected. The independent variables were Debt Ratio, Debt equity ratio, degree of operating leverage and degree of financial leverage while the dependent variable was Return on Equity (ROE). In general, all measurement of leverage except asset size has positive effect on Ethiopian private banks profitability. Therefore, the study recommends that private banks should better to concern on increment of total loan by keeping the profitability to generate more interest income from the loan.

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Keywords: Return on equity, Debt to asset, Debt to equity, financial leverage, Degree of Operating leverage, Degree of financial leverage, and Bank Size.

Chapter one

Introduction

1.1 Back Ground of the Study

A bank is an organization that offers various financial services. It plays a significant role in the country's money supply. In this regard, Sufian (2009), describes that financial institutions play a key role in economic growth of a given country as they are mobilizing savings for productive investments through helping & facilitating role in capital flows towards various sectors of the economy.

Moreover, Al-Karim and Alam (2013) have also narrated that banks are one of the deposits taking financial institutions that play a key role for financial stability and are also engines for economic development of a given nation. One of the main objectives of financial institutions is to mobilize the resources of the banking sector, especially in terms of supply savings, and to provide these investment opportunities to the needy at the same time.

In line of this, as to Greuning and Bratanovic (2003), it is also worth noting that commercial banks, particularly private ones, most of the world economies, are dominant type of financial institution that provide installment, facilitate the internal and external trade and move money and capital when compared to any other financial institution.

Edson (2015), clarified that the commercial banks get profit offer by charging fee and commissions for offering respective services like security of valuables, documents and securities, acting as agents for collection of utility bills, providing credit information or references, providing financial direction and advisory services e.g. financial planning and counseling, financial management advice for customers, other income

still comes from service charge on customer accounts, loan application fees, ATM withdrawal charges, VISA card fees. Commercial banks also get profit from commission on letters of credit, fee on issue of bank cards, fee on local transfers and drafts, point of sale fees, fee on international telegraphic transfers, commission on guarantees and indemnities, commission on mobile banking, salary processing fees, bills discounted and significant cash withdrawal without prior notice.

As globalization has increased, industrialization has doubled in size and requires more resources to deliver the expected results for consumers and investors (Zafar, 2010). The key responsibility for determining the optimal balance of debt and equity, which falls on shareholders' wealth, lies with Maina (2013). The combination of total equity, preferred stock and short-term and long-term debt is referred to as financial structure. If short-term debts are subtracted from the financial structure of the organization, we get the capital structure. In other words, the firm's fixed or long-term financial structure, it's includes equity, preferred stock, and long-term debt, is called Vanhorn (2002).

Banks play an important role in economic development through mobilization of funds from within and outside the country and channeling such funds to various sectors of the economy; it occupies a central place in the payment and settlement system of the country's economy; the business of banking has a number of attributes which, if not managed properly, has the potential to produce financial system and macroeconomic instability Federal Democratic Republic of Ethiopia Proclamation No. 592/2008). The Federal Democratic Republic of Ethiopia's as one can realize from the above ideas, the overall operation of the economy of developed and developing countries is dependent on well-functioning of their commercial banks. If not, the entire economy will be liquid, saving and investment will be divorced which could result in further economic stagnation.

This is also true for other developing countries financial sector in general and the banking industry in particular. Accordingly, the Ethiopian commercial banks will reside in this umbrella. This study, therefore, gives an in-depth assessment and

analysis of the effect of leverage on the private banks' profitability in the Ethiopian banking sector.

1.2. STATEMENT OF THE PROBLEM

Degree of leverage can be categorized in to operating and financial leverage. The degree of operating leverage evaluates the degree to which firms of private commercial banks are consider fixed cost as operational cost to determine the level of profitability Zubairi (2014) and the degree of financial leverage measures the degree to which debt financing forms anelement of the capital, contribute to the debt responsibility of the financial institution Gatsi(2013).

The leverage affects the level and variability of the firm's after-tax earnings, and later the firm's overall risk and return. As indicated by Zafar (2010) fixed financial charges are to be paid unrelatedly of the level of EBIT as they are fixed in nature and do not vary with earnings before interest and tax. Hence, an increase in earnings before interest and tax will moment in a higher percentage increase in return on equity. Because the degree of financial leverage largely depends on the amount of interest and fixed financial charges. If firms have more debt than equity which further requires paying more interest on the debt. From the beginning, debt is required by law regardless of a company's profit margin (Muwangi, 2014). This will ultimately increase his financial capacity. This has resulted in the degree of financial leverage is higher; ultimately financial risks are higher. On the other hand, when financial institutions decide to operate with high levels of fixed cost are expected to increase their cost of operations which will eventually be reflected in the interest charged to their clients, all things being equal when the lending rate a financial institution offers to its client's increases, they will explore other sectors in which they, it canbe borrowed at the lowest cost possible. This can reduce their customer base and have a significant effect on revenue generation capacity (Gatsi, 2013). Commercial banks represent the primary source of credit to small businesses and many individuals. According to Zafar (2010), commercial banks need to properly verify the steps they have taken to assess

profitability and facilitate efficiency. It has to establish itself better than international standards and have to develop the best capital adequacy system, prudential regulations, accounting and disclosure standards, financial soundness and constant supervisory practices and level of compliance with the Basel Committee's Core Principles for Effective Banking Supervision. Even though the private commercial banks in Ethiopia share 89% of the banking industry, publicly owned banks are shared more than half of the entire capital of the sector (Hailu, 2015).

Also, studies conducted by Zeituni et al 2008, Arbiyan (2007), Majumdar and Chibber (1997), argued that financial leverage has negative effect on profitability of company whereas Abor (2005) and Holz (2002) argue that financial leverage has positive impact on the firm's profitability and Mery (2003) support two interpretation mathematically that financial leverage can either increasing or reduces the return on equity.

In the context of Ethiopia, there are studies in relation to determinants of capital structure, the impact of capital structure on profitability and determinants of profitability by different researchers. For example, Asrat (2016) wrote capital structure and financial performance using evidence from Ethiopian cement factories. Moreover, in the banking industry of the country, Aragaw (2015) conducted a study on the impact of capital structure on profitability of commercial banks; Abera (2012) assessed factors affecting profitability of banks with a attention on overall performance in addition Tamirat (2015) examined the effect of debt financing on profitability of commercial banks. As well as, Belayneh (2011); Dawit (2017) and Habtamu (2012) showed their study on the purpose of commercial banks profitability. Tesfaye (2018) examine the factor of leverage on Ethiopian private commercial banks' profitability.

However, according to the researcher understanding all these studies carried out within Ethiopia focus on the financial leverage (fixed charge financing instrument), but they didn't give emphasize to the effect of capital/financial leverage on the profitability of private banks which requires further additional research with latest data.

The main objective of firms is maximizing profitability and shareholders wealth. Besides, these commercial banks also need to comply with various requirements laid down by the National Bank and one of the requirements is capital adequacy. One may want to identify (know), to what degree Ethiopian private commercial banks' profitability is affected by its leverage position. Then, this study is targeted to determine how the profitability of private commercial banks in Ethiopia is affected by leverage.

1.3. OBJECTIVE OF THE STUDY

1.3.1. GENERAL OBJECTIVE

The general objective of this study was to examine the effect of leverage on Ethiopian private banks' profitability.

1.3.2. SPECIFIC OBJECTIVES

The specific objectives of this study were:

- 1) To evaluate the relation of debt-to-equity ratio with profitability
- 2) To examine the relationship between debt to asset ratio and profitability
- 3) To analyze the effect of degree of financing leverages on profitability
- 4) To analyze the effect of degree of operating leverages with profitability
- 5) To find the relationship between total asset size and profitability

1.4. RESEARCH HYPOTHESIS

The study proposed to test the following hypotheses was also formulated for investigation the effect of financial leverage on profitability of private banks to be examined. Therefore, in order to achieve the objective of the study the researcher developed the following five testable hypotheses (H_1 - H_5):

H₁: Debt Ratio has a negative and significant effect on private banks' profitability

H₂: Debt to Equity ratio affects private banks' profitability positively and significantly.

H₃: The degree of financial leverage (DFL) has a negative and significant effect on private banks' profitability

H₄: The degree of operating leverage (DOL) has a negative and significant effect on private banks' profitability

H₅: Bank Size has a positive and significant effect on private banks' profitability

1.5 SIGNIFICANCE OF THE STUDY

The primary significance of this study is that it helps the researcher to capacitate his skill and knowledge thereby gets the awards of master's degree in accounting and finance. Beyond, this study is significant outcomes from it will serve as an input to the banks under study and other similar organizations to give due emphasis to some variables that have significant impact on the banks' profitability. Different stakeholders and customers of the banks also could use it as a reference to make decisions on their needs expected to be fulfilled. The results from this study would provide inputs for further research works. The study would also contribute to the financial Management discipline by adding literature and findings to the improvement of other similar banks and other financial institutions. Additionally, it is significant for it shall be used by managers of the private banks to decide appropriate type of financing policy for their investment opportunities so as to make the reasonable profit. In addition, it will serve as a base for policymakers such as National Bank of Ethiopia whereas result is more beneficiaries will be banks' management & investors, the regulatory of the bank to know the status and growth of their employer so as to plan for their future.

1.6. SCOPE AND LIMITATION OF THE STUDY

The scope of this study was limited to the effect of leverage on profitability of private banks over the period 2012-2019. This period helps to test the current data on the listed banks. From the pool of financial institutions that are operating in Ethiopia, this study considered particularly the banking sector. Of sixteen private banks operating in Ethiopia, this study taken eight banks that were registered and licensed based on banking business Proclamation No. 592/2008 before six years ago. Leverage will be used as independent variable to analyze the relationship of private commercial banks' profitability Return on Equity (ROE)) which is used as a dependent variable. The study used four financial leverage measures, these are: $\text{debt}/\text{total assets}$ (TDA), $\text{debt}/\text{equity ratio}$ (DTER), degree of operation leverage ratio (DOL and degree of financial leverage ratio (DFL). Bank size will be taken as control variables to ensure the accuracy of the result of the regression model.

In Ethiopia, it is rarely possible to get all relevant information regarding the operating most studies on the subject of previously done were in favor of non-financial since the nature of banks financial statement format differs from non-financial sectors this may be the limitation of the study.

1.7. Organization of the study

The study is organized in to five chapters. The first chapter is an introduction of the overall study, consisting of background of the study, statement of the problem, objectives of the study and hypotheses, significance of the study, scope and limitation of the study and of course organization of the study respectively. The second chapter focuses on review of related literature in which earlier studies on the area are highlighted and presented. Theoretical review of the related literature and empirical evidences of financial leverage banks profitability and their measurements related concepts, are reviewed in a comprehensive manner in this chapter. The third chapter presents about the design of the research methodology. In this chapter the research

design, research approaches and research model are presented. Data type and source of data, population frame and sampling size and sampling technique, instrument of data collection, methods of data analysis and ethical research considerations are presented. The fourth chapter is devoted to data presentation, analysis and interpretation in which the collected secondary data are analyzed and organized in a manner that meets the objectives of the study. The last chapter deals with summary of the research outcomes, the conclusion as well as recommendations of the research based on the findings. Finally, in this chapter, some suggestions were forwarded for further research to be conducted in the same target of study if not beyond.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents the reviews of the related literatures on financial leverage and private banks profitability. Conceptual, theoretical and empirical reviews are made here. The gap and conceptual frame work is also presented in this chapter.

2.2. Theoretical and Conceptual Reviews

The theoretical frame work covers theories that are relevant to financial leverage so that to get a deeper knowledge and understanding of the concept. Some of the theories reviewed in this study are Modigliani and Miller, Trade-off theory, Pecking order theory, Agency cost theory and Market Timing Theory.

2.2.1 Modigliani and Miller Theory

This theoretical state that there is no tax, that the transaction costs for buying and selling securities do not matter, and that there is no bankruptcy. The cost of loans is the same for both investors and companies, and debt financing does not affect corporate EBIT.

Modigliani and Miller's approach to the value of the debt organization (debt and equity organization) refers to the operating profit and the future value of the leverage organization (which is entirely financially supported). Predictions are the same. That is, if an investor buys a stock of a leverage company, the cost stock price is the same as unleveraged firms.

