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EFFECTSOFCAPITAL STRUCTURE ON THE PERFORMANCE OF ETHIOPIAN COMMERCIAL BANKS

A THESIS PAPER SUBMITTED TO COORDINATION OFFICE OF MBA DEPARTMENT OF MASTERS OF BUSINNES ADMNISTRATION IN PARTIAL FULFILMENT OF THE REQUERMENT FOR DEGREE OF MASTERS OF BUSINESS ADMINISTRATION

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Statement of certification

This is to certify that the thesis prepared by Tazebew Tilaye in the title: *effects of capital structure on the performance of Ethiopian Commercial banks* in Ethiopia and submitted in partial fulfillment of the requirements for the Degree of Master of Science (MBA) complies with the regulations of the University and meets the accepted standards with respect to uniqueness and quality.

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External examiner: Gidey G/hiwot (PhD) Signature _____ Date _____

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Statement of declaration

I declare that the thesis entitled: effects of capital structure on the performance of Ethiopian commercial banks, hereby submitted by me in partial fulfillment of the requirements for the Degree

of Master of Science (MBA) at Addis Ababa University, is my original work and has not been submitted for any degree in any other university. I have undertaken it independently with the advice of my advisor, Alem Hagos (PhD). In performing the thesis I have used different sources and material which have been recognized.

Name: Tazebew Tilaye Mekonnen

Signature _____

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Abstract

Among the foremost important and crucial decisions for any business is about capital structure since it has significant influence on financial performance of a company. The objective of this paper was to analyze the effects of capital structure on the financial performance of selected Ethiopian Commercial banks. To achieve the research objectives, the researcher would use a panel data analysis, and has adopted a purposive/judgmental sampling approach. During this study, the researcher would use only secondary data and document review for collecting data from annual reports of five (5) selected Commercial banks over the past ten (10) years period from 2010 to 2019. Besides that, the data was analyzed by using a multiple regression model on a quantitative approach. The study has used return on assets (ROA) which is one of an accounting-based measure of financial performance as a dependent variable, and other five capital structure measures, these are; total debt ratio (TDR)), loan to deposit ratio (LDPR), and deposit to asset ratio (DPA) are as independent variables, and bank's size, and growth as control variables were used. Random effect estimation model was applied for the panel data analysis through EViews 10(64x) statistical package. The result indicates that capital structure as measured by total debt to total asset indicates that it had a positive relationship with profitability measured by ROA and statistically significant at 5% level. Theoretically it was supported by trade-off theory. Besides, loan to deposit ratio had positive relationship with profitability (ROA) and statistically not significant at even 10% significant level. It was also supported by trade-off theory. To the contrary, deposit to asset had negative relationship with profitability of banks with strongly statistically significant at 1% level measured by ROA. Theoretically it was supported by pecking order theory. On the control variables, growth and asset size had a negative relationship with profitability, and statistically significant. The result shows that the Ethiopian Commercial banks have confidence on total debt financing which maximizes banks profitability, and such banks instead of other sources should keep their financing focus to deposits. The result of growth and size in this study call for Commercial banks and higher-level managers to give attention and be efficient to maximize profitability of bank because the cause is related to efficiency of both the management and managers.

Keywords: - Commercial Banks, Capital structure, financial performance, and panel data

List of Acronyms

CBE-Commercial Bank of Ethiopia

CLRM-Classical linear regression model

DPR-Deposit to asset ratio

LDPR- Loan to deposit ratio

NBE-Nation bank of Ethiopia

NIM-net interest margin

REM-Random effects model

ROA-Return on asset

ROE-Return on Equity

TDR-Total debt to total asset ratio

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CHAPTER ONE

1 INTRODUCTION

The first chapter consists of different sections. The first section is the background of the study; the next is the statement of the problem; the third section is the overall and specific objectives of the study; the fourth part is the research questions and hypothesis. The importance of study, the scope, and limitation of the paper were the other sections that has included.

1.1 Background of the study

The capital structure shows how the company's operation of the business is financed. It is the proportion of debt and equity financing of a firm. A firm with significantly more equity than debt is taken into account to be low leveraged, and vice versa, a firm with significantly more debt than equity is thought to be as more leveraged. Within the field of corporate and modern finance, capital structure has always been the topic of debate. This is frequently the same situation with banks though somewhat different regarding focus. Banks are essential financial institutions for the success of any economy.

Different researchers have different views and theories as they try, and determine an optimum capital structure to minimize a company's cost of capital, and to maximize its value. Thus, their primary mission is to receive funds from investors and then borrow to the customers that could require it. Hence with such purposes, banks have always been disturbed about the settlement of debts and liquidity. As (Noorani *et al.*, 2013), banks usually operate in a very competitive atmosphere both at a national and global level to expand and grow their operational horizons for new investment opportunities.

Among different predictors, the capital structure choice is based on the existence of agency cost and forecasted by the agency cost theory. As (Jensen &Meckling, 1976) suggest that, this theory inspects the association between the managers of the firm, the debt holders, and the outside equity. On the contrary, the trade-off theory supports that the optimal debt ratio is set by balancing the trade-off between the cost of debt, and the benefit. Keeping with (Myers, 1984), when the marginal present value of the tax shield on additional debt is the same as the financial pain cost on additional debt; marginally at now, then the optimal capital structure is achieved.

To the opposite of trade-off theory, the pecking order theory emphasizes the information asymmetry between the firm insiders, and also the outside investors; suggesting that firms use debt if and only if the internal financing is not available (Myers &Majluf, 1984).

The literature on the capital structure has been expanded by many theoretical and empirical contributions following the initiation from (Modigliani and Miller, 1958). For non-financial companies, the empirical literature has generally focused on particular variables that are found to be consistently correlated with leverage like profitability, age, size, growth. On the opposite side, the capital structure of banks continues to be a comparatively debating and unsolved area within the banking industry literature. As (Amidu, 2007) conforms, at this time there's no clear understanding about the choice of capital structure for banks, and what factors influence their corporate financing behavior. Similarly, the finance literature has given great attention to the capital structure and its relation with profitability widely.

Nevertheless, per (Taani 2013), the capital structure and profitability association of banks within the perspective of banking industry has not given enough research consideration to solve or to elaborate the solution for the problem.

There are different researchers and have different results in Ethiopia who has studies about the impacts of capital structure on financial performance separately. Among those, (MathewosWoldemariamBirru, 2016) has studied on capital structure and its influence on the financial performance of commercial banks in Ethiopia and the study has shown that financial performance measured by ROA had a significant and negatively associated with capital structure proxies like size, debt to equity ratio, and tangibility. Whereas, debt ratio has a positive impact on return on asset and return on equity. Besides, (Aragaw Hailu, 2015) has studied capital structure and its significant influence on the profitability of commercial banks in Ethiopia with one of the proxies of bank performance that is net interest margin as dependent variable. The result of the study has proofed that the capital structure as measured by total debt to total asset had a negative relationship with profitability. Furthermore, Deposit to total asset to the opposite had a positive relationship with profitability with strongly statistically significant.

Therefore, there are convincing reasons for a separate study on the capital structure and its influence on the profitability of Ethiopian Commercial banks.

This study targets to analyze the capital structure and its influence on the financial performance of Ethiopian commercial banks in the specified time of study, because banks need enough knowledge about the special structures of their financial arrangement and also to fill the problem of limited study of the topic.

1.2 Statement of the problem

To determine the influence of capital structure on a firm's financial performance, numbers of researches have been undertaken by following Modigliani and Miller's (M & M) in (1958) and (1963) irrelevance theory of capital structure. For instance, a positive and significant relationship between profitability or financial performance and capital structure was found by the following researchers. These are Abor (2005), Saaediand Mahmoodi (2011), AragawHailu (2015), Julius B, Adesina and Nwidobie (2015). Regardless of empirical works above, different authors have involved a different opinion or judgment on capital structure and its consequence on financial performance. As an example,Rajan and Zingalas (1995),CheruyotRonoh (2015), Pratheepkanth (2011), and have shown financial performance and capital structure has a significant and negative relationship.

Furthermore, many other researchers found that there is no effect between capital structure and financial performance of an organization. As an illustration, as Al-Taani (2013) confirms that there was no influence of capital structure on a firm's financial performance. Based on the results of the empirical literature consideration above, it's clear that investigation within the relationship between capital structure and financial performance is problematic and requires more empirical works to get conclusion about the problem.

Even though the earlier studies have a great contribution to the theory of capital structure and profitability, they were limited to develop a financial system and inadequate to non-banks. Developing countries, like Ethiopia has established little attention in the literature of capital structure and its consequence on financial performance.

The capital structure of banks is still a relatively unanswered and debating area in the banking environment as per (Octavia & Brown, 2008).

Therefore, the degree of leverage in banking, the special nature of the deposit contract, and the regulatory limitations imposed on banks have intended that banks in particular, and financial institutions in general were excluded in previous empirical studies on the standard of capital structure choice.

Recognizing the factors or determinants of capital structure and profitability, as well as the influence of a financing decision or capital structure on profitability is as an important for banks as it is important for non-bank organizations. There is no clue what factors influence banks corporate financing behavior and how they choose their capital structure (Amidu, 2007). Similarly, in the finance literature, capital structure and its association on profitability has acknowledged.

Studies on capital structure and its effect on profitability have mostly been performed in developing economies on Commercial banks. In the developing economies, as Kyereboah-Coleman (2007) found that a high debt level is positively related to the performance of a micro-finance institutions in sub-Saharan Africa.

In Kenya, relationship between capital structure and the value of the firm was found positive by Kiogora (2000). Furthermore, Rajan & Zingalas (1995) also confirmed a significantly negative correlation between profitability and leverage in their work. Different authors have different opinions over the effect of capital structure on profitability. This has led to the desire to establish whether the capital structure of commercial banks in Ethiopia affects their profitability using time series analysis.

Therefore, for banks to progress profitability and maximize corporate value, they only have to consider the impact of capital structure, but also the need to consider the capital structure over time.

So, the rational of the study was because of the findings of the empirical literatures' consideration above, it's obvious that investigation within the relationship between capital structure and financial performance was problematic, and requires more empirical works to get conclusion about the problem. Therefore, the author has used additional panel data which were not yet included in previous studies. Thus, it makes different from the previous empirical studies that were referred and well recognize.

1.3 Research questions

To address the statement of the problem, the following questions have addressed.

1. Does total debt ratio have an effect on the capital structure of Ethiopian Commercial banks?
2. Does loan to deposit ratio have an influence on the capital structure of Ethiopian Commercial banks?
3. Does deposit to asset ratio have an effect on the capital structure of Ethiopian Commercial banks?
4. Does bank's size have an influence on the capital structure of selected Ethiopian Commercial banks?
5. Does growth have an effect on the capital structure of Ethiopian Commercial banks?

1.4 Objective of the study

1.4.1 General objective

In the study, the research objective can determine the scope and the outcome of the paper. So, to investigate the effects of capital structure on its financial performance measured by one of the proxies of bank performance, that is return on asset (ROA) was the general objective of the selected Ethiopian Commercial banks in the study period.

1.4.2 Specific Objectives of the study

1. To evaluate the effect of total debt on financial performance in the capital structure of Ethiopian Commercial banks.
2. To examine the effect of loan to deposit on financial performance of selected Ethiopian Commercial banks.
3. To evaluate the effects of total deposit to asset on financial performance in the capital structure of Ethiopian Commercial banks.
4. To examine the effects of bank's size on financial performance of selected Ethiopian Commercial banks.
5. To examine the effect of growth on financial performance of selected Ethiopian Commercial banks.

1.5 Research hypothesis

As specific and testable statement about the possible outcome of a scientific research study based on a particular property of a population or about the relationship or link between two or more variables is said to be a research hypothesis. So, to test the hypothesis, different researchers have done empirical studies in different time.

Empirical literature shows there are some various measures of firm performance which may be used to test its relationship with capital structure, and the result is also different and there is still a gap. For instance, by considering different debt-equity combinations with a company's performance, Ebaid (2009) has studied the relationship between them. In the study, to find out the impact of debt guiding principle of a corporation on the company's performance, a multiple regression model was used.

The capital structure and its influence on the financial performance of small and medium-sized enterprises has examined by Abor (2007).

The observed finding of the study in both South African and Ghanaian perspectives shown that short term debt had a significant and a negative relationship with gross profit margin. On contrary, a long-term debt and gross profit margin were related positively. The relation between total debts to gross profit margin was not significantly related. In the study designed to investigate the relationship, Petersen and Rajan (1994) have found a significant, and a direct association between profitability and debt ratios. From their argument as prospects of lending, they have concluded that to financial institutions, companies which are more profitable are the more attractive to them, because such firms are expected to possess higher tax shields, and low bankruptcy cost.

According to report of Abor (2005), a significant and a positive relationship between the ratios of short term debt to total assets and its profitability, but a negative association between the ratios of long-term debt to total assets and profitability was also found.

As Keeping Yazdanfar and Öhman (2015), they had found that agency conflicts may be mainly responsible for over- leveraging of vendors, resulting in a negative relationship between capital structure and performance. So, the result is unconvincing and needs research.

If the capital structure affects the firm's performance, a correlation between debt policies and the firm's performance should be expected. Debt maturity ratios like short term debt ratio, long term debt ratios, and total debt ratios were used as a proxy for a company's debt policies, which influence a firm's performance.

Therefore, to fill the gap and achieve research objective, the researcher has developed the research hypothesis as follows:

H1: Total debt ratio has a positive and significant effect on banks' profitability in Ethiopia.

H2: Loan to deposit ratio has a positive and significant effect on banks' profitability in Ethiopia.

H3: Deposit to asset ratio has a positive and significant effect on banks' profitability in Ethiopia.

H4: Bank size has a negative and significant effect on banks' financial performance in Ethiopia.

H5: Growth has a negative and significant effect on banks' profitability in Ethiopia.

1.6 Significant of the study

In the understanding of the capital structure and its influence on profitability of Ethiopian commercial banks, this study has a substantial role to play in filling the gap. Besides, for managers to put on their knowledge to solve the potential problems in the financial decisions, it serves as a reference for them. Furthermore, they determine the finest approach of capital structure of the firm, and can realize how to achieve the optimum level of a firm's profitability; so that the higher officials of the company can fulfill the wealth maximization goal of the company. Moreover, policymakers like the National Bank of Ethiopia, higher management of both government, and private profitable banks can refer to look at the suitable level of capital requirement for banks. Besides, other researchers can refer it, and do better research which were not solved in the area of capital structure decisions and their effect on banks' performance in this thesis.

1.7 Scope and limitation of the study

In this study, the scope has focused on the investigation of the capital structure and its influence on financial performance of Ethiopian commercial banks. To achieve the objectives of the research, the researcher would use banks which are licensed and registered in National bank of Ethiopia for the period of 10 years (2010 up to 2019).

The study would investigate the capital structure and its consequence on the financial performance of Ethiopian commercial banks using different variables. The dependent variable is return on asset (ROA) and the independent variables were total debt ratio, loan to deposit ratio, deposit to asset ratio, and the control variables that should be included were growth &asset size.

A combination of the number of years in which audited financial statements available would be taken into account; that is from time serious and cross section data to increase number of observations of the study. This has assisted the study to make conclusion from sample to population that is inductive reasoning.

The limitations were variables used were only five variables and the panel data observation was limited to only fifty observations because of the time constraint and internet limitations to collect data.

The study used only internal factors/ bank specific factors that could be managed by banks. Macroeconomic /external factors were not used.

There was also challenges because of the endemic disease covid-19 which affects collection of data and minimizes communication with friends to discuss together physically even with advisors. We were communicating via Email.

1.8 Organization of the study

In this thesis paper, five different chapters have included. The background of the study, the statement of the problem, the objective of the study, the hypothesis, significance and the scope of the study have included in the first part. The second part of the paper includes theoretical literature review, empirical literature review, research gaps, and Conceptual Framework on capital structure and profitability. The research methodology and methods of data analysis, and the appropriate model that should be applied for this research have included under the third chapter. The fourth chapter includes results and discussions, results of regression analysis and summary of findings. The conclusion and recommendation of the paper has also included in the last part of the thesis.

CHAPTER TWO

2 LITERATURE REVIEW

INTRODUCTION

This chapter reviews the documented theories and studies by other researchers in the field of capital structure that provide foundation to the study. The specific area cover provides basis of developing, understanding and establishes appropriate scope in supporting objectives with the existing theories.

The theoretical framework of a research project relates to the philosophical basis on which the research should take place, and forms the link between the theoretical aspects, and practical components of the investigation are going to be carrying out.

2.1 Theoretical Literature Review

2.1.1 Modigliani and Miller Theorem

The two financial researchers Modigliani and Miller (in 1958) contributed widely to capital structure by Proposition I showed that under certain restrictive assumptions the worth of the firm is unaffected by the debt. Later they developed Proposition II that relaxed the assumptions under Proposition I, and further considered corporate taxes. Miller (1977) advanced the two propositions, and developed a model that recognized personal taxes. He argued that investors choose investment in companies that are in line with their personal taxation preference, considering company's capital structure that's debt, and equity levels. Proposition I also known as net operating income, they argued that the capital structure is irrelevant in determining the value of the firm.

According to Modigliani and Miller if the assumptions do not hold, the arbitrage process shall take place where investors take advantage of the market imperfections, and option to sell the shares in the overvalued firms, and buy the shares in the undervalued firms resulting unexpected gain realized. Studies carried out thereafter concludes that these assumptions do not hold, and have led to researchers to rationalize the MM proposition I and its underlying assumptions to prove that capital structure affects firm value and performance.

Watson and Head (2007) conclude that the theory had serious flows based on their restrictive assumptions. Firstly, the assumption that individuals and companies can borrow at the same rate can be challenged, since borrowing by individuals are riskier and costly.

Secondly, presences of no transaction cost is untruthful since borrowing cost exists, and eliminate risk free profit thus affecting unforeseen gain, Thirdly, investors have variant in expectation and finally a perfect market do not exist.

Later they developed a second paper, Proposition II also known as net income approach that relaxed the unrealistic assumptions under proposition I (Net operating income), and recognized that corporate tax exists and tax shield benefit associated with debt capital exists. They concluded that as companies take more debt, they shield more of their profit from corporation tax. They further argued that the value of a levered firm will always be higher than that of unlevered by an amount equal to the interest on tax shield (Watson and Head, 2007 and Pandey, 2010).

2.1.2 The Trade-Off Theory

The trade-off theory assumes that marginal costs and marginal benefits can be balanced because of internal solutions obtained in the firm. As a result of the controversy over the Modigliani and Miller theorem, the first form of the trade-off theory had grown out. That is adding a corporate taxation to the original irrelevance theory creates a benefit for debt that is it serves to tax shield earnings from taxes.

There are several aspects of Myers' definition of the trade-off merit discussion, (Myers, 2010). First the tax code is much more complex than that assumed by the theory. Depending on which features of the tax code are included, different conclusions regarding the target may be reached. Configuration of the tax code is configured in different ways as per different researches. Next, bankruptcy costs must be deadweight costs instead of transfers from one claimant to another. The character of these costs is very important too.

2.1.3 Static trade-off theory

The static trade-off theory supports that companies have optimal capital structures, which they determine by trading off the costs against the benefits of the utilization of debt and equity. Among the benefits of the use of debt one is that the advantages of a debt tax shield.

One of the disadvantages of debt is the cost of potential financial distress, especially when the company relies on an excessive amount of debt. The tax benefit and the disadvantages of higher risk of financial distress leads to a trade-off between them.