This concept with corporate tax recognizes tax savings and therefore changes the debt equity ratio to the WACC (weighted average capital value). That means lower WACC, But higher the debt. This is one of the modern approaches to Modigliani and Miller's theory of capital structure theory.

In the publications of Modigliani and Miller (1958, 1961, and 1963), three important Proposition based on their theory can be presented: Breuer & Gürtler (2008): proposing I total market value of the firm's is independent from capital structure. As its capital structure, proposition II and debt equity increase, the value of equity increases. Finally, Proposition III - The total market value of an organization is independent of its dividend policy.

The first proposal without taxes

In their study, Modigliani and Miller discussed two firms with different capital structures, one with debt in the capital structure and the other with no debt in the capital structure. Modigliani and Miller concluded that corporate financial decisions had no effect on the value of their earnings, given that both companies were paid equally by Brigham and Erhart (2010).

The theory of M&M assumes that the cash flow is proportional to the capital structure in proportion to the capital structure, but the value of the company is not affected. by this share-out Popescu & Sorin (2011). According to Modigliani and Miller (1958), the asset profitability and risk of an asset do not determine company capital structure.

Where: VL is the value of a levered firm in the capital structure, and Vu is the value of unlevered firm in the capital structure. Through this equation Modigliani and Miller (1958) have argued that financial decisions had no effect on the firm's market value.

2.2.1.1. The First Proposition with taxEffect

The first offered with taxes by Modigliani and Miller holds forth that due to the exclusion of interest from the payment of taxes, if firms have more debt in the capital structure have more market value than firms that do not have debt in their capital structure; this is recognized as the tax shield effect. Due to the system of taxation (which excludes the interest paid on the debt), the tax portion paid is less for firms with debt in the capital structure than it is for those that have no debt. This directly affects the firm's market value Alifani&Nugroho (2013).

According to Julio Pan (2012), the equation from M&M theory can be denoted as follows:

$$VL = VU + TCD$$

Where: VL is the value of a levered company in the capital structure, VU is the value of an unleveraged firms in the capital structure, TCD is the value of the debt (TC) x debt of the value.

According to Alifani and Nugroho (2013), they find it convenient to adjust their debt in capital operations as a result of the tax shield, which means that pay less tax, due to the payment of interest and this thing impacts the market value of the firm.

Many authors have disputed the hypothesis, based on M&M's proposals: I. It is difficult to say that all the preconditions for M&M are in the same market. As stated by Breuer & Gürtler (2008), the M&M proposal - I - does not take into account any objections to the shortcomings of the capital markets. The authors also criticize the M&M proposal, which was used to justify the "same risk section" (2008, p. 5). In other words, is there a perfect market? It is difficult to believe in today's market and the turmoil that characterizes today's market.

The M& M's Second proposition – Return on Equity

According to this proposition II “the cost of equity increases with the increment of debt-equity ratio in the capital structure of a company”.

According to Breuer & Gürtler (2008), even though all Propositions are same name from I to – III, they vary greatly. According to the second M&M proposal, and Villamil (2000), the average capital value of an enterprise is not affected by the leverage. Therefore, the M&M Proposition II specifies when the proportion of the organization's debt will increase, and therefore the direct equity value of the firms will increase.

The Second proposition without tax effect

In the second proposition Modigliani and Miller (1958) argue that, since investors are rational, increasing in gearing (D/E) is directly proportional with the expected return of equity (Ke). And according Alifani and Nugroho, (2013) the expected return of equity (Ke) is compensated by cheaper debt finance benefit; as a result, the average capital value (WAAC) has not changed.

It may be noted that the above-mentioned average capital value (WACC) does not affect the capital structure, so the company's value may remain unaffected by the capital structure when it is not taxed in the model. Therefore, in this case, financial decisions are not necessary for the value of the organization and the equity of the shareholders. In this regression model, the firm can use any type of capital structure combination without any outcomes in Kaplan Financial Knowledge Bank (2012).

2.2.1.2. The Second proposition with Taxes effect

In 1963 M&M argues that the corporate tax ratio is equal to the current savings value of tax. Thus, by increasing the percentage of debt in the capital structure, WAAC can reduce the average capital value (WAAC), because such companies pay less tax, in the case of the tax shield event Brigham and Erhardt (2010).

When taxes are included, companies can benefit from the percentage of debt in the capital structure due to the tax shield. As a result, the weighted average cost of capital (WAAC) will decrease, however the firm's value will increase Pan (2012).

In comment II, Modigliani and Miller showed that my suggestion was wrong. In addition, the level of debt of the company is not relevant; it does not affect the amount that the shareholders of the company receive from the company. According to Breuer & Glerrtler (2008), different countries or markets have different tax laws. Therefore, not all markets (countries) are the same. For example, if a country changes its tax code or law, the whole proposition loses its value.

The Third proposition - Insignificance of the Dividend Policy

According to this proposition, overall market value of firms is not affected by its study of dividend policy, growth and pricing of stock in M & M (1961), the profit policy is not necessary. The value of the company, as described by Villamil (2000), is that M&M's third proposition is that the company's profit-sharing policy is not dependent on market value.

M&M (1961) argues that the market value of an organization is determined by its acquisition power.

According to this proposition III, the overall market value of an enterprise is not affected by its study of dividend policy, stock growth and pricing in M & M (1961), the profit policy is not necessary. The value of the enterprise, as stated by Villamil (2000), is the third proposition of M&M that determines whether the company's profit share policy is not dependent on market value. M&M (1961) argues that the market value of an organization is determined by its access to energy and resources. According to M&M, the value of an organization in a perfect market is not affected by the policy of distributors Miller and Modigliani (1961).

According to M&M Proposition III, Breuer & Gürtler (2008), argue that this proposition is no more than a net worth. In addition, “the authors strongly suggest that Breuer and Gurtler have the right to make independent decisions regarding the company's investment decisions” (2008, p. 5).

2.2.2. Static Trade-off Theory

Linus (2013) explained that capital structure theories have diverse views on the relationship between leverage and profitability. The trade-off theory argues that corporations generally prefer debt for tax purposes considerations. Profitable firms would, therefore, employ more debt because increased leverage would increase the value of their debt tax shield Myers (1984). It also states that companies are looking for debt levels that are proportional to the cost of additional debt, in addition to tax liability. Apart from the tax advantage of debt, agency and insolvency costs may encourage highly profitable firms to have more debt in their capital structure.

As debt increases, margins increase; therefore, an organization that improves its overall value will focus on this business when choosing how much debt and equity it will spend on finance. In addition, Trading-off theory assumes that large firms are more diversified, have lower risk, better reputation, more stable cash flows and fewer hazards to be liquidated. This gives large

firms easier access to the capital markets with negligible debt costs. Thus these firms are stronger to face bankruptcy and financial distress Mohammed (2014).

2.2.3. Pecking order theory

The pecking order theory of Myers & Majluf (1984) argues in the opposing of static trade-off theory. It states that companies will at least prioritize their financial resources (from internal finance to equity) in accordance with the anti-money laundering law. Later, internal debt is used first, when that goes down, then debt comes out; and then there is justice when it is not wise to go into further debt.

The implication of this concept is that equity is not conducive to capital growth (because investors (assuming they know more about corporate realities than investors) invest in new equity, and as a result, investors pay less for the new equity supply. According, Linus M. (.2013) is one of the most influential corporate metrics.

As a result, it suggests that the corporation will borrow rather than provide equity when internal cash flows are not sufficient to cover capital expenditures. Thus, the amount of debt reflects the organization's total foreign interest needs. According to Myers (1984), organizations choose outside of internal finances because of poor choices. Due to the low cost of information related to debt issues, it is important for organizations to choose debt rather than share capital.

So, it completes a negative association between profitability & leverage high profitable firms will be able to produce more capitals through retained earnings and then have less leverage. And so, it is expected that there is negative relationship between leverage and profitability ratio.

2.2.4. Agency cost theory

Agency theory gives due focus to the costs which are created due to conflicts of interest between shareholders, managers and debt holders. Harris & Raviv (1991) explained the three types of agency costs which can help explain the relevance of capital structure as follows;

Asset Outcome: As D / E increases, the administration has a strong incentive to carry out negative NPV projects. Because if the project is successful, the shareholders will take everything, but if it is not successful, the borrowers will lose everything. If the projects are implemented, significant cost reductions and asset liability will be transferred from creditors to shareholders

Underinvestment problem: If debt is risky in a growth firms the gain from the project will accrue to debt holders rather than investors. Thus, management has an encouragement to reject positive NPV projects, even though they have the potential to increase firm value.

Free cash flow: Unless free cash flow is given to investors, the administration has the incentive to cut strong prices on imperial construction and benefits, etc. Profitable investment opportunities balance riskily high debt levels. Free cash flow theory is designed for over-invested adult companies. According, Jensen's (1986) Agency supports a positive relationship between capital structure and profitability due to cost-free theory.

2.3 Financial Leverage

A financial leverage is a combination of debt within the organization's capital structure. An organization that uses financial resources is said to trade in fairness the higher the amount of debt employed by a firm the higher its financial leverage. High financial support means high interest rates that negatively affect the shareholding income of a shareholder. Excessive spending also increases the risk of investing by threatening investors with expected returns. It is affected by a variety of factors, such as the size of the company, the age and liquidity of the company, the relevance of the property, the tax liability, and the opportunity for growth. Borrowing is an important area of interest as it affects the business institution (E JSR: 2319-7064 / 2015). "Therefore, net management is the level at which financial resources are financed by borrowing from the NFO Stephen" (2010: 364). The degree is measured by the ratio of the debt ratio.

Debt is generally measured as the ratio of debt to total assets, the ratio of debt to equity and debt equity. Bimmerman (1999) describes the use of money as debt in the capital structure and calculates four ways to measure debt (2013).

Using book values, the invariant measure of debt is the total amount of capital or total debt and the total amount of debt owed:

$$(1) I = D / D + E$$

Where: D represents the value of the debt book and E is the value of the equity book (or shareholders' money).

The second measure of debt is the amount of fixed debt using market values, which is defined as the total debt, which is equal to the sum of the total capital or the total debt and the total stock. It is mathematically expressed in the same way as the above scale.

The third measure is the interest rate on interest and income, and the amount of income before interest and tax (EBI) is the current interest rate. It is represented by

$$(2) I = EBIT / INTEREST$$

This ratio measures the capacity of the company's debt service and shows when current interest payments are typically covered by interest payments.

The fourth dimension uses cash flows, using cash flow rates and ratios of cash revenues (including depreciation and other non-monetary expenses) and cash flows (regarding debt repayment). It is the company's ability to pay interest and finance it in the event of a major debt crisis.

2.3.1. Profitability and Its Measurements

As cited in the research work of Frezewd, (2016) Profit is the major motive of a business. An enterprise should earn profits to survive and grow over a long period of time. It provides evidence concerning the earnings potential of a company and how effectively a firm is being

managed. If the enterprise fails to make profit, capital invested is eroded and if this situation prolongs the enterprise ultimately ceases to exist. Though, profit and profitability are two different terms. Profit means as an absolute measure of earning capacity, while profitability is relative measure of earning capacity. Thus, the word profitability may be defined as the ability of given investment to earn a return from its use. Also, according to Hifza Malik, (2011), profitability is one of the most important objectives of financial management since one goal of financial management is to maximize the owners' wealth, and profitability is very important determinant of performance. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Hence, the ultimate goal of a business entity is to earn profit in order to make sure the sustainability of the business in prevailing market conditions. And also, Pandey (1980) defined the profitability as the ability of a business, whereas it interprets the term profit in relation to other elements. A financial benefit is realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity.

Profitability ratios measure the firm's ability to generate profits and central investment to security analysis, shareholders, and investors. It is often conceptualizing the profitability is the primary measure of the overall success of a business.