Incorporating agency costs into the static trade-off theory implies that a firm determines its capital structure by trading off the tax advantage of debt against the price of financial distress of excessive amount of debt, and therefore, the agency costs of debt against the agency cost of equity. Many other cost factors are suggested under the trade-off theory, and it might cause far to debate all of them. From this discussion, we can conclude that a very important prediction of the static trade-off theory is that firms target what their capital structure looks like.

2.1.4 The Dynamic Trade-off Theory

In a dynamic model, the proper financing decision typically depends on the financing margin that the firm anticipates within the next period. This type of model which recognizes the role of time requires specifying varieties of sides are typically ignored in a single-period model. Of particular importance are the roles of expectations and amendment costs. Some companies expect to pay funds within the coming period, while others expect to boost funds. If funds are increased, they may take the form of debt or equity. The tax savings versus bankruptcy cost trade-off models are the first dynamic models were developed by Kane et al. (1984) and Brennan and Schwartz (1984).

Except transaction costs, both analyzed continuous time models with uncertainty costs, taxes, and insolvency costs. Firms maintain high levels of debt to take advantage of the tax savings when firms react to adverse shocks instantaneously by rebalancing costless. The choice of values set in deferring leverage decisions to the subsequent period would not consider by the dynamic trade-off models. Goldstein and Leland et al. (2001) observe that a company with low leverage today has the subsequent option to increase leverage.

2.1.5 The Pecking Order Theory

Due to the asymmetric information and signaling problems associated with external financing, the financing choices of companies follow an order, with a preference internal finance instead of external finance. As the argument of Myers and Majluf (1984), firms are most likely to generate financial floppy to be used for internal funding liquid assets such as cash and marketable securities.

Thus, firms with financial floppy and in the presence of asymmetric information will not issue equity, in order to protect present shareholders. If management does offer a new share issue, it will be taken as bad news, and the firm's share issue will be understated. To the opposite, if investors realize this point, then the market will take the decision not to issue shares as good news.

Such contrary selection problem has an influence on the choice between internal and external financing. This choice leads to the Pecking Order theory, which Myers (1984) summarized as firms prefer internal finance. Although dividends are sticky and target payout ratios are gradually used to shifts in available investment opportunities, firms amend their target dividend payout ratios to their investment opportunities. Firm first consumes its cash balances or marketable securities portfolio if internally generated cash flow is less than investment outlays. Firms will resort to the safest security first if external financing is required.

Since financing decision does not rely on the trade- off between marginal benefits and costs of debt, single optimal debt-equity ratio doesn't exist in the pecking order theory. Myers argued that companies' faces higher probability of both incurring costs of financial distress and passing up future positive net present value projects as they rise up the pecking order. Even though new equity is not needed immediately to finance real investment, just to obtain financial slack and move the firm down the pecking order, companies may rationally decide to condense these costs by issuing stock now. Even if those costs are very high for issuing new capital, for internal funds costs can be considered as nothing. Therefore, firms prefer first internal financing (retained earnings), and then debt and they choose equity as a last option.

If funds don't enough to finance investment opportunities internally, companies may or might not acquire external financing. If they are doing, they will choose among the various external finance sources in such a way as to minimize additional costs of asymmetric information.

2.1.6 Agency cost theory

Agency cost theory focused on the costs that are incurred as a result of conflicts of interest between different bodies such as shareholders, managers, and debt holders. In keeping with Jensen and Meckling (1976), capital structures are determined by agency costs, which includes the costs for both debt and equity issue.

The costs associated to equity issue may include the monitoring expenses of the principal (the equity holders), and the bonding expenses of the agent (the manager) that reduced welfare for principal. The optimal debt-equity ratio involves a trade-off between the two types of cost as a result of both equity and debt incurs agency costs.

As Jensen and Meckling (1976) acquaint with, there are two types of conflicts which are a major source of agency costs. The first one is agency costs that arise due to the conflicts of interest between managers and shareholder. The interest of conflict between shareholders and debt holders are causes of the second agency costs. As shown above theoretically, there are large numbers of potential factors that have an impact on capital structure. These factors include short term debt to total asset ratio, deposit to total asset ratio, loan to deposit ratio, size of the firm, tangibility, profitability, risk, growth. However, there is a substantial divergence among the capital structure theories; particularly between the two most famous theories which involves mainly and widely are the trade-off and the pecking order theories about the influence of some factors on the firm's capital structure.

2.2 Proxy of Bank Performance

Commercial bank's ultimate goal is profit making. Considering (Murthy and Sree, 2003; Alexandru et al., 2008), there are variety of ratios used such as Return on Asset, return on Equity and Net Interest Margin are the major ones to measure the profitability of Commercial banks.

2.2.1 Return on Asset (ROA)

Return on asset is one of the major ratios that indicate bank's performance that is its profitability. As keeping (Khrawish, 2011), we can express ROA is a ratio of net income to its total asset. One of the major criteria to measure how much the bank managements are operational to generate income by utilizing company's asset and maximize the optimum profit at their disposal is by return on asset. In other words, it shows the management uses the resources of the company to generate the income efficiently.

Besides as (Khrawish, 2011), it indicates that in producing maximum income from all the resources of the organization, the efficiency of an organization's management is so crucial and not compromised. That is the higher the efficiency, the more the profited of the firm is.

2.2.2 Return on Equity (ROE)

In addition to ROA, return on Equity (ROE) is a financial ratio that refers to how much profit a firm earned compared to the whole amount of shareholder equity invested on the financial position. The company that incorporates a high return on equity is likely to be the more proficient of making cash internally. As a result, the company performs attractive ROE and further it explained that the ratio of net income after taxes to total equity capital as per Khrawish (2011). The best performance of ratio of net income after tax to total shareholders' capital indicates how bank higher officials are using shareholders' capital effectively.

Consequently, the better the return on equity for the company, the more practical the management in utilizing the shareholders.

2.2.3 Net Interest Margin (NIM)

The other bank performance indicator, Net Interest Margin (NIM is a measure of the difference between the amount of interest paid out to their lenders (for example, deposits) and the interest income generated by banks compared to the amount of their (interest earning) assets. As considering (Gul et al., 2011), the NIM variable is defined as the net interest income divided by total earnings assets and the gap between the interest income that the bank receives on loans and securities, and cost of interest of its borrowed funds is measured by NIM.

Besides that, it also redirects the efficiency of the bank as well as the cost incurred during the bank intermediation services. This indicates that the greater the net interest margin, the higher the bank's profit, and also the more the stable the bank is. So, it is one of the key bank performance indicators of profitability. However, as keeping (Khrawish, 2011), a better net interest margin could reflect riskier lending practices related to substantial loan loss provisions.

2.3 Determinants of Bank Performance

According to (Al-Tamimi, 2010; Aburime, 2005), the determinants of bank performances can be classified into two major factors that is bank specific/internal and macroeconomic /external factors. Individual bank characteristics which affect the banks performance are internal factors.

The decision of internal management and the board of directors of the bank influences internally. If the influence is positive, the bank becomes profitable easily. In other way, those factors which are beyond the control of the company and affect the profitability of banks are the external factors. As keeping (Flamini et al. 2009), studies have shown that bank specific and macroeconomic factors affect the performance of profitable banks. During this regard, in Kenya, the study of Olweny and Shipho (2011), focused on sector specific factors that affect the performance of Commercial banks. However, the effect of macroeconomic variables was not included.

2.3.1 Bank Specific Factors/Internal Factors

As explained above, from bank specific variables which influence the profitability of specific bank internal factors are the one. These factors are within the scope of the bank to employ them, and that they differ from bank to bank. Among different factors; short term debt over total asset, total debt to total asset, and total loan over total deposit, deposit over total asset, growth, and bank size were included. The performance indicators were further discussed below.

2.3.1.1 TOTAL DEBT TO ASSET (TDA)

The other bank performance indicator, total debt to total asset is used to represent the percentage of banks asset or operation financed by the debt. Therefore, it is used as one measure of the capital structure of banks. For calculation purpose, total debt is measured as total liabilities divided by total assets. As this study incorporates capital structure as a determinant of profitability, it is important to define how this study intends to measure it. According to (Berk& DeMarzo, 2013, p.

39), Firms' capital structure will be defined based on leverage, as it captures the extent to which firms are reliant on debt as a part of their financing structure.

2.3.1.2 LOAN TO DEPOSIT (LD)

The other factor loan to deposit (LD) ratio, works for as bank performance indicator and measures of the liquidity of a bank. From the collected deposits in the period under the study, it measures the funds that the bank utilized into loans, and also validates the association between loans and deposits. Moreover, it provides a measure of income source, and the liquidity of bank asset tied to loan as it is indicated in Makri (2014). The variable loan to deposit ratio can be calculated as total loan divided by deposit of the bank.

2.3.1.3 DEPOSIT TO ASSET

Customer deposit is one of the major liabilities for banks. Banks can provide more loan opportunities to customers when they have more deposits.

Therefore, it causes to create profits in the future. If there is a satisfactory demand for loan opportunities in the market, it is normally thought that customer deposits are related to bank profitability positively.

Besides, to the contrary of supplementary deposits can generate more profits, lower level of deposits has a negative impact on bank financial performance.

This means from the excessive loan opportunities, they can generate higher profits from their customer. Hereafter, customers deposit and bank profitability are positively related (Lee & Hsieh, 2013).

2.3.1.4 FIRM'S GROWTH

As trade off theory, the growth opportunities are considered as the indicator of the firm success, and these firms are stronger to resist the financial suffering than others companies. Obviously, firms with a good growth opportunity have a good appreciation in getting funds from different lenders or institutions; they can have easier access to the financial markets, and it shows or reflects in the better performance for the successful firms. In the eyes of the agency theory perspective, firms with high well-intentioned growth opportunities have lower agency costs and the other way around. The persisting literature about growth considers growth opportunities available to a company as an important determinant or factors of firm's performance.

Companies with good growth condition are able to generate profit from investment, and therefore it is expected that growth influences the profitability of the firm as the argument of Zeitun and Tian (2007).

2.3.1.5 SIZE

The size of a bank constitutes the physical and human capital that a bank possesses. As a determinant of bank performance according to (Nassreddine et al. 2013), size can have a positive impact, a negative impact, or no impact on the bank's performance.

These three effects have been proven through different studies. Bikker and Hu (2002) and Kosmidou and Pasiouras (2007), argued that size has a positive impact on bank performance. Their argument is that, larger banks raise capital at a lower cost, thereby experiencing economies of scale. This cash availability allows the bank to invest more.

Size can be measured using the natural log of total assets (lnTA). It measures the cost advantages that could possibly arise with economies of scale (Sufian and Mohamad Noor 2012). lnTA is used instead of just total assets, so as to represent the real size of the firm in a percentage format. lnTA is usually used to measure company size expressed in form of percentage.

According to Sufian and Mohamad Noor (2012), the size of a bank and its profitability has no constant relationship.

2.4 Empirical Literature Review

By following the work of Modigliani and Miller (1958) which was the primary theory, the other theories have emerged by other scholar that doesn't distinguish the importance of theory of capital structure, and its consequent modification in 1958 as well. The literature which talks about the capital structure/leverage and its influence on firm performance has produced mixed results which means sometimes they have positive relation, and in the other time they are related inversely. Therefore, the relationship between capital structure and a firm value has been the topic of considerable debate.

By ensuing the work of Modigliani and Miller (1958), there are subsequent opinions and researches like Static Trade-off Theory and pecking order theory of Myers and Majluf (1984). There are different reasonable studies that emphasis on the relationships between capital structure, and therefore, the profitability/performance of firms.

In Ethiopia, Mathewos Woldemariam Birru (2016) has studied the capital structure, and its impact or influence on financial performance of selected Commercial banks over five years period in Ethiopia. The study has used secondary data or document review, collected from financial statements of the Commercial banks from 2011 to 2015, and it was analyzed by using multiple regression model on quantitative research method. In the paper of Mathewos, the result of debt ratio suggests that, when debt ratio of the bank increases, it will conclude in increasing of bank's financial performance and vis versa. This means it has a positive and a significant relationship with both the dependent variables, ROA and ROE. To the opposite, when size of the bank increases, it'll end in decreasing of bank's financial performance and vis versa. This means the bank size which has measured by natural log of total asset has a negative effect and significantly affects the financial performance of banks for both ROA and ROE.

The relation assures that because of the loss of control by the higher managers over operational and strategic activities within larger banks, small commercial banks perform better than larger commercial banks.

From this one can understand that small sized banks utilize their resources efficiently than larger ones. While the variable loan to deposit (LD) ratio has an insignificant and a positive association with the bank profitability as measured by one of the dependent variable ROA.

Besides, (Aragaw Hailu, 2015) has studied the capital structure and its influence on the performance of Commercial banks in Ethiopia from 2002 up to 2013. The panel data were obtained from the audited financial statements of eight Ethiopian Commercial banks and a quantitative panel data methodology was engaged. The finding was shown that the capital structure had a negative relationship with profitability or performance of the bank when measured by total debt to total asset. Besides, Capital structure had a positive relationship with profitability (net interest margin) when measured by loan to deposit, and statistically significant. Furthermore, leverage has positive relationship with profitability, and statistically significant as measured by loan to deposit.

Furthermore, Gebremichael (2016) has studied the capital structure and its consequence on profitability of core business operations of Commercial banks of Ethiopia from 2009 up to 2013. A quantitative panel data methodology was utilized in the study, and the data was obtained from the financial statements of Commercial banks for the period of 5 years in Ethiopia. In the study, capital structure had a negative relationship with profitability as measured by total debt to asset. And also, the finding has indicated that leverage had positive relationship with profitability when measured by Deposit to asset.

Besides, liquidity had a positive relationship with profitability (net interest margin) as measured by loan to deposit ratio. Furthermore, in the capital structure, bank size and its profitability had a positive relationship, and statistically significant.

Weldemichael (2012) has also studied company specific (profitability, tangibility, growth, risk, size and liquidity) determinants of the capital structure decision and its correlation with leverage. A mixed research method approach was used in the study that is by combining documentary analysis/secondary data and in-depth interviews /primary data.

Precisely, the study used twelve years data for eight Ethiopian commercial banks in the period from 2000 up to 2011. The study revealed that there was a negative and statistically insignificant relationship between leverage and growth of banks.

The negative coefficient of growth indicates a negative relationship between growth and leverage. The negative sign approves that growing banks are anticipated to have less debt ratio, which was consistent with trade off theory. But the insignificant result of other studies indicates that growth was not considered as a proper explanatory variable of leverage in Ethiopian banking industry.

In Malaysian listed companies on the Bursa Malaysia security market between 1995 and 2011, per Salim and Yadav (2012) surveyed, the capital structure and its association with an organization performance using panel data procedure for a sample of 237. The dependent variables that were included to measure the performance were return on equity, return on asset, Tobin's Q and earning per share. In the study, the independent variables included as the measure of capital structure were long term debt, short term debt, total debt, ratios and growth. There was statistically significant and a positive relationship between a firm's performance and its capital structure as the result of empirical tests.

In Tehran (Iran) stock exchange, Arabahmadi and Arabahmadi (2013) has studied about capital structure and its relationship with profitability by using data from two hundred fifty-two non-financial corporations. The study time was from the period 1999 up to 2008 has included. From the study, the return on equity and short-term debt had a positive association between them. This implies that profitability will increase by increasing short term debt with low interest rate but it is not true in case of long term debt. That is, when firms increase long-term debts, it ends up in a decrease in profitability.

Keeping with the study of Abor (2005) has explored the capital structure and its association with profitability of listed firms on the Ghana stock exchange. The study has conducted by taking a five-year period panel data from 1998 up to 2002.In the estimation of functions relating to the return on equity (ROE), the Panel data methodology and regression analysis were utilized in the estimation of functions relating to the return on equity (ROE).

The relationship between the ratio of short term debt to total assets and return on equity was discovered a significant and a positive relation. On the other hand, the ratio between long-term debt to total assets and to return on equity was discovered as negatively related. This recommends that a decrease in the long-term debt position is related with an increase in profitability, that is they are inversely related.

And a positive association between the ratio of total debt to total assets and return on equity was directly related.

As per Shubita and Alsawalhah (2012), they have investigated the capital structure and its influence on profitability on business companies listed on Amman stock market. In the study thirty-nine companies were used in the sample period from 2004 up to 2009. And the study has used correlation and multiple regression analysis. The result had shown that debt and bank viability have a negative and significant relation.

These findings imply that they are inversely related, that is an increase in debt position is a decrease in profitability. From the result control variables were causes of increasing of profit of the company.

As per (Shubita and Alsawalhah, 2012), and (Chechet and Olayowola, 2014) also studied the capital structure and its influence on profitability of listed firms in Nigeria. The study has used the

Agency Cost Theory perspective. The study carried out within the period of 2000 up to 2009by taking sample of 70 from the Nigerian stock market. In the study, the two independent variables which were served as measures of the capital structure, and its influence on profitability were debt ratio (DR) and equity over the period. Even though the result that showed the debt ratio was inversely associated with profitability, equity over the period was directly related with profitability.

As per Nirajini and Priya (2013), they had investigated the capital structure, and its financial performance in Sri Lanka listed trading companies. The data was extracted from the annual reports of sample companies from the period of 2006 up to 2010. For the achievement of the purpose of the study, data was analyzed by using correlation and multiple regressions methods. The result was shown that capital structure and financial performance had a direct relationship.

As per Ebaid (2009), multiple regression technique was accustomed to find out the debt policy, and its effect on company's performance to study various debt-equity combinations.

In the study, the association of both short-term debt and total debt with return on asset was negative, but capital structure including total debt was not significantly related with return on equity (ROE) and gross profit margin.

In Nairobi Securities market, Ager (2009) carried out an empirical analysis of capital structure rebalancing to determine whether companies actively try to rebalance their capital structure when optimality was thrown off balance. Though the evidence was weak and this might be attributed to inertia in capital adjustment by the listed firms, the study findings have shown that in some cases there have been attempts at capital structure rebalancing.

As per Gill *et al.* (2011) has investigated the capital structure and its influence on profitability of the American service and manufacturing firms. Samples of two hundred seventy two American listed firms on stock market were taken for a period of three years from 2005 up to 2007.

In this research Gill found a positive association between short-term debt ratio and profitability, long-term debt ratio and profitability, and total debt ratio and profitability in the manufacturing industry.

Abor (2005) also reported a significantly positive association between the ratios of short term debt to total assets and profitability, but a negative relationship between the ratio of long term debt to total assets and profitability.

In Ghanaian listed banks, Awunyo-Vitor and Badu (2012) have examined the capital structure and its influence on their financial performance. The study used a sample of seven banks listed on the Ghana Exchange market. Capital structure and banks performance has opposite relationship as the result showed. The implication is that to enhance shareholders returns and to reducing agency cost, banks cannot depend up on debt.

Again in 2007, Abor has investigated the capital structure and its consequence on the financial performance of small and medium-sized enterprises. As observed from the study, profit margin and long-term debt were positively related, but in both South African and Ghanaian perspectives, short term debt had a significant and a negative relationship with margin.

Return on assets had a significant and a negative relationship with all the measures of capital structure in the insight of Ghanaian's. The independent variables short term debt ratio, long term debt ratio and total debt ratio were included. While the relationship of return on assets with both trade credit and short term debt ratio had a significant and a positive in South Africa.

The capital structure relation with the overall performance of Indian firms was examined by Madan (2007). How different debt-equity combinations played a vital role in company's overall performance and expansion has also assessed in the study. Both lower and upper gearing ratios weren't necessary for the companies as the findings has discovered.