As Nishanthini A. and Nimalathan, (2013) pinpoints five important profitability ratios which are Gross Profit Ratio (GPR), Operating Profit Ratio (OPR), Net Profit Ratio (NPR), Return on Investment (ROI), and Return on Capital Employed (ROCE). Whereas Babatunde et al (2014) explaining profitability ratios connotes return on asset and return on equity as decisive measures of profitability; since they show management's efficiency in generating profits from firm's asset and efficiency of a firm in generating profits from shareholders equity respectively. For the purpose of achieving the objectives of this study, financial leverage will be consider in the degree in which the commercial banks are financed by debt expressed in terms of deposits of all types, borrowing, income tax payables and other liabilities. Leverage will depend on the type of industry, line of business and the stage of development of the company (and its products). However, it is commonly understood that low

debt and high equity levels in the capitalization ratio indicates good quality of investment. In finance, equity multiplier is defined as a measure of financial leverage. Like to all debt management ratios, the equity multiplier is a method of evaluating a company's ability to use its debt for financing its assets.

2.3.2. Leverage and Return on Equity (ROE)

According to Patel (2014), leverage is high for firms with high operating costs. Debt and asset ratios increase high mortgage earnings to the highest level of debt. It remains to be seen whether the leverage that each company uses will be more profitable than its fixed costs. The surplus (or deficit) will increase (or decrease) the owner's share fair equity the share of equity is net income. ROE measures the profitability of a corporation by determining how much a company invests in its shareholders. Fair returns are tax-deductible for owners Onaolapo and Kajola (2010) and Krishna and Moyer (1997).

If we look at this concept of profitability, as according to Tan et al. (2012), (2012), a fair return reflects the Bank's ability to make a profit using its resources. According to Dietrich et al. (2009), low-interest banks report high ROA, but low ROA. However, ROE has ignored the serious risks associated with further loans. Although ROE is generally used in many studies, it is not the best measure of profitability Ghazouani Et al (2013).

2.3.3. Net Interest Margin (NIM)

Net interest margin is a measure of the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets. It is usually expressed as a percentage of what the financial institution earns on loans in a time period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that time period (the average earning assets).HO and Saunders (1981) used net interest margin as a bank profit measure in their empirical study of bank. According to Okoth et al. (2013), NIM reflects the cost of banks intermediation services and the efficiency of the bank. The higher the net interest

margin, the higher the profit earned by the bank and the more stable the bank is. However, according to Khrawish (2011) cited in Okoth et al. (2013), a higher NIM could reflect riskier lending practices associated with substantial loan loss provisions.

2.4. Empirical Review on the effect of leverage on profitability

This section surveyed the studies observed to examine the effect of leverage on the profitability of financial firms. Thus, only related studies were examined. Methodology, year of study and the outcome of it were outlined to see their organization with the theories explained above. Contrast between the consequence of these studies and the claim of the theories was established in order to see their suggestion

2.4.1. Empirical Studies of leverage on Banks Profitability

Research by Wabwile (2014) to analyze and compare performance amongst tier 1 commercial banks listed on NSE (asset base above 100 billion) in relation to their financial leverage. Specific indicators were used to measure and compare variance in their performance were profitability Return on assets (ROA) and Return on capital employed (ROCE), the growth of the firm Earnings per share (EPS) and Dividend yield (DY) and value of the firm Price-book value (PBV) was used. In addition, person correlation analysis and regression analysis were used to the correlation of data, F-test, Durbin Watson test, adjusted R², the mean and standard error of the data. The finding indicated that debt ratio increases, it means the banks' most assets are being financed by both long-term and short-term liabilities and hence the return on such assets as well as that on capital employed is reduced to provide for the outstanding liabilities. This examination found a negative correlation between debt ratio and debt to equity ratios with ROAC and ROCEC. It is positive correlation between the debt asset ratio and the EPS.

Edson (2015) in the study of examine the relationship between the financial leverage and commercial bank's profitability in Tanzania. For the purpose, he used secondary data from audited financial statements of listed commercial banks at Dares Salaam Stock Exchange (DSE) over the time period 2007 to 2013. Descriptive statistics and regression analysis were

employed. Both Return on Average Asset (ROA) and Return on Average Equity (ROE) were used as a tool to determine the bank's profitability with independent variable measured by Debt Ratio (DR). The study found that change of debt amount in the capital structure has a negative effect on return on average asset and a no-effect on return on average equity.

Anarfo and Appiahene (2017), examine whether leverage affects banks profitability in sub-Saharan Africa and also to examine nature of relationship between capital structure and bank profitability. The study assesses eight variables in sub-Saharan Africa's bank profitability: debt, banking, asset reliability, bank growth rate, taxes, gross domestic product growth, interest rates, and inflation. The study uses debt ratio as a proxy for capital structure. The findings show that the capital structure of banks is a negative factor in their profitability. This means that sub-Saharan African banks will benefit greatly by reducing their debt and accessing equity financing as high debt rates reduce their profitability.

Sub-Saharan Africa's poor stock market means that banks in Africa are less concerned about equity financing. The capital structure of banks may be far greater than the benefits of debt financing in terms of capital structure business structure theory. It has been suggested that government and policymakers should reduce corporate tax rates as it reduces the profitability of banks. When taxes are reduced and banks become more profitable, they can create more jobs in Africa to reduce unemployment. Banks need to raise interest rates slightly, as their NIMs will improve.

Musa (2017) examines the impact of commercial banking fluctuations in Ghana (such as short-term debt ratio, long-term debt ratio and total debt ratio). Banks in Ghana have a low share capital of these banks, but they account for 84% of the total capital, of which 77% are short-term debt. Performance analysis shows that short-term debt ratios and long-term debt ratios are negatively correlated with the profitability of banks in Ghana. However, the total debt of the property was very positive with the profitability of the banks of Ghana. However, the total debt was closely linked to the profitability of Ghanaian banks. The profitability of banks has been positively linked to the profitability of banks, with regulatory variables, strength, foreign investment and the growth of customer deposits over the age of the bank.

The results show that the short-term financial dependence of commercial banks in Ghana reduces the profitability of banks, and that such banks should shift their focus from deposits to other sources. Short-term and long-term debt consolidation increases the bank's profitability.

Pinto and Quadras (2016) examined the impact of financial performance on Indian banks. The study covers samples of 21 banks, both public and private. A five-year period was considered for the study. Three variables, namely, net profit, net interest margin and return on capital employment, were used as variables for profit control. Debt and total assets are used as proxies to the capital structure. Debt and equity debt has been declining year by year, and the bank's financial risk has been declining. Hypothesis test results show that debt equity and debt have a significant impact on net assets, net interest margins, and high capital performance in the financial performance of the banking industry.

Yogon et al. (2014) Examined credit scores on corporate profitability using sample banks from Kenya. Their study found a positive relationship between short-term debt and profitability, but a negative relationship between long-term debt and profitability. Finally, the study found no link between total debt and profitability. The authors argue that the implications of these findings suggest that short-term debt consolidation and expenditures contradict a statistical business theory. Apart from linking the study with statistical trade-off theory, the findings have no practical implications. The study also used a very small sample size of 11 samples. However, it is often used in developing countries. According to the study, some of the existing capital structure theories are partially rejected, but some contribute to the decision-making process. The real reason is that capital decision making is a complex, multifaceted problem. As a result, capital structure decisions can be the result of many rapid group processes

Nirajini and Priya (2013) studied the leverage and financial performance during 2006 to 2010 financial years of listed trading companies in Sri Lanka. For the purpose of this study, the data was extracted from the annual reports of sample companies. Correlation and multiple regression analysis were used for analysis. The results revealed a positive relationship between capital structure and financial performance. Capital structure also significantly

impact on the financial performance of firms since the debt asset ratio, debt equity ratio and long-term debt correlated with gross profit margin (GPM), net profit margin (NPM), Return on Capital Employed (ROCE), Return on Asset (ROA) and Return on Equity (ROE) at significant level of 0.05 and 0.1.

Chechet and Olayowola (2014) also examined the leverage and profitability of Nigerian listed firms using the Agency Cost Theory perspective with a sample of seventy (70) over a ten-year period (2000 – 2009) with the aid of the Nigerian Stock Exchange Fact Book covering the period under review. Two independent variables served as measure of capital structure: debt ratio (DR) and equity over the period (EQT) while profitability (PROF) as the only dependent variable. The result showed that debt ratio is negatively related with profitability whilst equity over the period is directly related with profitability.

Niresh (2012) investigated the impact of leverage on profitability of ten listed Srilankan banks over the past 8-year period from 2002 to 2009. The finding shows the total debt is the determining factor of profitability in the Banking Industry of Sri Lanka. Suggest banks, loan-creditors and policy planners to formulate better policy decisions as far as the capital structure is concerned. Further, the study reinforces and refines the body of knowledge relating to capital structure and profitability in Srilankan Banks. Bistetal (2014) argues that leverage has a positive effect on the return of assets and that it has a negative impact on the return on return of commercial banks. Ojha et al. (2014), also supported the facts found by Bistetal. (2014).

Ba et al. (2015) revealed that total debt has significant positive impact on the return on assets of the commercial banks while negative relationship with the return on equity. Shrestha et al. (2014) found that debt has a significant positive impact on the performance of the Nepalese commercial banks.

Aregawi (2015), Contrary to previous studies on the relationship between leverage and profitability, the dynamic and consistent metrics used in past research in Ethiopia, and the unique nature of the banking sector and capital structure. There is a ground to study the impact of financial decision-making on the profitability of the banking industry in Ethiopia, with a focus on the profitability of major banking businesses. Furthermore, to the best of the

researchers' knowledge, there is no evidence documented on the impact of capital structure on the profitability of core business operations of Commercial banks in Ethiopia.

A research by Amdemikael (2012) examines the bank-specific, industry-specific and macroeconomic factors affecting bank profitability for a total of eight commercial banks in Ethiopia, covering the period of 2000-2011. The study adopted a mixed-methods research approach by combining documentary analysis and in-depth interviews. The findings of this study show that capital strength, income diversification, bank size, and GDP have a statistically significant and positive relationship with banks' profitability. On the other hand, variables such as efficiency and quality of assets have a negative impact on the profitability of banks and statistically. However, the relationship between liquid risk, concentration and inflation is not statistically significant. According to the study, focusing on banks alongside major drivers and re-engineering will increase the profitability and performance of commercial banks.

Sori (2014) also in his thesis paper examined factors affecting the profitability of private commercial banks in Ethiopia. This study adopted a quantitative research approach and the statistical cost accounting model. The finding of the study shows that loan and advance, current deposit, other liabilities, and GDP have a statistically significant and positive relationship with banks' profitability. Contrary, variables like fixed deposit, market concentration have a negative and statistically significant relationship with banks' profitability. However, the relationship of deposit with other banks, the sum of investment, saving a deposit, and inflation is found to be statistically insignificant. Based on the finding the researcher recommended that private commercial banks should focus on increasing public awareness to mobilize more savings to enhance their performance in the provision of loans and advance to customers.

Besides Dawit (2017) considers bank-specific, industry-specific and macroeconomic factors that determine the profitability of Ethiopian private commercial banks. For this purpose, the researcher used six private commercial banks were subject to the study ranging from 2004/2005 to 2014/2015. Panel analysis was performed for this objective study. Further

studies used ROA as independent variables and capital efficiency, operational efficiency, corruption, revenue diversity, concentration, gross domestic product, inflation and cash flow. This empirical investigation showed that capital, operational efficiency, income diversification, concentration and money supply have a significant relationship. Conversely, liquidity, GDP and inflation have an insignificant relationship with the profitability of Ethiopian private commercial banks.

Asrat (2016) wrote capital structure and financial performance using evidence from Ethiopian cement factories. Moreover, in the banking industry of the country, Aragaw (2015) conducted a study on the impact of capital structure on profitability of commercial banks; Abera (2012) assessed factors affecting the profitability of banks with a focus on overall performance in addition Tamirat (2015) investigated the effect of debt financing on the profitability of commercial banks. Besides, Belayneh (2011); Dawit (2017), and Habtamu (2012) conducted their study on the determinant of commercial banks profitability. Tesfaye (2018) examine the effect of leverage on Ethiopian private commercial banks' profitability.

Tesfaye (2018) examine the effect of leverage on Ethiopian private commercial banks' profitability. The study covered nine years period (2008/09-2016/17). The dependent variable was the return on equity (ROE) used to measure profitability. And the independent variables were the degree of operating leverage and the degree of financial leverage to measure the leverage of the institutions. The regression result indicates that, the degree of operating leverage had a positive and statistically insignificant impact; the degree of financial leverage had a negative and statistically significant impact on the profitability of private commercial banks. Moreover, operational efficiency also had a negative and statistically strongly significant relationship with profitability. Finally, bank size had a statistically significant impact on profitability.

2.5. Conclusion and knowledge gap

The concept of use is generally used in breakeven analysis and for the development of a business company capital structure. A business loan represents the percentage of a company's fixed expenses. High-performance companies are sensitive to changes in sales and affect their revenues before interest and fast taxes. A loan refers to the amount of debt in a business. Business owners prefer businesses to use debt financing, but only to one point. Beyond certain points, investors are very concerned about debt financing as it increases the real risk of the firms.

A number of modern capital structure theories were developed following the publication of the capital structure irrelevance framework by Miller (1958) they argued that a firm value could not change with changing its capital structure. A later study in 1963 by M&M concluded that by including corporate tax, the market value of the firm is increased and the overall cost of capital is reduced since interest is a tax-deductible expense (Miller, 1963). Those studies were conducted by undertaking different assumptions, which fit into the particular situation. Trade-off theory, pecking-order theory, agency-theory, and some other theories are empirical evidence that challenge Modigliani and Miller's" capital structure studies in relation to these theories scholars postulate empirical tests.

Various empirical studies reviewed in this chapter have further revealed the opposing views of researchers on the issue of leverage and firms' performance. In Ethiopia, as far as the knowledge of the researcher is concerned, there are a few types of researches conducted about capital structure but those researchers have entirely emphasized on investigating determinants of capital structure and the impact of capital structure on a firm's performance. Even though there were studies on capital structure and firm profitability, all are focused on financial leverage (fixed charge financing instrument). As a result, there is no study in Ethiopia on the relationship between all types of leverage (operations and finance) and the performance of the private sector in terms of private banks. Therefore, this study focused on the addressed gap that is affecting Ethiopian businesses in private commercial banks.

After carefully reviewed the theoretical and empirical literature that concentrated on leverage and firms' profitability, the following conceptual model is formulated to investigate the relationship between leverage and private commercial banks' profitability in Ethiopia.

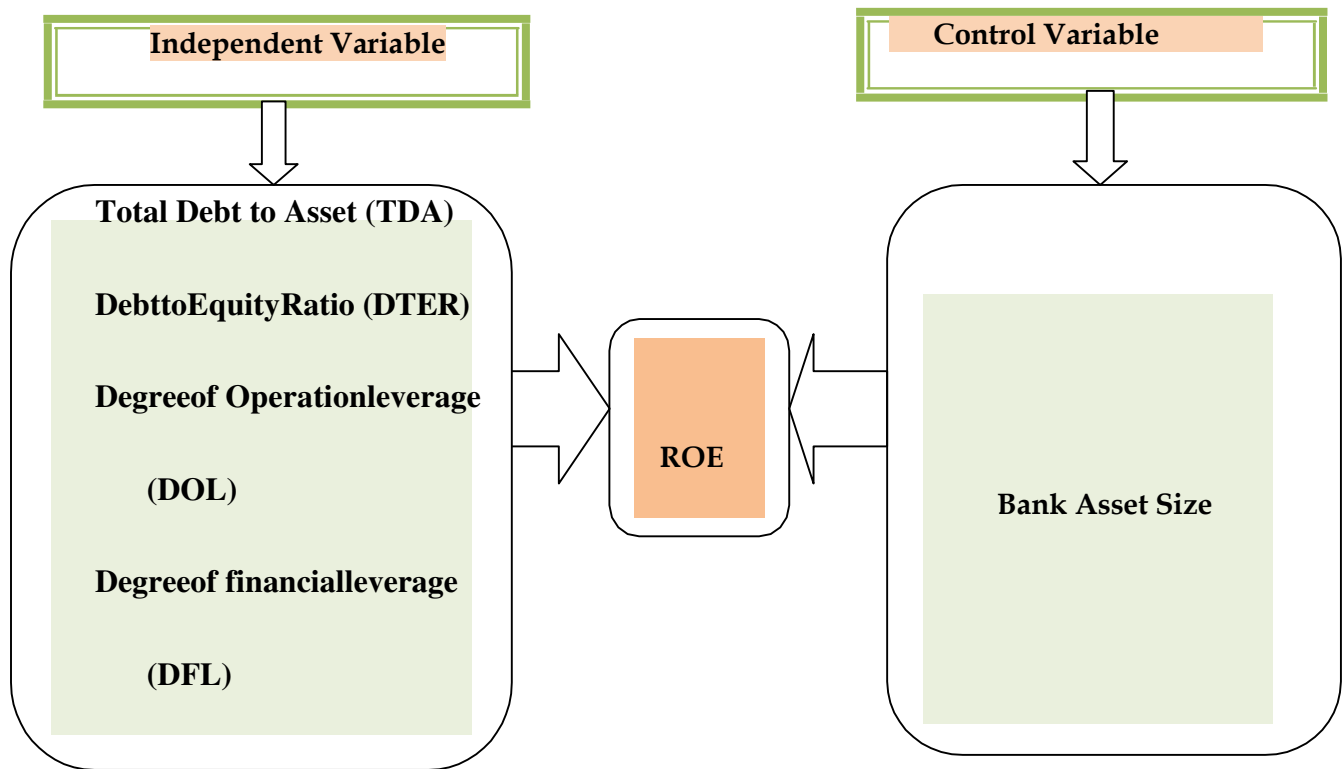


Figure 1.2 Conceptual frame works

Source: Adapted by the researcher from: Zafar(2010); Habtamu(2012); Aregaw (2015);Tamirat (2015);Frezewd (2016); and Seyoum(2018).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter presents the research design, approach, population of the study, Sample and Sampling Techniques, source of data and data collection methods, data analysis techniques, variables and their measurement model specification, and study variables, those used in this study.

3.2. Research Design

According to Kothari (2004) research design should be briefly mapped for carrying the research for which the problem existing is going to be solved or it should be arranged in a well-organized and meaningful way for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

Thus, the design used in this study is Explanatory design to accomplish the purpose of this study. Also, the approach is quantitative research approach. In quantitative research approach, there are two strategies of reviews namely, survey design and experimental design. The main advantage of this approach is that numbers are easy to work with data are readily collected, coded, summarized and analyzed Dunn (1999). Further quantitative research approach has the advantage of being able to make generalizations, for a broader population, based on findings from the sample. Therefore, this uses the Explanatory design with quantitative approach since quantitative nature of the data used.

3.3. Population of the Study

As noted in Mugenda (1999), a target population is one the researcher wants to generalize the result of the study. Therefore, the researcher is targeting private banks in Ethiopia which are used as population of the study from which samples could be selected purposively. According to National Bank of Ethiopia supervision 2016/17, there are 18 licensed Banks in Ethiopia; from

these 17 banks are Commercial Banks which of them are 16 private and 1 public.

3.4. Sample and Sampling Techniques

As stated by Kothari, (2004), sample as the selected respondents constitute the total population and sampling techniques is the selection process that means, sampling is defined as the selection of some way of a totality on the basis of which a judgment or inference almost the aggregate or totality is made. In other words, sampling is the process of obtaining information about an entire population by examining only a part of it. Thus, for this study purposive sampling was used to deliberately select sample banks based on the selection criteria set by the researcher. Hence, out of sixteen private commercial banks, 8 private banks are purposively selected as a sample based on the availability of data during the years 2012 to 2019.

Therefore, the sample consisted; commercial bank of Ethiopia (state private bank), Addis International Bank, Lion International Bank S.C (LIB), United Bank S.C, Awash bank (AB), Nib International Bank, Dashen Bank S.C (DB), Oromia International Bank S.C (OIB), and Cooperative bank of Oromia (CBO) were selected as the sample for this study. So, the audited financial statements were collected from national bank of Ethiopia for sampled private banks within eight years' period from 2012 up to 2019.

3.5. Source of Data and Data Collection

With regard to data sources and data collection, secondary data sources were applied in this study. The data for different variables in this study were obtained from the National Bank of Ethiopia within 8 years for the period 2012-2019. Accordingly, data for this paper were collected from the selected banks and NBE.

Panel data type was used; because, according to Gujarati (2009) since panel data has the combination of both cross-sectional and time-series it is more useful data as it captures individual variability (cross-sectional information), and captures dynamic natures of the data (time-series information). Moreover, it ensures more variability, more degrees of freedom,

more efficiency, and less co linearity among variables. To collect the required data, the mere annual audited financial statements were collected.

3.6.Data Analysis Techniques

The objective of this research was to analyze the relationship between financial leverage and profitability of some selected private banks in Ethiopia. To attain this objective the study employed panel data of eight banks for eight years. Here, in this study both descriptive and panel econometrics method of data analysis was employed to analyze the effects of financial leverage on the profitability of the selected banks under study. Descriptive data analysis was used to describe the profitability trend of the banks under the study and to show summary statistics for variables is used under the model. For the panel econometrics part, random effect panel data analysis was used. Because according to Gujarati (2009) by combining time series of cross section observations, panel data gives more informative data, more variability, less co linearity among variables, more degrees of freedom and more efficiency. Correlation matrix is used to show the relationship exists between the independent and dependent variables used in the study, and multiple regressions analysis was applied to find the causal relationship between leverage measures and profitability measures

3.7 Variables and Measurement Procedures

3.7.1 Dependent Variable

The dependent variable is a variable which is affected by other factors. In this study, the effect of financial leverage on private banks profitability by using return on equity (ROE) as dependent variable indicators or measure of profitability.

3.7.2. Independent Variables

For the purpose of this study the independent variables are total debt to asset ratio (TDA), debt to equity ratio (DTE), degree of operation Leverage (DOL), degree of Financial Leverage (DFL) & Size total Asset was as a control variable and these factors assuming that they best explain or not for the effect of financial leverage on the profitability of commercial

banks. Because return on equity has an important indicator to measure the profitability of the banks. The return on equity ratio (ROE) is a profitability ratio that measures the ability of firms to generate profits from its shareholders investments in the company. In other words, the return on equity ratio shows how much profit each dollar of common stockholders' equity generates. The data used to calculate the measures of profitability are obtained from the audited financial statements were collected from national bank of Ethiopia for sampled commercial banks within eight year's period from 2012 up to 2019. So, the study used one profitability measures which are return on average equity (ROE) which focus on shareholder's funds.

3.7.2.1. Total Debt to Asset (TDA)

The total debt to asset variable is used to represent the proportion of banks asset/operation financed by debt, hence used as one measure of the profitability of banks. It means debt to asset ratio shows how much the company depends on debt to finance the firm's asset. The debt to asset ratio gives users a quick measure of the amount of debt that the company has on its balance sheets compared to its assets. The higher the ratio, the greater the risk associated with the organization's work. The low debt ratio shows conservative financing with the potential to borrow in the future without any significant risk.