In Kenya, Yegon *et al.* (2014) examined the capital structure and its consequence on firms' profitability by using sampled banks and has found an inverse relationship between long term debt and profitability. To the contrary, the relationship between short term debt and profitability was a positive relation. At the end of the research, the result showed that total debt and profitability has no relation. The authors argue that the inference of those findings is that the relationship of short term debt, and therefore the financial performance in contrast verifies the static trade-off theory. Apart from linking the result to the Static Trade–off theory, the study failed to provide any practical implication of the findings. The study also used a sample size of 11 which is too small for a study is that this magnitude. However, it's usually the case in studies using developing countries.

In Nigerian listed banks, from the perspective of agency theory, Chechet and Olayowola (2014) have examined the consequence of capital structure on profitability. The study has found evidence against agency theory it is because the result has showed a negative relationship between capital structure and profitability of the banks in question. The authors also didn't communicate clearly that the practical implications of their findings don't support the agency theory. In other words, according to their findings additional debt doesn't reduce agency cost in that way improving the shareholder value.

2.5 Research Gaps

Many researches were applied to work out on the influence of capital structure on firm's financial performance by following an irrelevance theory of capital structure written by Modigliani and Miller (1958 and 1963).

As an example, Chechet and Olayowola (2014), and Ebaid (2009) found a negative relationship and statistically significant between financial performance and capital structure.

Besides, some authors have fascinated a distinct opinion on financial performance, and capital structure relationship irrespective of the above empirical works. For instance, Abor (2015), Gill et al. (2011), and Nijajini and priya (2013) found financial performance and capital structure have a direct and statistically a significant association.

In the other view about capital structure, there are a number of authors who found that capital structure and firm's financial performance has no relationship; among those Khalaf Al-Taani (2013) approves this assumption.

It's clear that investigation between capital structure and its connection with financial performance were not convincing. As one can understand from the above different debates that have supported the results of empirical literature, still it requires more empirical works. Therefore, this study could fill the gap by examining the effects of capital structure in the context of Ethiopian banking industry.

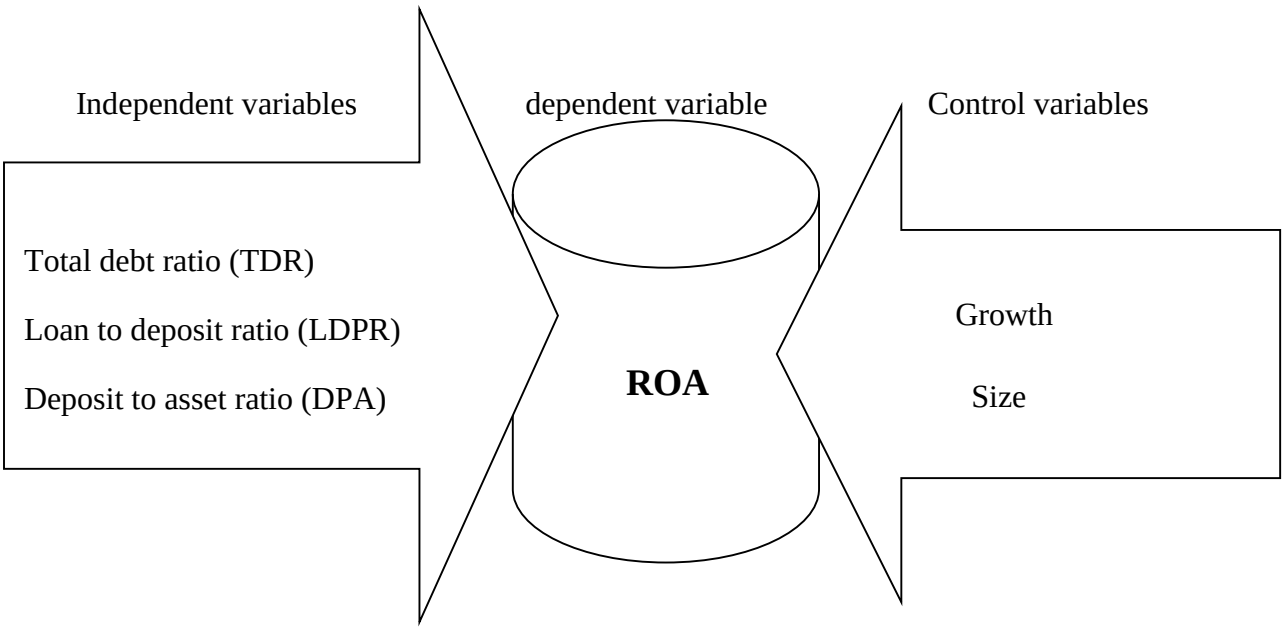
2.6 Conceptual Framework

Capital structure basically describes by using various sources of funds, how an organization can fund its overall functions and growth. Considering Uwalomwa and Uadiale (2012), company's

capital structure is considered as a combination of long-term debt, specific short-term debt, common equity and preferred equity. In the same way, some researchers discoursed that "capital structure is indeed linked with different sorts of funding vehicles utilized by a corporation to get assets essential for its procedures further as development". The company that's entirely financed by all equity is considered as unlevered, whereas a company that is financed with all debts is taken in to account highly levered company.

There are varieties of financial ratios used to measure the profitability of Commercial banks. Such as Return on Asset, return on Equity and Net Interest Margin are the major ones. As keeping (Khrawish, 2011), we can express ROA is a ratio of net income to its total asset. The researcher's intension was to measure how much the bank managements were operational to generate income by utilizing company's asset and maximize the optimum profit at their disposal is by return on asset instead of ROE or NIM. In other words, it shows the management uses the resources of the company to generate the income efficiently. So the researcher used ROA to measure the financial performance of commercial banks in Ethiopia.

Fig.1 Conceptual framework-developed by researcher, 2020



As per Chechet and Olayiwola (2014) further stated that the full of companies' after-tax cash flows (profit) could flows to the shareholders as a benefit in the form of dividends, and retained earnings when a firm used equity financing method. In contrast, a firm shall dedicate some of the profit after tax to servicing for certain proportion of debts in its capital structure.

It is necessary to look at the capital structure decisions for one to realize how companies finance their operations as reference of (Pratheepkanth, 2011).

In keeping Kundakchyan and Zulfakarova2014, an optimal combination of components of capital structure, maximize return on capital, safeguards corporate soundness, and minimize financial risks. Conversely, the capital structure in banking sector is exclusive as compared to other business firms. Operationally, banks are financial intermediaries that facilitate to borrow money to deficit units within the society from surplus ones (Kipesha& Moshi, 2014). Therefore, empirical literatures have shown that capital structure was measured in terms of ratios of debt and equity. Debt financing is one in all the long-term financing available to firms. It involves use of accounts payable, loans, bonds etc. The foremost advantages of using this common financing method include tax shield, use of somebody else's money to accumulate productive assets, lower expected return.

Debt is among fixed obligation in terms of interest rate and must be settled whenever it falls due. Debt is one in every of the components of capital structure which is expressed because the ratio of total debt to total asset. Among indicators of capital structure, the proportion of the bank asset or operation financed by debt was represented by debt to total asset ratio as studied by Gebremecheal (2016). Equity could be a unit of ownership interest in a company; it consists of ordinary shares, preferred shares and retained earnings (Okeke, 2005).

Once more, substantial increase in the levels of equity finance can comprehensively reduce the riskiness of a bank or of the system as an entire (Imeokparia, 2015). Equity finance express in terms of equity to total assets could be a measure of capital structure this has been used by (Ronoh&Ntoiti, 2015).

Financial performance refers to the benchmark employed in determining the overall well-being of a given entity. As Bhunia et al. (2011) defined financial performance, in a given period of time it is the company's overall financial healthiness.

They added that analysis of financial performance is geared towards assessing the feasibility, solidity and fertility of a business. Similarly, Nyor and Yunusa (2016) see financial performance because the level of performance of a company over a specified period of times, expressed in terms of overall profit or losses during that point. So, the results of a firm's policies and operation in monetary terms have measured.

One of the key factors employed in measuring financial performance of an entity is its profitability which per Dalhat (2014) is the firm's ability to form take advantage of its operations. Profitability is that the central objective of all business ventures; this can be because the future existences of those ventures rely on profitable operations.

In conformity with the foregoing, Banerjee and De (2014) strengthened that profitability is crucial to the existence of a company entity. In their study, return on assets (ROA) was used as proxy of corporate financial performance. Many theories referring to capital structure and financial performance are advanced by various scholars in the field of finance that led to different conclusions. Creditors and equity investors would show interest in the going concern if the profitability of a firm is high.

On the opposite hand, the trade-off theory assumes that firm's manager should balance the tax shield advantage of debts financing with the value of possible of financial distress. Therefore, manager attempt to reach a debt level that maximizes the firm value or performance. Myers (1984) suggests that highly performing firms are likely to use more debt due to their capacity to acquire debt as at when due, this suggests that they're less likely to face bankruptcy risks.

Another view postulate by (Myers and Majluf, 1984), in the pecking order theory suggests that firms inherently preferred internal financing than external financing. However, in a situation where the inner financing has been exhausted, they provide superior priority to debt financing than equity financing. This means that firms preferred to use retained earnings first to finance their development and expansion, where the retained earnings are insufficient, they prefer less costly debt and equity furnace.

As Jensen and Meckling (1976) agency cost theory suggested that given an increasing conflict of interest between managers and the business owners' causes' existence of more debt level within the firms.

Hence it is better to reduce agency problems to enhance financial performance in the future. This means that agency conflicts between managers and shareholders may be worsened with more equity capital.

CHAPTER THREE

3 RESEARCH METHODOLOGY AND DESIGN

INTRODUCTION

This chapter frameworks the general methodology to conduct the study. The chapter consists of the research design and source of data, target population, sampling size and sampling method, data collection method and data collection tools, data analyzing instruments and also the description of statistical model.