According to Goyal (2013) found statistically significant negative relationship between profitability and leverage. This is also consistent with the pecking order theory of capital structure. Hence taking into account the earlier empirical studies and the nature of financing structure of banking industry in Ethiopia, negative relationship with profitability was expected. For the purpose of this research it was calculated as: -

$$\text{TDA} = \text{Total Debt} / \text{Total Asset}$$

3.7.2.2. Debt to Equity Ratio

Debt to equity ratio is a measure of the proportion of debt to shareholders funds (i.e. net worth) in the total financing of a business. The ratio indicates how much money was raised as debt. Profitability is negatively correlated to debt to equity (leverage) ratio Shah and Hijazi,

(2004) and was further documented by Shah and Adom (2015). Also, it is known as gearing ratio; which frequently used to measure the extent to which a company is taking on debts as a means of leveraging. The debt to equity ratio is a common measure used to assess a firm's leverage, or in other words the extent to which it relies on debt as a source of financing Berk & DeMarzo ,(2007).Debt to equity ratio is employed in this study calculated by using the following formula: -

$$\text{Debt to equity ratio (DTER)} = \text{Total debt/Total equity}$$

3.7.2.3 Degree of Operating Leverage (DOL)

The Degree of Operating Leverage (DOL) The concept of leverage derives from the idea of lever in physics, which is associated with the achievement of a final outcome that is more than proportional to the force employed. In the economic and financial environment of firms, two types of leverage stand out: the operating related to capital structure and the financial related to the capital structure leverage. According, Garrison and Noren (2003) describe operating leverage as the degree of response of earnings to changes on sales revenues. According, Dugan and Shriver (1992) present a more flexible concept, in which the use of operating costs is a function of fixed costs and shows the extent to which changes in the structure of a particular company's production costs are replaced by variable costs Therefore, operating leverage is an instrument used for the management of fixed costs, and its optimization achieved is obtained through the increase in volume. If the operating leverage is high, then a smallest percentage change in sales can increase net earnings. Net operating income No matter how many sales are made, the amount of revenue that remains after fixed costs is paid. In this case, managers try to maximize the use of the organizational structure (adjusted structure) represented by costs and fixed costs.

The formula used for determining the Degree of Operating Leverage is as follows:

$$\text{DOL} = \% \Delta \text{ in EBIT} / \% \Delta \text{ Total Income}$$

The degree of operating leverage Ratio helps a firm in understanding the effects of operating leverage on the firm's likely earnings. It is also important to determine appropriate level of

operating leverage which can be used in order to get maximize the company Earnings before interest and taxes or EBIT.

3.7.2.4. Degree of financial leverage

As notice, Koech (2013) Business enterprises use debt in their businesses, because it offers them potential to increase the volume of their operations and increase the average return on their equity funds. The borrower takes advantage of the debt, increases the value of the company, and increases the turnover and therefore makes a profit. If the interest rate demanded by the company is low for the company's internal return (ERR), the chances of a financial leverage are reduced, at which point the company will be able to pay the required interest and the principal amount and pay the shareholders' profits.

According to Gatsi, (2013), a company is described as levered if it is financed partly through debts simply because of the tax shield element of debt. But, debt carries a fixed financing cost, which means that if the company increases its debt the degree of financial leverage also increases. The degree of financial leverage (DFL) is defined as the percentage change in earnings after interest and before taxes (EBT), that results from a given percentage change in earnings before interest and taxes (EBIT).

On the grounded off foregoing literature, the degree of financial leverage of a firm's computed in different methods. However, this research implemented the ratio of earnings before interest and taxes (EBIT) to earnings before taxes (EBT). So, it was calculated as:-

$$DFL = \frac{\% \Delta \text{ Net Income}}{\% \Delta \text{ EBIT}}$$

3.8. Control Variables

There are a number of factors that affect the commercial bank's profitability rather than financial leverage; Because of this control variable is included in the model. In this study the researcher employed the bank size as a control variable.

3.8.1. Bank Size

Total assets are defined as the sum of net fixed assets, total intangibles, total investments, net current assets and other assets. It assesses whether the size of the firm is related to performance. Sufian et al., (2009) found a positive impact of firm size on performance. The study concluded that a large company had reduced costs of economics; large companies can also increase capital at a lower cost. According, Johnson (2008) showed that large companies are more profitable compared to smaller companies.

Also as Belayneh(2011)indicated in his study work that,largerbanksenjoythehigherprofitthansmallerbanksinEthiopiabankingsectorbecause they areexploiting thebenefitofeconomiesofscale.Inmostpreviousstudies,firmsizeis expressedbythelogarithmoftotalassets. According to variousresearchersintheirstudies employed firms' size as a controlvariable. So, by assuming this, the study used bank size as a controlvariable.

Bank Size = natural logarithm

3.8. Summary of Variables, their Measures and Expected Sign

Table 3-1 Summary of Variables, their Measures and expected sign

	Variable	Definition	Mathematical Expression	Expected Sign
Dependent variable	Return on Equity (ROE)	Net income dividing by book value of owner equity	$ROE = \frac{\text{Net Income}}{\text{Total Equity}}$	
Independent Variables	Total Debt to Asset (TDA)	The total debt divided by total asset	$TDA = \frac{\text{Total Debt}}{\text{Total Asset}}$	-
	Debt to equity ratio (DTER)	The total debt divided by total equity	$DTER = \frac{\text{Total debt}}{\text{Total Equity}}$	+
	Degree of operating leverage (DOL)	The total EBIT divided by total income	$DOL = \frac{\% \text{Total EBIT}}{\% \text{Total Income}}$	-
	Degree of financial leverage (DFL)	Percentage change in earnings after taxes (EAT), that results from a given percentage change in earnings before interest and taxes (EBIT).	$DFL = \frac{\% \text{Total Net Income}}{\% \Delta \text{EBIT}}$	-
Control variable	The Firm Size	Natural Logarithm of Total asset	$FSIZE = \ln(\text{Total Asset})$	+

Source: Compiled from the literature by researcher)

Note: (+) when the independent variable increases (decreases) the dependent variable will increase (decrease).

(-) When the independent variable decreases (increases) the dependent variable will increase (decrease)

3.9. Model Specification

Panel data will be generated using both time series and cross-sectional data from the audited financial statements of selected private banks of Ethiopia. As mentioned in Brooks (2014) a panel keeps the same individuals or objects and measures some quantity about them over time.

To attain the objective of this study and to analyze the effect of financial leverage on the profitability of private banks in Ethiopia, the model used by Gatsi (2013) and Patel (2014) with some modification to include relevant variable was applied. The modification was made to return on Equity (ROE) as a dependent variable, explanatory variables such as Total Debt to Asset (TDA), Total Debt to Equity (TDE) and Degree of Financial Leverage (DFL), and bank size was as a control variable. The general model;

$$Y = \alpha + \beta X_{it} + \mu_{it}$$

Where,

Y_{it} = is the dependent variable

α = constant term

β = is the intercept

X_{it} = is the independent variable.

μ_{it} = are the error terms.

i = is the number of firms and

t = is the number of time periods.

The subscript “i” representing the cross-sectional dimension and “t” denote the time series dimension. Based on the above general model the effects of financial leverage on profitability

of some private banks in Ethiopia will be evaluated using the model outlined below;

$$ROE = \alpha + \beta_1(TDA) + \beta_2(TDE) + \beta_3(DOL) + \beta_4(DFL) + \beta_5 \text{Log}(SZ) + \mu$$

Where,

ROE it = Return On Equity for Bank i in year t

α = constant term

TDA it = Total Debt to Asset ratio for Bank i in year t

TDE it = Total Debt to Equity ratio for Bank i in year t

DOL it = Degree of operating leverage for Bank i in year t

DFL it = Degree of Financial Leverage for Bank i in year t

Log_(Size) = Log of Total Asset for Bank i in year t

μ it = are the error terms.

As it is stated in chapter one, the major objective of this study was to examine the effect of financial leverage on the profitability of commercial banks in Ethiopia and to search the relationship between financial leverage variables and profitability. To achieve this objective, this study employed Ramsey RESET test was used to see whether the developed model is correctly regressing. To analysis this following hypothesis is formulated

H₁: H₂: H₃: H₄: H₅: the model is correctly specified

H₁: H₂: H₃: H₄: H₅: ≠ the model is not correctly specified

$$\alpha = 0.05$$

Decision Rule: Reject H_1 : H_2 : H_3 : H_4 : H_5 if p-value is less than significance level. If not, do not reject null hypothesis. It means finally, the study presented the summary of variables used in the study and their expected sign and associations with data source as well as the null hypothesis tested in the study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

Introduction

This chapter presents the data presentation, analysis, and discussion. The general objective of the study was to analyze the effect of leverage on private banks' profitability. Panel data are used to see the relationship between and the effect independent variable on the dependent. Data were collected from eight private banks for the time 2012-2019.

4.1. Descriptive statistics

In this study descriptive statistic is used to determine minimum, maximum, mean and standard deviation. The following table provides a summary of the descriptive statistics of the dependent and independent variables for eight Ethiopian commercial banks for the period of 8 years from the year 2012-2019 with a Stata output 14.2 but, after adjustment of 64 observations. This was generated to give an overall description of the data used in the model.

Table 4-1 Summary of descriptive statistics of dependent and independent variables

sum PANELID YEAR ROE TDA DTER DFL FSIZE					
Variable	Obs	Mean	Std. Dev.	Min	Max
PANELID	64	4.5	2.3094	1	8
ROE	64	0.1898	0.0586	0.032	0.3567
TDA	64	0.8561	0.0628	0.4978	0.9576
DTER	64	6.6135	2.0166	1.3017	11.7041

DOL	64	0.5907	0.1134	0.2465	0.9705
DFL	64	0.4623	0.1492	0.1471	1.2043
FSIZE	64	9.8777	0.7954	7.1559	10.8729

Source: Stata 14.2 output

As shown in the above table, return on equity was used as a profitability measure for this study; which in turn calculated profit after tax divided by total equity. For the total sample, the mean value of return on equity was 18.98% with a minimum of 3.2% and a maximum of 35.67%. This indicates that sampled private banks generate the average return on equity of 18.98% during the study period. The most profitable banks earned 35.98% cents return from each unit of invested shareholder fund. On the other hand, the maximum loss incurred by sampled banks is 3.2% cents for each unit of invested shareholder fund. The standard deviation of return on equity (ROE) was .0586; this statistical measurement implies that the volatility of return on equity (ROE) from the mean value is 0.0586.

Regarding the explaining variables, the descriptive statistics indicates that private commercial banks under the study period have a mean degree of financial leverage of 46.23 % showing the ratio of percentage change in earnings before interest and tax (EBIT) to percentage change in total income, thus indicating on average a one-unit change in total income produced 46.23%-unit change in EBIT and DOL also measured by total EBIT divided by total sale presents a minimum of 24.65% and maximum of 97.05% with a mean value and standard deviation of 59.07% and 11.34% respectively.

On the variable on total debt to total asset ratio (TDA) as an indicator of banks' performance, the study found out that it had a mean of 0.86. This indicates that on average; about 86% of total assets are financed by debt capital.

On the other hand, Debt to equity ratio is a measure of the proportion of debt to shareholders funds (i.e. net worth) in the total financing of a business. The ratio shows how much currency was higher as debt. It has higher mean value (6.614). The standard deviation is 2.02 it shows wide variation in return. [The minimum is 1.03, maximum is 11.70.]

Likewise, bank size which is measured by the natural log of total asset had the average growth of 9.88%. The total assets growth for the sample banks in the study period were ranged from 7.16 % to 10.87 % minimum and maximum value respectively with a standard deviation of 7.9%.

4.2. CLRM Assumptions and Diagnostic Test

In this study, diagnostic tests were carried out to ensure that the data fits the basic assumptions of the model. Hence, the following subsections discuss the results of the diagnostic tests (i.e., heteroscedasticity, autocorrelation, multicollinearity, and normality test) and model specification test.

Table 4-2 Test for Heteroscedasticity

White's test for Ho: homoscedasticity
against Ha: unrestricted heteroscedasticity
chi2(9) = 36.68
Prob > chi2 = 0.0128

Cameron&\Trivedi's
decomposition of IM-test

Source	chi2	df	p
Heteroscedasticity	36.68	20.00	0.0128
Skewness	15.81	5.00	0.0074
Kurtosis	1.04	1.00	0.3078
Total	53.53	26.00	0.0012

Source: Stata 14.2 output

As it is indicated in table 4.2 the result shows the F statistic obtained for the White test is about Chi236.68 and 20 Df, this gives P-value $\approx .0128$ So, at a 5% significance level, it is clear that 0.05 is greater than 0.0128, therefore the decision to make is to reject the null hypothesis, leading to the presence of heteroscedasticity in the model.

4.2.1. Test for Autocorrelation

This is an assumption that the errors are linearly independent uncorrelated with one another dependent variable. Breusch – Godfrey tests allow examination of the relationship between error term and several of its lagged values at the same time. Therefore, to check the presence of autocorrelation in this study, the researcher used Breusch – Godfrey test.

Table 4-3 Test for Autocorrelation

Hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

<u>Ho: Constant variance</u>	
<u>Variables: fitted values of ROE</u>	
chi2(1)	4.34
Prob > chi2	0.0373

Source: Stata 14.2 output

The Breusch-Pagan test creates a statistic that is chi-squared distributed and for your data that statistic=4.34. The p-value is the result of the chi-squared test & the null hypothesis is rejected for p-value less than 0.05. In this case, the null hypothesis is rejected and it would be homoscedasticity.

4.2.2. Assumption of normality (errors are normally distributed ($u_t \sim N(0, \sigma^2)$))

Normality of the residuals is a hypothesis of running a linear model. Therefore, if your residuals are normal, it means that your assumption is valid and model inference or confidence intervals, model predictions should also be valid. It's that simple! Brooks (2014) stated also that if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. That is, the p-value given at the bottom of the normality test screen should be greater than 0.05 to not reject the null hypothesis of normality at the 5% significant level.

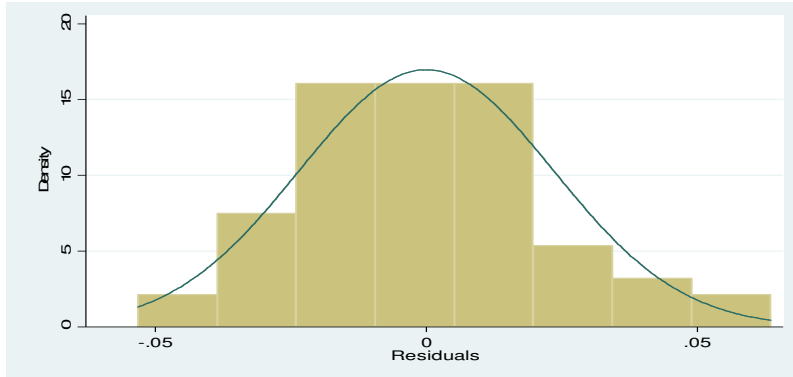


Figure 4-1 Assumption of normality

From the above figure it can conclude that there is no problem of normality. That is, the coefficient of Mean 3.19, Std. Dev .038, Variance 0.00014 and Skewness -1.897 and kurtosis 12.44 and the Bera-Jarque statistic has a P-value of 0.665 implying that the data were consistent with a normal distribution assumption. Besides, it shows that the inferences made about the population parameters from the sample parameters tend to be valid.

4.2.3. Assumption of Multicollinearity

Brooks (2014), states that an implicit assumption that is made when using the OLS estimation method is that the explaining variables are not correlated with one another. If there is no relationship between the independent variables, they would be said to be orthogonal to one another. If the explaining variables were orthogonal to one another, adding or removing a variable from a regression equation would not cause the values of the coefficients on the other variables to change. However, in any practical context, the correlation between explaining variables will be non-zero, although this will generally be relatively benign in the sense that a small degree of association between explaining variables will almost always occur but will not cause too much loss of precision. But a problem occurs when the explaining variables are very highly correlated with each other, and this problem is known as multicollinearity. There are two types of multicollinearity: perfect multicollinearity and near multicollinearity. When there is an exact or correct relationship between two or more variables, a perfect multicollinearity occurs.

In this case, it is not possible to estimate all of the coefficients in the model. Perfect multicollinearity will usually be observed only when the same explaining variable is inadvertently used twice in a regression. Whereas, near multicollinearity is much more likely to occur in practice, and would arise when there was a non-negligible, but not perfect, relationship between two or more of the explaining variables.

Multicollinearity introduces a problem because the estimates of the sample parameters become inefficient and cause large standard errors, which makes the coefficient values and signs unreliable. Furthermore, multiple independent variables with high correlation add no additional information to the model. It also conceals the real impact of each variable on the dependent variable. Cooper & Schindler (2009) suggested that a correlation above 0.8 should be considered as a problem of multicollinearity. In addition, Hair (2006) concluded that correlation coefficient less than 0.80 may not cause serious multicollinearity problem.

Table 4-4 Result of Multicollinearity Correlation

cor TDA DTER DFL FSIZE (obs=64)					
	TDA	DTER	DOL	DFL	DFL
TDA	1.0000				
DTER	0.7130	1.0000			
DOL	0.1486	-0.0515	1.0000		
DFL	0.0211	0.0284	-0.0726	1.0000	
FSIZE	0.3115	0.2847	0.0468	0.107	1.0000

Source: Stata 14.2 output

According to Wooldridge (2015) study, multicollinearity exists if the correlation coefficient is greater than .80. Results show that there is no high correlation between variables, signifying that multicollinearity is not a serious concern in the estimations. Since, all correlation results are below 0.713, it indicates that multicollinearity is not potential problem for these studies.

4.2.4. Model Specification test

The assumption of the CLRM that the econometric model used in the analysis is correctly specified has two meanings. First, there are no equation specification errors, and second; there is no model specification errors. The equation specification error is due to the omission of an important variable(s), the inclusion of unnecessary variable(s), adoption of the wrong function form, incorrect specification of the error term, and errors of measurement in the regress and regressions Gujarati, D. (2009). Therefore, in order to select a correct estimated model, the researcher had carry out the variance inflation factor Test to check on the model specification.

Table 4-5: Variance Inflation Factor test

Vif Variable	VIF1/VIF	
TDA	3.36	0.2975
DTER	3.25	0.3075
DOL	1.13	0.8847
FSIZE	1.12	0.8895
DFL	1.02	0.9824
Mean VIF	1.98	

Source: Stata 14.2 output

Further, a VIF test is conducted to examine whether multicollinearity exists amongst independent variables. According, Nachane (2006) suggested that VIF less than 10.0 it would be acceptable. According to Table 4.5 the highest variance inflation factor (VIF) is 1.98; therefore, there is a low level of multicollinearity and, as such, multicollinearity does not seem to be an issue in this study acceptance of VIF values.

4.2.5. Model Selection (Ramsey RESET Test)

Model specification errors can substantially affect the estimate of regression coefficients (Gujarati, 2004). Model specification errors can substantially affect the estimate of regression

coefficients (Gujarati, 2004). As shown from the Ramsey (RESET) test for omitted variables below, one of the common tests for regression model specification, the model used in this study was correctly specified, as the p-value was greater than.

Table 4-6 Model Selection

estatovtest

Ramsey RESET test using powers of the fitted values of ROE
Ho: model has no omitted variables

F(3, 55) =	5.99
Prob > F =	0.0013

Source: Stata 14.2 output

As shown from the Ramsey (RESET) the null hypothesis is that the model does not have omitted-variables bias, the p-value is less than the usual threshold of 0.05 (95% significance), therefore we fail to reject the null hypothesis and conclude that we do not need more variables. As it is clearly stated above, all assumption tests results indicated that the employed model for this study was not sensitive to the problems of violation of the CLRM assumption.

4.3. Results of the regression analysis

To test the effect of financial leverage on Ethiopian commercial banks profitability the following linear regression model was developed.

$$ROE = \alpha + \beta_1(TDA) + \beta_2(DTER) + \beta_3(DOL) + \beta_4(DFL) + \beta_5 \log(SZ) + \mu it$$

Table 4-7 Regression output

reg ROE TDA DTER DFL FSIZE					
Source	SS	Df	MS	Number of obs	= 64
Model	0.181	5	0.036	F(5, 58) =	60.45
Residual	0.035	58	0.001	Prob > F =	0.000
				R-squared =	0.839
				Adj R-squared	= 0.825
Total	0.216	63	0.003	Root MSE =	0.025
ROE		Std. Err.	t	P>t	[95% Conf. Interval]

	Coef.					
TDA	0.272	0.090	3.02	0.004	0.09	0.453
DTER	0.011	0.003	3.74	0.000	0.00	0.016
DOL	0.211	0.029	7.30	0.000	0.15	0.269
DFL	0.222	0.021	10.65	0.000	0.18	0.264
FSIZE	-0.005	0.004	-1.32	0.193	0.02	0.003
_cons	-0.286	0.066	-4.32	0.000	-0.42	-0.153

Source: Stata 14.2 output

The developed model by Ordinary Least Square (OLS) model:

$$\text{ROE} = -0.286 + 0.272 \cdot \text{TDA} + 0.011 \cdot \text{DTER} + 0.211 \cdot \text{DOL} + 0.222 \cdot \text{DFL} - 0.005 \cdot \text{LOGSIZE} \text{ ----}$$

Equation 1

The panel random effect estimation regression result in the above shows coefficient intercept (α) is -0.286. This means, when all explanatory variables took a value of zero, the average value ROE would take -0.286 1unit and statistically significant at 5% of significance level.

The leverage structure as measured by total debt to asset had a positive and statistically significant relationship with profitability with a p-value of 0.004 at 5% significance level. Also debt to equity ratio had positive and statistically significant relationship with profitability with a p-value of 0.004 and 0.000 respectively. Moreover, regarding the control variables, the result shows that banks size as measured by the logarithm of total asset statistically at 5% significance level is not significant (p-value = 0.193) and had a negative relationship with profitability.

Whereas, the degree of operating leverage had a positive and statistically significant relationship with profitability (p-value = 0.000) at 5% significance level and the degree of financial leverage had a positive and statistically significant relationship with profitability with a p-value of 0.0000 at 1% significance level. “For each 1% change in degree of operation leverage and degree of financial, rerun on equity has increased to by 21.10% and 22.2% respectively”.

Furthermore, the result shows that the adjusted R square was 0.839 which indicates that about 83.9% of the variability in profitability is explained by the selected explanatory variables

(Total Debt to Asset, total debt to equity, degree of operation leverage, degree of financial leverage, and Size). In addition, the Prob (F-statistic) 0.0000 indicates that the explanatory variables jointly have significant impact on profitability of core business operations of private banks in Ethiopia.

4.3. Discussion of Findings

This section discuss the detail analyses of the results for each explanatory variable and their effect on commercial banks profitability.

Total Debt to Asset (TDA)

Leverage as measured by debt to asset ratio had statistically significant expected negative relationship with profitability, which was in line with prior expectation. This is supported the pecking order theory and prefers using internal finance before raising debt or equity. The result is the same with Nirajini and Priya (2013): Pinto & Quadras (2016) the debt asset ratio positive relationship with Return on Equity (ROE) at 5% significance level.

Total Debt to Equity Ratio (DTER)

On the variable on total debt to total equity ratio (DTER) as an indicator of banks' performance, the study found out that it had positive and significant relationship with profitability. This implies that indicates that on average; about 7% of total assets are financed by debt capital. The result consistent with Chechet and Olayowola (2014) that debt ratio is positive related with profitability whilst equity over the period is directly related with profitability.

The degree of operating leverage (DOL)

The degree of operating leverage (DOL) is defined as the percentage change in operating income (or EBIT) that results from a given percentage change in income it can be observed

that the coefficient of degree operating leverage which is measured by the percentage change in Total income divided by percentage change in earnings before interest and tax (EBIT) ratio was the positive coefficient (0.2210) as compared to other variables and a p-value of 0.000. This shows that holding other things remain constant a 1 percent increase in the degree of operating leverage will result in 22.10% increased profitability, statistically significant at 5 percent significance level. The positive coefficient for degree of operating leverage implies that, whenever private banks increase the degree of operating leverage, they are faced with the situation of having to increase their profit the result in line with (Jensen, 1986; Larry et al., 1995 and Elangkumaran, 2013) but in contrast the empirical evidence Zafar (2010) Gatsi (2013).

The degree of financial leverage (DFL)

The empirical result shows that listed sampled private banks' return on equity is positive and significantly associated with the degree of financial leverage. This implies that holding other things remain constant, a 1 percent increase in the degree of financial leverage leads to about 22.20percent increase in profitability, as the estimated coefficient of the degree of financial leverage is about 0. 222. The result of this study is inconsistent with the trade-off theory argues that firms generally prefer debt for tax considerations. Therefore, profitable firms would, employ more debt because increased leverage would increase the value of their debt tax shield (Myers, 1984).