3.1 Research methodology

The hypothesis and theoretical framework developed in this research would be scrutinized by quantitative measures. "The other reason for selecting this method was the support of numerous literatures on the relevant studies, where they employ quantitative methods to investigate their research problems and verify their hypothesis." That's why quantitative methods were going to be used. The research should use Empirical research method, and it would use panel data of ten years due to the advantage that it has. i.e., panel data helps to check the behavior of every bank over time and across space, (Baltagi, 2005). The explanation for using research methods is that empirical research method helps integrating research and practice, and also educational process must progress, Mugenda and Mugenda, (2003).

3.2 Research design& source of data

"Research design is the platform that guides the researchers in the process of collecting, analyzing and interpreting the data." The nature of research design adopted by the researcher is determined by the nature of the problem and objective of any study.

"A choice of research designed is the main concern of a researcher about the scopes of the research process and the methods used." In the study, explanatory research design and quantitative approach of the research method was implemented. Empirical study design provide regard to contextual differences, help to construct what is already known, and supply opportunity to fulfill standards of professional research. This empirical study relies on secondary data.

Secondary data gives higher quality data, the feasibility to conduct longitudinal studies, and the permanence of data compared to primary data.

From this we can understand that relative to primary or original data, normally secondary data provides a source of data both permanent, and available in a form that can be checked easily by others. It also increases the dependability of the data and ensures the data quality of the research.

So, data obtained from published financial statements of convenient & existed Commercial banks in Ethiopia, NBE (national bank of Ethiopia) publications for ten years from 2010 to 2019, considering banks that are in existence for the mentioned years.

3.3 Target Population

Population refers to the whole set of counts derived from objects possessing one or more common characteristic Bryman& Bell, (2011). During this study, the population consists of all the commercial banks registered by the National bank of Ethiopia (NBE) in Ethiopia. In step with the National bank of Ethiopia, there are 17(seventeen) licensed commercial banks.

3.4 Sample size and sampling technique

According to the National bank of Ethiopia, there are 17 licensed commercial banks in Ethiopia. In the study, the sample size would consider five (5) selected commercial banks which are existing for the period of 2010 to 2019 by using ten years panel data. The previous empirical studies of the same title was limited to the panel data up to 2015.So, to add value on the paper, the researcher had come with additional panel data that were not included in previous studies.

According to Kumar and Phrommathed (2005), the chosen sample of the target population should be purposive rather than being random. The sample size should be studied from the angle of the primary objective of the study and limits to only subjects from which relevant information are would be obtained.

Therefore, the study adopts a purposive/judgmental sampling approach. It is essential to use this method during which researcher relies on his/her own judgment when choosing samples of population to participate within the study.

3.5 Data collection methods and data collection tool

To search out answers to questions, to test the hypothesis that is developed in the research, and to evaluate the end results, we have to collect data from relevant sources first.

This study should be supported secondary data which would be obtained from published statements of accounts of the licensed Commercial banks in Ethiopia, National bank of Ethiopia (NBE), publications for ten years from 2010 to 2019 of five selected banks, considering banks that exist in the mentioned years.

The data should be collected by using document review methods either offline, and online data collection for every variable includes; published financial performance of banks, short term debt ratio, deposit to asset ratio, loan to deposit ratio, and total amount of debt ratio of the five selected & licensed Ethiopian commercial banks.

3.6 Data analysis instruments

Data analysis is a disorganized, ambiguous, time-consuming, inventive, and interesting process. It is the process of bringing order, arrangement, and supposing to the mass of collected data. It does not proceed in a very linear fashion; it is not neat as Marshall and Ross man, 1990:111sugested. So, the researcher should use explanatory data analysis methods by using different tools like spread sheets such as basic graphs, statistical packages that are E-Views 10(x64) software i.e. data was generated from multiple regression method.

3.7 Model Specification

Financial performance of Commercial banks may be measured through variety of ratios of which the proxy of bank determinants, return on asset, return on equity, and net interest margin are the major ones (Murthy and Sree, 2003).

3.7.1 Return on Asset (ROA)

Return on Asset, (ROA) is one in every of major ratio that indicates the profitability of a bank. To calculate return on asset ratio, we can divide its net profit to its total asset (Khrawish, 2011. The ability of the bank management to come up with income by utilizing company assets at their disposal is measured by ROA.

In other words, it shows how efficiently the resources of the corporate are used to generate the income. As Wen (2010), state that a better return on asset shows that the corporate is more efficient in using its resources.

3.7.2 Total Debt ratio and Bank Profitability

To calculate the ratio, we can use total liabilities divided by total asset, and used as a measure of capital structure. The result of some former studies using the variable total debt ratio on capital structure provides different results. For example, although the link with return on assets and return on equity were not statistically significant, the study has shown a positive relationship between total debt and net interest margin (Gatsi *et al.* 2013). In the same way, total debt ratio and profitability has no significant relationship as found in 2014 by Yegon. However, some studies like (AwunyoVitor and Badu, 2012; Niresh, 2012; Anarfo, 2015; Hossain and Hossain, 2015) have shown a negative association between total debt ratio and bank performance.

Therefore, in this paper it is because of the nature of banks operation, and empirical evidences, in the study an inverse relationship between total debt ratio, and effectiveness of banks were expected.

3.7.3 Loan to Deposit ratio (LDPR) and Bank profitability

The major source of income of a bank comes from interest income which is from loans and with reference to some empirical studies loan to deposit ratio is one of the major variables which affects banks profitability. Loan to deposit ratio is calculated as the total loan divided by the total deposit, and can serve as the bank liquidity measure. Related to loan, loan to deposit ratio supplies a measure of income sources, and the liquidity of bank's asset as keeping Makri, 2014.

In the study of Eltabakh, Ngamkroeckjoti, in 2014, statistically significant and positive relationship between profitability and loan to deposit ratio was found.

And the researcher has expected a positive relationship between loan to deposit ratio and bank performance. The study has looked upon the panel data, and it would be used a balanced panel data.

3.7.4 Deposit to Asset ratio (DPA) and Bank profitability

The more the loan opportunities that will be able to provide to customers, and then it will be able to produce additional profits is the results of more deposits that the bank collects. It could be expected that higher increasing deposits would develop the business of the bank. It also consequently produces more profits.

As keeping Lee and Hsieh (2013) underlined this matter by concluding that low deposits may impact negatively on their profitability but additional deposits can be advantageous to banks in generating more profits. If there is a satisfactory demand for loans in the market, then normally it is supposed that customer deposits may affect banking performance positively. The higher the deposit implies the more of the funds available to different profitable uses such as lending activities and investments. Which means when other factors are constant, it raises bank's return on assets.

As a result, the relation between customer deposits and bank profitability is obviously positive. Since loan demand is little and not too profitable, more deposits may damp down earnings. Because of the interests paid to depositors, releasing money through loans may reduce bank's profitability level. That is why there are several factors that the impact on profitability originates from a growth in deposits depends on. The first one is, bank's ability to transform deposit liabilities into income generating assets, which exposes bank's operating efficiency as well.

As per Anarfo (2015) argument, various sampled observations of panel data have an advantage, and the data point which ensures that the degrees of freedom are increased. Moreover, collinearity among the independent variables is condensed, and causes to rise within the predictive power of the model, and results in an improvement of economic efficiency. So, the model which would be implemented was:

$$\mathbf{ROA}_{i,\,t} = \alpha + \beta 1(TDR) + \beta 2(LDPR) + \beta 3(DPA) + \beta 4(Size) + \beta 5(growth) + \varepsilon_{it}$$

Where;

ROA=Return on asset

TDR=total debt ratio

LDPR= loan to deposit ratio

DPA=Deposit to asset ratio

Growth=Growth

Size=Size

α = constant

ß1, ß2, ß3, ß4, ß5= regression coefficients

$\varepsilon i, t$ = Error term which is assumed to be normal distribution.

The subscript *i* indicates that the cross section and *t* represents the time serious.

This model would be used to test whether the independent variables are capable of predicting relationship between capital structure and financial performance.

To attain the objective of the study, the data should be analyzed by using a multiple regression model. The model extends the concept of the simple regression model which causes that the researcher wants to use some explanatory variables in predicting the worth of the dependent variable.

Table 3.1 Variables, acronym and their measurement.

Variables	Acronym	Measurement
Dependent Variable		
Return on asset	ROA	Net Profit after tax divided by total asset
Independent Variables		
Total debt ratio	TDR	Total debt/ (Equity +debt)
Loan to deposit ratio	LDPR	Total loan/total deposit
Deposit to asset ratio	DPA	Total deposit/ (Equity +debt)
Control Variables		
Size of the bank	Size	Natural legalism of total asset (ln TA)
Bank growth	Growth	(Asset of current year- Asset of previous year)/Asset of previous year.

3.7.5 Growth and Bank profitability

In order to measure a bank's growth, the study uses the annual growth rate of asset. Asset growth can be calculated as by subtracting assets of previous year from assets of current year and divide the result to assets of current year. A faster growing bank can expand its business and be able to generate greater profits in its time period.

"Yet, an increasing amount of deposits doesn't necessarily increase the banks' profitability, as a bank must be able to convert an increasing amount of deposits into additional income earning assets. Furthermore, growth is usually achieved by allocating loans to borrowers with lower credit quality." Besides, more competitors in the market might be attracted because of high growth rate.

As many studies shown about assets growth the investigation is different. For instance, Goyal (2013) found a direct relationship with profitability and used asset growth as a growth opportunity of banks.

Besides, Hossain and Hossain (2015) investigated that an inverse relationship between growth and performance of a bank. Therefore, from a theoretical point of view, the overall consequence of the variable growth is not determined.

3.7.6 Firm Size and Bank profitability

One of the vital determinants of bank profitability is usually its size. As studies in banking indicated that, and in other studies that uses non-banks, companies' size and profitability usually have a positive relationship (Abor, 2008; Arabahmadi and Arabahmadi, 2013; Chechet and Olayowola, 2014; Yegon*et al.*, 2014; Anarfo, 2015). Because of the larger firms enjoy economics of scale and economics of scope, and therefore this is often expected to interpret into bigger profits. That is the justification behind the result of the above findings.