Total asset (Log Size)

The results indicate that size has negative relationship with financial performance of profitability, but statistically insignificant (p-value = 0.193) at 5 percent significance level.

Table 4-8 Relationship Between the actual and expected

Hypothesis	Expected Impact	Actual result
------------	-----------------	---------------

There will be a significant positive effect of debt to asset ratio (TDA) on profitability	Negative and significance	Positive and significance
There will be significant Negative effect of debt-to-equity ratio (DTER) on profitability	Positive and significance	Positive and significance
There will be a significant Negative effect of degree of operating leverage (DOL) on Profitability	Negative and significance	Positive and significance
There will be a significant Negative effect of degree of financial leverage (DFL) on Profitability	Negative and significance	Positive and significance
Bank size will have positive and significant effect on return on equity	Positive and significance	Negative and insignificance

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The previous chapter presented the analysis of the findings the effect of leverage on Ethiopian private banks' profitability and discussions of the study. The purpose of this chapter is to discuss the conclusions and suggestions. Accordingly, this chapter is organized into three sections. Section 5.1 provides conclusions; Section 5.2 provides recommendations and Section 5.3 provides direction for future research.

5.1. Conclusions

This paper explained the studies was to find the effect of leverage on Ethiopian private banks profitability. The degree of financial leverage measures the extent to which debt finance which forms a component of the capital structure; contribute to the debt obligation of the private commercial banks. Based on the review of previous empirical studies and theories, this study investigated the effect of financial leverage on the profitability of Ethiopian commercial Banks over the period of 2012 to 2019 with a sample size of eight Ethiopian

private Banks. The major explanatory variables that were used in this study are - degree of financial leverage, degree of operation leverage, debt equity ratio, debt ratios and total size of asset. On the other hand, the study used one control variable namely: natural log of a total asset from bank size. To comply with the objective of this research, the study used quantitative research method. The quantitative data were mainly obtained from National Bank of Ethiopia. Regression analysis (OLS) is adopted in order to identify and measure the effect of leverage on banks profitability.

The regression analyses were made in line with the specific research objectives and stated hypotheses formulated in the study. Consequently, the empirical findings of this particular study suggested the following conclusions.

Leverage as measured by debt to asset ratio had statistically significant positive relationship with profitability; there isn't expectation on the previous hypothesis. This result also supports the pecking order theory and prefers using internal finance before raising debt or equity. On the other hand, debt to equity ratio, degree of operating and degree of financial leverage had statistically significant positive relationship with profitability respectively, but total size asset leverage had statistically significant negative relationship with profitability. The regression result between the degree of financial leverage and profitability showed a positive relationship with statistical significance. This shows that favorable leverage is said to occur when the firm uses funds obtained by issuing debt at a fixed interest rate less than the fixed financing costs paid. Similarly, degree of operation leverage had a positive and statistically significant relationship with profitability. Furthermore, the effect of control variables on profitability of banks in this study, the result shows that there was negative and statistically insignificant relationship between spread and profitability.

5.2. Recommendations

Based on the findings, the following recommendations were made:

- The management of banks is better to concern on increment of total loan by keeping the profitability to generate more interest income from the loan.

- A firm with high operating leverage has a large proportion of fixed costs—which means that a big increase in income can lead to outsized changes in profits so it is better to banks to increasing their on investment.

5.3 Future research direction

This study examined the effect leverage on profitability of private banks in Ethiopia using return on equity as dependent variable and some of the measures of leverage such as debt to asset ratio, debt to equity ratio, degree of operating leverage, degree of financial leverage and total size asset as independent variables. Thus, further research is required to develop new hypotheses and design new variables by using internal variables like, asset structure, capital adequacy or If individuals or organizations are unable to repay a loan, capital eligibility is the ability of a bank or other financial institution to repay the debt, the accounting value of the bank's total assets, liquidity calculated as loans to customers and interest charges, as well as external variable like exchange rate, inflation, the real gross domestic product growth and cost and financial decisions of bank's as control variables to should add total size asset as a moderating variable with the consideration of the negative effect of leverage banks profitability.

References

- Gupta, A. (1998) Is Kenya on the Brink of a Banking Crisis. In Marketing Intelligence.
- Habtemu Negussie. (2012). Determinants of Bank Profitability: An Empirical Study on Ethiopian Private Commercial Banks. unpublished MSc thesis, Addis Ababa University.
- Hair, J. F. (2006). Multivariate data analysis. New York: Prentice Hall.
- Ishuza Witness Edson. (2015), *The Effect Of Financial Leverage On Commercial Banks' Profitability In Tanzania*. Unpublished MBA thesis, The Open University Of Tanzania
- Jarque, C. M., and A. K. Bera. 1987. A test for normality of observations and regression residuals. *International Statistical Review* 2: 163–172.
- Khan, A. S and Adom, A.Y. (2015). A test of the pecking order theory of capital structure in corporate finance. *Accounting & Taxation*, 7(2), 43-49.
- Kothari, C.R. (2004). Research methodology. 2nd ed. New Delhi: New Age International Ltd.
- Maina, L., and Ishmail, M. (2013). „Capital structure and Financial Performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange“. *International Journal of Social Sciences and Entrepreneurship*, 1 (11), 209-223.
- Modigliani, F. and Miller, M.H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), 261-97.
- Mugenda M. O. and Mugenda A. (1999), Research Methods: Qualitative and Quantitative Approaches, African Centre for Technology Studies, Nairobi, Kenya.
- Mwangi, W.L. (2014). Relationship between Capital Structure and Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics (GJCRA)*, 1(2), ISSN: 2311-3162.
- Myers, B. (2003). Principle of Corporate Finance. 7th ed. McGraw-Hill Companies.

- Patel, J.B. (2014). Impact of Leverage on Profitability: A Study of Sabar Dairy, *International Multidisciplinary Research*.
- Pinto,P. and Quadras,Jennifer M.(2016) “Impact of Capital Structure on Financial Performance of Banks” JIMS8M:International Journal of Indian Management and Strategy, Volume 21(3),.54-59.
- Seyoum Tesfaye. (2018). *The effect of leverage on Ethiopian private commercial Banks' profitability*. Addis Ababa University. June, 2018 Addis Ababa, Ethiopia. Unpublished
- Taani, K. (2013). Capital structure effects on banking performance: a case study of Jordan. *International Journal of Economics, Finance and Management Sciences*, 1(5), 227-233.
- Tamirat, L. (2015). The Effect of Debt Financing On Profitability of Commercial Banks in Ethiopia. un published MSc thesis, Addis Ababa University.
- VanHorne, J.C., (2002). Financial Management and Policy. 12th edition, Stanford University. Wesley, Prentice Hall.
- White, H. L., Jr. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48: 817–838.
- Zafar, M.T., Maqbool, A. and Fortyal, A. (2010). A Study of Impact of Leverage on the Profitability of Indian Banking Industry.

Appendixes

Summary of descriptive statistics of dependent and independent variables

```
. sum PANELID ROE TDA DTER DOL DFL FSIZE
```

Variable	Obs	Mean	Std. Dev.	Min	Max
PANELID	64	4.5	2.309401	1	8
ROE	64	.1898406	.0585954	.032	.3567
TDA	64	.8560687	.0628443	.4978	.9576
DTER	64	6.613453	2.016579	1.3017	11.7041
DOL	64	.5907016	.1133681	.2465	.9705
DFL	64	.4622922	.1492063	.1471	1.2043
FSIZE	64	9.87767	.795362	7.1559	10.8729

Set panel year

```
. xtset PANELID YEAR
```

```
panel variable: PANELID (strongly balanced)
```

```
time variable: YEAR, 2012 to 2019
```

```
delta: 1 unit
```

Regression model

```
. reg ROE TDA DTER DOL DFL FSIZE
```

Source	SS	df	MS	Number of obs	=	64
Model	.181482333	5	.036296467	F(5, 58)	=	60.45
Residual	.034823004	58	.000600397	Prob > F	=	0.0000
				R-squared	=	0.8390
				Adj R-squared	=	0.8251
Total	.216305337	63	.003433418	Root MSE	=	.0245

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
TDA	.2723049	.090058	3.02	0.004	.0920342	.4525756
DTER	.0103265	.0027605	3.74	0.000	.0048007	.0158523
DOL	.2113692	.0289504	7.30	0.000	.1534187	.2693198
DFL	.2224053	.0208751	10.65	0.000	.1806193	.2641912
FSIZE	-.0054163	.0041154	-1.32	0.193	-.0136542	.0028216
_cons	-.285737	.0661251	-4.32	0.000	-.4181008	-.1533731

Correlation independent Variable

```
. corr TDA DTER DOL DFL FSIZE
(obs=64)
```

	TDA	DTER	DOL	DFL	FSIZE
TDA	1.0000				
DTER	0.8130	1.0000			
DOL	0.1486	-0.0515	1.0000		
DFL	0.0211	0.0284	-0.0726	1.0000	
FSIZE	0.3115	0.2847	0.0468	0.1072	1.0000

. tab PANELID YEAR

PANELID	YEAR						Total
	2012	2013	2014	2015	2016	2017	
1	1	1	1	1	1	1	8
2	1	1	1	1	1	1	8
3	1	1	1	1	1	1	8
4	1	1	1	1	1	1	8
5	1	1	1	1	1	1	8
6	1	1	1	1	1	1	8
7	1	1	1	1	1	1	8
8	1	1	1	1	1	1	8
Total	8	8	8	8	8	8	64

PANELID	YEAR		Total
	2018	2019	
1	1	1	8
2	1	1	8
3	1	1	8
4	1	1	8
5	1	1	8
6	1	1	8
7	1	1	8
8	1	1	8
Total	8	8	64

```
. xtreg ROE TDA DTER DOL DFL FSIZE, re
```

Random-effects GLS regression

Number of obs = 64

Group variable: PANELID

Number of groups = 8

R-sq:

Obs per group:

within = 0.8007

min = 8

between = 0.9190

avg = 8.0

overall = 0.8390

max = 8

Wald chi2(5) = 294.01

corr(u_i, X) = 0 (assumed)

Prob > chi2 = 0.0000

ROE	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
TDA	.2769566	.0898256	3.08	0.002	.1009017	.4530116
DTER	.0101296	.0027641	3.66	0.000	.004712	.0155471
DOL	.213674	.0290141	7.36	0.000	.1568075	.2705405
DFL	.2243209	.0207879	10.79	0.000	.1835773	.2650644
FSIZE	-.0052757	.0041488	-1.27	0.204	-.0134073	.0028558
_cons	-.292052	.0665217	-4.39	0.000	-.4224322	-.1616717
sigma_u	.00322397					
sigma_e	.02307305					
rho	.01915021	(fraction of variance due to u_i)				

```
. xtreg ROE TDA DTER DOL DFL FSIZE, fe
```

Fixed-effects (within) regression

Number of obs = 64

Group variable: PANELID

Number of groups = 8

R-sq:

Obs per group:

within = 0.8049

min = 8

between = 0.8921

avg = 8.0

overall = 0.8332

max = 8

F(5, 51) = 42.09

corr(u_i, Xb) = -0.2221

Prob > F = 0.0000

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
TDA	.2987246	.0951857	3.14	0.003	.1076314	.4898178
DTER	.0085653	.0032314	2.65	0.011	.002078	.0150526
DOL	.2371581	.0315308	7.52	0.000	.1738574	.3004587
DFL	.2418455	.0215024	11.25	0.000	.1986776	.2850134
FSIZE	-.0029949	.0048126	-0.62	0.537	-.0126566	.0066668
_cons	-.3448446	.0821257	-4.20	0.000	-.5097188	-.1799703
sigma_u	.01294526					
sigma_e	.02307305					
rho	.23941824	(fraction of variance due to u_i)				

F test that all u_i=0: F(7, 51) = 2.06

Prob > F = 0.0653

```
. estimate store fixed

. xtreg ROE TDA DTER DOL DFL FSIZE, re

Random-effects GLS regression              Number of obs   =        64
Group variable: PANELID                   Number of groups  =         8

R-sq:                                     Obs per group:
    within = 0.8007                        min =          8
    between = 0.9190                       avg =         8.0
    overall = 0.8390                       max =          8

corr(u_i, X) = 0 (assumed)                 Wald chi2(5)      =       294.01
                                           Prob > chi2       =        0.0000
```

ROE	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
TDA	.2769566	.0898256	3.08	0.002	.1009017	.4530116
DTER	.0101296	.0027641	3.66	0.000	.004712	.0155471
DOL	.213674	.0290141	7.36	0.000	.1568075	.2705405
DFL	.2243209	.0207879	10.79	0.000	.1835773	.2650644
FSIZE	-.0052757	.0041488	-1.27	0.204	-.0134073	.0028558
_cons	-.292052	.0665217	-4.39	0.000	-.4224322	-.1616717
sigma_u	.00322397					
sigma_e	.02307305					
rho	.01915021	(fraction of variance due to u_i)				

Hausman Fixed Random

```
. estimate store random
```

```
. hausman fixed random
```

	— Coefficients —		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
TDA	.2987246	.2769566	.021768	.0314908
DTER	.0085653	.0101296	-.0015643	.0016738
DOL	.2371581	.213674	.0234841	.0123439
DFL	.2418455	.2243209	.0175246	.005497
Fsize	-.0029949	-.0052757	.0022809	.0024389

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

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 9.60

Prob>chi2 = 0.0873

(V b-V B is not positive definite)

Linear regression model was developed

```
. reg ROE TDA DTER DOL DFL FSIZE
```

Source	SS	df	MS	Number of obs	=	64
				F(5, 58)	=	60.45
Model	.181482333	5	.036296467	Prob > F	=	0.0000
Residual	.034823004	58	.000600397	R-squared	=	0.8390
				Adj R-squared	=	0.8251
Total	.216305337	63	.003433418	Root MSE	=	.0245

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
TDA	.2723049	.090058	3.02	0.004	.0920342	.4525756
DTER	.0103265	.0027605	3.74	0.000	.0048007	.0158523
DOL	.2113692	.0289504	7.30	0.000	.1534187	.2693198
DFL	.2224053	.0208751	10.65	0.000	.1806193	.2641912
FSIZE	-.0054163	.0041154	-1.32	0.193	-.0136542	.0028216
_cons	-.285737	.0661251	-4.32	0.000	-.4181008	-.1533731

Hesttest Breusch-Pagan/Cook- Weisberg test for heteroscedasticity

```
. hettest  
  
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
>  
    Ho: Constant variance  
    Variables: fitted values of ROE  
  
    chi2(1)      =      4.34  
    Prob > chi2   =    0.0373  
  
. ovtest  
  
Ramsey RESET test using powers of the fitted values of RO  
> E  
    Ho: model has no omitted variables  
       F(3, 55) =      5.99  
       Prob > F =      0.0013
```

Variance inflation factor (VIF) check on the model specification

```
. vif
```

Variable	VIF	1/VIF
TDA	3.36	0.297524
DTER	3.25	0.307529
DOL	1.13	0.884722
FSIZE	1.12	0.889493
DFL	1.02	0.982355
Mean VIF	1.98	

```
. estat summarize,label
```

Estimation sample regress

Number of obs = 64

Variable	Mean	Std. Dev.	Min	Max	Label
ROE	.1898406	.0585954	.032	.3567	ROE
TDA	.8560687	.0628443	.4978	.9576	TDA
DTER	6.613453	2.016579	1.3017	11.7041	DTER
DOL	.5907016	.1133681	.2465	.9705	DOL
DFL	.4622922	.1492063	.1471	1.2043	DFL
FSIZE	9.87767	.795362	7.1559	10.8729	FSIZE

```
. estat vce
```

Covariance matrix of coefficients of regress model

e(V)	TDA	DTER	DOL
TDA	.00811045		
DTER	-.00020255	7.620e-06	
DOL	-.00083966	.00002396	.00083813
DFL	-.00001357	5.926e-07	.00004634
FSIZE	-.00004757	-6.862e-07	-3.150e-06
_cons	-.00463139	.00011535	.00007497

e(V)	DFL	FSIZE	_cons
DFL	.00043577		
FSIZE	-9.167e-06	.00001694	
_cons	-.00013058	-.00011593	.00437253

```
. estat imtest, white
```

White's test for Ho: homoskedasticity
against Ha: unrestricted heteroskedasticity

```
chi2(20)      =    36.68
Prob > chi2    =    0.0128
```

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	36.68	20	0.0128
Skewness	15.81	5	0.0074
Kurtosis	1.04	1	0.3078
Total	53.53	26	0.0012

. sum ROE TDA DTER DOL DFL FSIZE, detail

ROE				
Percentiles	Smallest			
1%	.032	.032		
5%	.1128	.045		
10%	.1218	.0922	Obs	64
25%	.15315	.1128	Sum of Wgt.	64
50%	.1863		Mean	.1898406
		Largest	Std. Dev.	.0585954
75%	.2224	.2808		
90%	.2704	.2966	Variance	.0034334
95%	.2808	.3155	Skewness	.0833143
99%	.3567	.3567	Kurtosis	3.774643
TDA				

Percentiles	Smallest		
1%	.4978		
5%	.7502		
10%	.7859	Obs	64
25%	.84195	Sum of Wgt.	64
50%	.87395	Mean	.8560687
		Std. Dev.	.0628443
75%	.8835		
90%	.8959	Variance	.0039494
95%	.9122	Skewness	-3.224388
99%	.9576	Kurtosis	17.9072

DITER

	Percentiles	Smallest		
1%	1.3017	1.3017		
5%	3.0028	2.8533		
10%	3.6705	2.8686	Obs	64
25%	5.32775	3.0028	Sum of Wgt.	64
50%	6.9342		Mean	6.613453
		Largest	Std. Dev.	2.016579
75%	7.5839	8.7817		
90%	8.5848	11.2023	Variance	4.066592
95%	8.7817	11.5807	Skewness	-.1277236
99%	11.7041	11.7041	Kurtosis	3.616636

The effect of leverage on Ethiopian private banks' profitability

Panei ID	YEAR	ROE	TDA	DTER	DOL	DFL	FSIZE
1	2012	0.0450	0.4978	1.3017	0.4000	0.5129	8.6281
1	2013	0.1209	0.7544	3.0719	0.5983	0.5355	8.9620
1	2014	0.1416	0.7502	3.0028	0.5871	0.5219	9.1013
1	2015	0.1318	0.7405	2.8533	0.5783	0.4891	9.2343
1	2016	0.0922	0.7415	2.8686	0.5969	0.3334	9.3913
1	2017	0.1218	0.7781	3.5071	0.5468	0.4471	9.5333
1	2018	0.1764	0.7859	3.6705	0.4207	0.5630	9.6249
1	2019	0.1433	0.7984	3.9610	0.6147	0.3854	9.7415
2	2012	0.1280	0.8207	4.5759	0.6595	0.3905	9.3915
2	2013	0.1540	0.8158	4.4294	0.6948	0.4044	9.4687
2	2014	0.1154	0.8262	4.7554	0.5099	0.3601	9.5579
2	2015	0.1831	0.8597	6.1271	0.5982	0.3940	9.7679
2	2016	0.1833	0.8682	6.5891	0.5803	0.3777	9.9095
2	2017	0.1853	0.8680	6.5754	0.5674	0.4538	10.0404
2	2018	0.2160	0.8737	6.9163	0.6000	0.4322	7.1559
2	2019	0.2106	0.8745	6.9671	0.5886	0.4129	7.3094
3	2012	0.2704	0.8746	6.9756	0.7277	0.4922	9.9438
3	2013	0.2347	0.8797	7.3137	0.6859	0.4537	9.9994
3	2014	0.1766	0.8674	6.5393	0.6138	0.4351	10.0747
3	2015	0.1787	0.8826	7.5165	0.5578	0.4050	10.1572
3	2016	0.1813	0.8800	7.3329	0.5703	0.3937	10.2373
3	2017	0.1517	0.8851	7.7067	0.5587	0.3398	10.3405
3	2018	0.1942	0.8946	8.4897	0.6005	0.3309	7.4476
3	2019	0.1949	0.8920	8.2590	0.6434	0.3068	7.5531
4	2012	0.2390	0.8742	6.9516	0.7342	0.4836	10.1181
4	2013	0.2123	0.8838	7.6070	0.6661	0.4638	10.2500
4	2014	0.2381	0.8825	7.5124	0.6790	0.4740	10.3445
4	2015	0.2026	0.8737	6.9153	0.6519	0.4302	10.4016
4	2016	0.1890	0.8737	6.9168	0.6260	0.4207	10.4934
4	2017	0.1849	0.8645	6.3795	0.6016	0.4430	10.6024
4	2018	0.2298	0.8825	7.5084	0.5959	0.4334	10.7425
4	2019	0.2524	0.8709	6.7431	0.6768	0.4462	10.8729
5	2012	0.1873	0.8154	4.4162	0.7129	0.5287	9.9178
5	2013	0.1718	0.8178	4.4892	0.6620	0.5080	9.9612
5	2014	0.1597	0.8172	4.4711	0.6203	0.4869	10.0313
5	2015	0.1548	0.8358	5.0883	0.6133	0.4547	10.1224
5	2016	0.1417	0.8409	5.2870	0.5947	0.4191	10.1995
5	2017	0.1665	0.8595	6.1183	0.6201	0.4200	10.3245
5	2018	0.1523	0.8733	6.8952	0.6185	0.3355	10.4263
5	2019	0.1634	0.8692	6.6439	0.2835	0.7763	10.5279
6	2012	0.3567	0.8957	8.5848	0.7129	1.2043	10.2435
6	2013	0.2966	0.8964	8.6530	0.3102	1.0767	10.2955
6	2014	0.2743	0.8817	7.4547	0.9705	0.4654	10.3417
6	2015	0.2494	0.8819	7.4695	0.7084	0.4470	10.3938

6	2016	0.2165	0.8825	7.5104	0.6188	0.4298	10.4560
6	2017	0.1894	0.8847	7.6714	0.7929	0.3977	10.5394
6	2018	0.1583	0.8709	6.7430	0.6968	0.3606	10.6573
6	2019	0.1485	0.8782	7.2109	0.5733	0.3171	10.7499
7	2012	0.1128	0.8430	5.3685	0.5257	0.4094	9.4452
7	2013	0.1426	0.8600	6.1425	0.4974	0.4707	9.5923
7	2014	0.2062	0.8783	7.2184	0.5615	0.5039	9.7890
7	2015	0.2234	0.8959	8.6028	0.5304	0.4922	9.9793
7	2016	0.1884	0.8832	7.5608	0.4828	0.4420	10.0524
7	2017	0.1742	0.8978	8.7817	0.4735	0.4102	10.2120
7	2018	0.2808	0.8911	8.1828	0.6002	0.4912	10.3765
7	2019	0.2009	0.8832	7.5599	0.5689	0.4058	10.5021
8	2012	0.2591	0.8863	7.7982	0.6547	0.5432	9.5648
8	2013	0.2719	0.8935	8.3930	0.6209	0.5639	9.8154
8	2014	0.3155	0.9576	5.7411	0.6540	0.5965	9.8154
8	2015	0.2214	0.8769	7.1239	0.4977	0.5052	10.0593
8	2016	0.0320	0.8711	7.7533	0.2465	0.1471	10.0361
8	2017	0.2338	0.9122	11.2023	0.4508	0.4409	10.2496
8	2018	0.2203	0.9205	11.5807	0.5144	0.4057	10.4755
8	2019	0.2000	0.9213	11.7041	0.4853	0.3650	10.6211

List of private commercial banks in Ethiopia

S.No	Panel ID Code	Name of the bank	Year of establishment
1	1	Addis International Bank	2011
2	2	Lion International Bank S.C	2006
3	3	United Bank S.C	1998
4	4	Awash International Bank	1994
5	5	Nib International Bank	1999
6	6	Dashin bank	1998
7	7	Oromia international bank S.C	2008
8	8	Cooperative bank Oromia	2005

Source; 2019/20 NBE Annual Report (www.nbe.gov.et)