For example, as Anarfo (2015) argues that smaller banks cannot acquire but larger banks can increase their market power and profit of large investment. Unlike smaller banks, larger banks can get benefits from diversification. Not only that but also the larger banks can reduce the impact of volatility and surprisingly be ready to confront more debt than smaller banks.

For the aim of this study, "bank size has been taken as the natural logarithm of the book value of total assets of the banks. The use of logarithm enables to encourage the important of total assets

of the banks because of its capability to standardize values. Thus, bringing them on the identical platform for a more efficient analysis to be done.”

CHAPTER FOUR

4 RESULTS AND DISCUSSIONS

As the research methodology that has applied to come across the objective of the study has presented in the previous chapter, analysis and results of the findings as well as discussion of results are presented in this chapter. The chapter is structured in to four parts. The first part presents summary of statistics. Then the second and third parts present the Classical Linear Regression Model assumptions tests and the results of regression analysis respectively. The last section has presented the summary of findings in the study.

4.1 Summary of statistics

As mentioned in the later chapter, in this study a sample of five commercial banks was considered. The audited financial statements have included from period of 2010 up to 2019, particularly the financial position and statements of income and loss. The secondary data were collected directly from the respective banks that are registered and working legally by the law of the country. In this study return on asset, one of the profitability measures of the operation of banks, was taken as the dependent variable. Whereas the independent variables included in the study were the Total Debt to Asset (TDR), Loan to Deposit (LDPR), Deposit to Asset (DPA) and Growth and Asset size were included as control variables.

The summarized descriptive statistics of the dependent variable Return on Asset (ROA), and independent variables are shown in the table below for the period of 10 years from 2010 up to 2019 with a total of 50(fifty)observations. Before the regression is carried out, the average indicators of variables computed from the financial statements of the panel data helps to identify some abnormalities in the dataset.

As it is described in the table below, the descriptive statistics includes the minimum and maximum values, the mean, and the standard deviation as well as the number of observations in the model.

Table 4.1: Descriptive statistics on ROA

Source: Researcher computation from financial statement, 2020.

As shown in the former chapter, financial performance of commercial banks was measured by the dependent variable, return on asset (ROA) which in turn calculated as net profit divided by total asset. The mean return on asset (ROA) was 2.75% and standard deviation was 0.63. From this one can conclude that, under the periods of study, the banks have earned on average 2.75% return on the total resources invested. From the output one can understand that on average, there was 0.0275 cents return in the form of net profit for every one birr of the total asset of commercial banks investment. The other one is in a particular year, 4.02% maximum ROA for a bank was recorded, and to the contrary 0.94% was the lowest ratio of ROA recorded for a bank in a year. In addition, the deviation of the value of return on asset from its mean on each side was recorded as 0.62%.

	ROA	TDR	LDPR	DPA	GROWTH	SIZE
Mean	2.749220	87.67702	56.46968	74.95912	20.03782	2393.298
Median	2.746500	87.36900	55.94100	75.44700	19.52450	2373.582
Maximum	4.021000	96.28300	78.59500	82.14200	56.17800	2729.258
Minimum	0.935000	80.78200	36.84500	65.03200	3.42892	2077.739
Std. Dev.	0.623793	4.049414	10.39706	4.850569	9.031033	149.4586
Observations	50	49	50	50	50	50

The return on assets shows how efficient the bank is using its total assets to generate profit measured by profit after interest and tax divided by total assets. The summarized descriptive statistics of the dependent variable Return on Asset (ROA), and independent variables are shown in the table below for the period of 10 years from 2010 up to 2019 with a total of 50(fifty) observations.

In the study period, 87.68% of the mean of total debt to total asset ratio (TDR) of the sample was resulted. From this anyone can understand that on average just about 87.68% of assets of Ethiopian commercial banks was covered by the total debt. In a specific year, 96.28% was the highest total debt to asset ratio resulted, and 80.78%of the ratio was recorded as the minimum ratio for a bank in a year. In addition, the deviation of the value of the debt to total asset ratio from its mean on each side was evidenced as 4.05%.

Besides, the other independent variable the loan to deposit ratio (LDPR) was used as a changeover for bank liquidity indicates to loan.

From the statistics result, 56.47% of the mean of loan to deposit ratio of the sample banks in the study period was found. From this output, it makes known that just about 56.47% of deposit of commercial banks in Ethiopia averagely represents the loan.

In a particular year, 78.6% of the highest loan to deposit ratio for a bank was confirmed, and this output tells us that banks loan given to customers from its all sources of finance.

This maximum loan to deposit ratio was found in the year 2019 as a result of Awash bank. To the contrary, 36.85% of the minimum loan to deposit ratio for a bank in the year was recorded. Due to the lowest loan to deposit ratio of CBE in the year 2019, this minimum performance of loan has observed. On top of this, the deviation of the value of the loan to deposit ratio from its mean on each side was evidenced as 10.4%.

In addition, the average worth of 74.96 % of the total deposit to asset (DPA) ratio which was keep up a correspondence by percentage change in asset was confirmed in the descriptive statistics. From this outcome one can determine that on average over the study period, the banks' deposit was greater than before by 74.96 %. In a specific year, 82.14% of the maximum value of total deposit to asset ratio for the study period was registered; and65.03% was the minimum value in the study. The value of total deposit to asset can deviate from its mean to both sides by 4.85%. On top of this, the deviation of the value of the total deposit to total asset ratio from its mean on each side was evidenced as 4.85%.

Likewise, as described in the descriptive statistics, 20.04 % of the growth variable represented by percentage change in asset was confirmed averagely. From this, over the study period the banks' asset has increased averagely by 20.04 %. In the study year, 56.18% maximum value of growth was verified, and to the opposite the minimum value was recorded as 3.42%. On top of this, the deviation of the value of the asset growth from its mean on each side was evidenced as 9.03%.

Lastly, when we see the last control variable that is the firm size, its mean value of Birr 2,393.3 (in million) was denoted by the book value of total assets. The mean was deviated by the amount of Birr 149.46 (in million). The range of total assets in the study period, for the sampled banks were from Birr 2,077.74 (in million) to Birr 2,729.26 (in million). That is, the maximum worth of total asset was Birr 2,729.26 (in million), and Birr 2,729.26 (in million) was the minimum value of the total asset.

This asset size was observed in the financial position of different banks. The highest asset size was observed in the year 2019, in the Ethiopia Commercial Bank (CBE). The possible reason of the highest size was the aggressive branch expansion throughout the country, and its investment in different assets such loan and advances.

The lowest value of asset size was recorded in the younger bank, Zemen Bank in 2010.The possible reason for lowest asset size could be in the year, Zemen bank was at nursling stage in the banking industry.

4.2 The Classical Linear Regression Model (CLRM) assumptions tests

The test for the assumptions of classical linear regression model (CLRM) includes the errors/residuals has zero mean, heteroscedastic test, autocorrelation test, multicollinearity, and normality tests.

4.2.1 The first assumption: the errors have zero mean (E (ε) = 0)

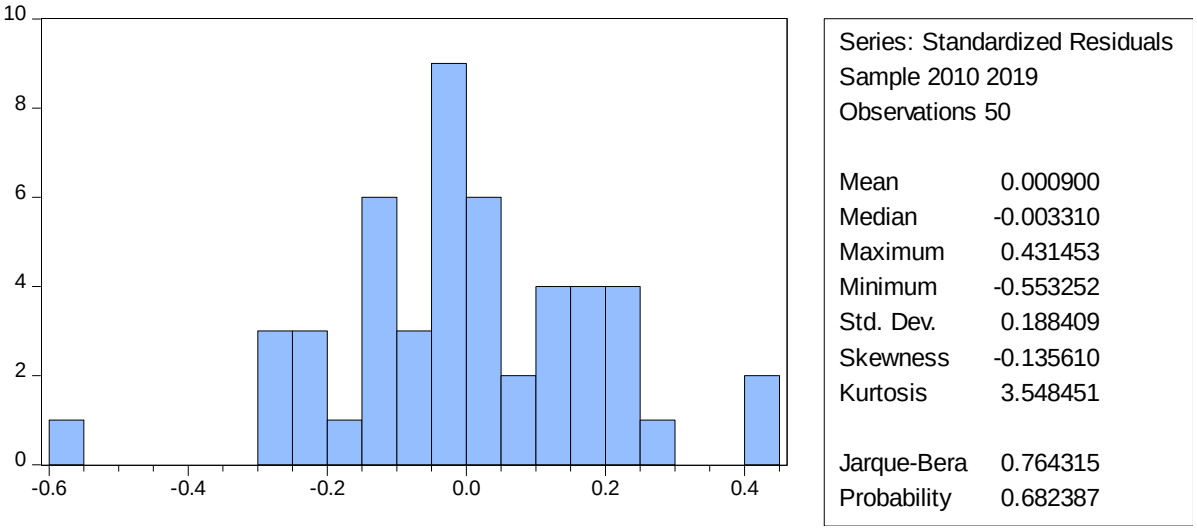
The study has included a constant term in ROA with the selected regression model. If a constant term is not included in the regression equation or model, this assumption will be violated as per Brooks (2013), so, residuals have zero mean. Therefore, first assumption has satisfied.

4.2.2 The second Assumption: Normality test (errors are normally distributed (ut ~ N (0, σ2))

As per Brooks (2013) discussed that the histogram that is generated from the test should have a shape of meaningful of a 'bell'. Besides the measure of goodness of fits test from the table couldn't be significant if and only if the residuals are normally distributed.

From such we can understand that the p-value should be greater than 0.05 as given from the normality test table. So, we do not reject the null hypothesis that is the residuals are normally distributed at the 5% significant level.

Figure 4.2 Normality test on ROA and other independent variables



Source: The Researcher EViews 10(x64) output, 2021

There is no problem of normality problem as any one observed from the table above because of the following reasons. The first one is that the coefficient of kurtosis was close to 3 which is 3.5. The second reason is that the measure of goodness of fits test statistic has a P-value of 0.682387 which is more than 0.05 for ROA. The implication is that the data were consistent with a normality distribution assumption. Moreover, from the sample parameters the population parameters tend to be valid as inferred from the result. So, we do not reject our null hypothesis that errors are normally distributed in return on asset.

4.2.3 The third assumption: Homoscedasticity test

If the residual doesn't have a constant variance, giving to homoscedasticity supposition, that is violation of variance of the errors is constant (Var (ut) = $\sigma 2 < \infty$) is called heteroscedasticity. Otherwise homoscedasticity has been proved. In this study to check heteroscedasticity test, white test was used to test whether or not for existence of heteroscedasticity across the range of independent or explanatory variables.

Table 4.3: Heteroscedasticity test on ROA

Heteroscedasticity Test: **White on ROA**

F-statistic	1.217294	Prob. F (27,21)	0.3251
Obs*R-squared	29.89738	Prob. Chi-Square (27)	0.3188
Scaled explained SS	29.44682	Prob. Chi-Square (27)	0.3396

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 12/14/20 Time: 15:46

Sample: 1 50

Included observations: 50

Source: own computation from financial statement, 2020

As the result above shows that the Prob (Chi-Square) of the test statistic gives 0.3188 means 31.88%for ROA and that the p-values were greater than 0.05 or 5% in the model.

So, thanks to Brooks, 2013, we do not reject our null hypothesis that is there is no heteroscedasticity problem in the model. Therefore, the model has confirmed no problem of heteroscedasticity.

4.2.4 The fourth assumption: Autocorrelation test

The fourth assumption of the study is that residuals are linearly independent of one another (not correlated with each other). That is Covariance between the error terms over time is zero (cov (ut, uj) = 0). It would be stated that residuals are autocorrelated if the residuals are interrelated with one another. So, to test autocorrelation, Breusch-Godfrey Serial Correlation LM Test was used.

Table 4.4 Breusch-Godfrey Serial Correlation LM Test: ROA

Serial Correlation LM(Breusch-Godfrey) Test

F-statistic	1.579913	Prob. F (2,40)	0.2186
Obs*R-squared	3.587398	Prob. Chi-Square (2)	0.1663

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 12/14/20 Time: 23:22

Sample: 1 50

Included observations: 50

Source: own computation from financial statement, 2020

Serial Correlation LM Test was managed to validate the result of autocorrelation result. Breusch-Godfrey Serial Correlation LM Test result as indicated in the table above on return on asset shows that the P-values of F-statistic and Obs*R-squared are 0.2186 and 0.1663 respectively which is greater than 5%. Hence, we do not reject the null hypothesis and no autocorrelation of residual is assumed on ROA significantly.

4.2.5 The fifth assumption: Multicollinearity Test

As per Brooks (2013), an inherent assumption that is the explanatory variables are not correlated with each other at the time of implementation of the ordinary least square (OLS) estimation method.

As a result of the inefficient of the estimated sample parameters and it causes large standard errors, multicollinearity introduces a problem which makes the coefficient values and signs untrustworthy.

A problem of multicollinearity would consider when the correlation value is more than 0.8 as keeping Cooper & Schindler (2009). In addition, correlation coefficient below 0.9 may not cause serious multicollinearity problem as per Hair (2006) concluded. For multi collinearity of this study, the result has shown in the table given under.

Table 4.5 Correlation matrix showing the relationship between ROA and other variable

	ROA	TDR	LDPR	DPA	GROWTH	SIZE
ROA	1					
TDR	-0.284326	1				
LDPR	0.054619	-0.547984	1			
DPA	-0.274095	0.425317	-0.162375	1		
GROWTH	-0.042795	0.107083	-0.187368	-0.138230	1	
SIZE	-0.467304	0.760871	-0.247110	0.357714	-0.224062	1

Source: Own computation from financial statement, 2020

In this study to test the existence of the multicollinearity problem, the correlation matrix between independent variables was applied.

From the output of the matrix above, multicollinearity was not a potential problem for this study as a result of all correlation results are below 0.80 as referred from the table above. So, according to Cooper & Schindler (2009) there is no a serious problem of multicollinearity. We do not reject our null hypothesis that there is no multicollinearity problem in the model.

In addition, we can use variance inflation factor (VIF) to check whether there is multicollinearity problem in the model or not. The assumption is that if the centered VIF value is less than 10, there is no savior multicollinearity problem in the model. So, except one variable all values of the independent variable centered VIF value are less than 10, and hence multicollinearity problem is not headache in this paper.

Table 4.6: Multicollinearity test on ROA and other variables by VIF

Variance Inflation Factors

Date: 12/11/20 Time: 14:00

Included observations: 50

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	3.875650	4737.104	NA
TDR	0.000529	4980.759	10.38596
DPA	0.000190	1311.874	5.466114
LOG(LDPR)	0.039160	776.1544	1.615242
GROWTH	1.39E-05	8.199862	1.387532
SIZE	1.49E-07	1040.910	3.727855

Source: Own computation from financial statement, 2020

As we have the entire assumption test that the results indicated above, the model that was working for this study was not exposed to the problems of violation of the CLRM assumptions.

Because of the F-statistics in the model is significant, there is no serial correlation problem in ROA and other variables, there is no problem of heteroscedasticity, and the residuals are normally distributed, and all independent variables can jointly determine the dependent variable the ROA.

From this we can assure that the model is reliable. Even though the value of adjusted R square is small, the F- statistics and most of the independent variables are significant. So, I accept the model.

In general, the model is a good model to measure capital structure and its influence on financial performance of selected Ethiopian commercial banks in the period included. It satisfies the

"BLUE" property that is, best linear unbiased estimator since all assumptions are satisfied in the model EViews(x64) 10 software.

4.3 The regression analysis output

In financial research as specified in Brooks (2013), there are two major classes of panel estimator approaches that can be employed are the fixed effects model and random effects model. To decide on the two the appropriate models which provide reliable estimates for this study, Hausman test was employed.

The random effects model was better than fixed effects model as per the Hausman specification test result. It suggests as the p-value (0.3274) is insignificant, for the dependent variable which imply that my null hypothesis. So, do not be rejected the random effects model and thus, the analysis is based on the random effects estimates model.

Table 4.7: Hausman test on ROA: Correlated Random Effects test.

Correlated Random Effects: Hausman Test

Equation: Untitled

Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	6.929894	6	0.3274

Table 4.8: Random effect model estimates the Dependent Variable (ROA)

Dependent Variable: LOG(**ROA**)

Method: Panel EGLS (Period random effects)

Date: 12/14/20 Time: 15:56

Sample: 2010 2019

Periods included: 10

Cross-sections included: 5

Total panel (unbalanced) observations: 50

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.211441	1.920905	-1.151250	0.2561
TDR	0.077848	0.023497	3.313067	0.0019*****
DPA	-0.038003	0.013970	-2.720290	0.0094*****
LOG(LDPR)	0.323312	0.194496	1.662306	0.1039^^
GROWTH	-0.008273	0.003647	-2.268290	0.0285******
SIZE	-0.001809	0.000412	-4.392848	0.0001*****
	Effects Specification			
			S.D.	Rho
Period random			0.076416	0.1411
Idiosyncratic random			0.188499	0.8589
	Weighted Statistics			
R-squared	0.394014	Mean dependent var		0.735193
Adjusted R-squared	0.307444	S.D. dependent var		0.228153
S.E. of regression	0.190599	Sum squared resid		1.525782

F-statistic	4.551414	Durbin-Watson stat	1.135708
Prob(F-statistic)	0.001220		

***** Significant at 1%, ****** significant at 5%, ^^significant at 10

Source: Own computation from financial statement, 2020

The random effect model results in table 4.8 indicate that capital structure as total debt to asset ratio was statistically significant at 1% level and had a positive relation with profitability at p-value of 0.0019. At the same time as, deposit to asset was statistically significant at 1% level, but had a negative relation with profitability at p-value of 0.0094.

Besides, the random effect table 4.8 discloses that banks growth as measured by natural legalism of book value of total asset was strongly statistically significant at 5% significant level, and had a negative relation with profitability at p-value of 0.0285. Similarly, size had a negative and statistically significant relationship with profitability of the p-value 0.0001. However, liquidity measured by loan to deposit was strongly statistically not significant even at 10% level, but had positive relation with profitability, at p-value of0.1039.

Moreover, the result shows that the adjusted R square was 0. 307444. From the output anybody could know that about 31% of the variability in profitability is explained by the selected explanatory variables included in the paper. These variables were Short term debt ratio, Total Debt to Asset ratio, Total deposit to asset ratio, Loan to deposit ratio, Growth, and asset Size. Of course, I used remedies change in measure to increase the value of the adjusted R square that is log. So, the value has increased to 31%.

Moreover, the Probability of F-statistic of 0.001220 indicates that the explanatory variables were jointly has significant influence on profitability in the operations of commercial banks in Ethiopia. So, the model is reliable.

4.4 Summary of findings

The former segment of the paper has covered the discussions of the detail analyses of the results for each explanatory variable and their impact on profitability of banks, and the overall results of the study. Furthermore, in relation to the previous empirical evidence, the statistical finding of the study was evaluated. Thus, discussions that present the relationship and impact of each explanatory variable on profitability of the dependent variables are disclosed as below. And also, I have tried to compare the result of this paper with the previous empirical studies of other researcher's result and with theories included in chapter two.

4.4.1 Total Debt to Asset Ratio (TDR)

The result of random effect model above indicates that capital structure as measured by total debt to asset ratio had positive relationship with performance of the bank, and statistically significant at 5% level, and the result was as the same as the expected sign.

As a result, the null hypothesis H1: The total debt ratio and banks profitability has positive relation in Ethiopia was not rejected in ROA. This implies that keeping the other thing constant, in bank's capital structure (total term Debt ratio) has a subsequent change of 8 cents (Coeff. = 0.077848) on ROA for each one birr change in the same direction. And statistically significant at 5% significant level.

As anyone could understand from the output, debt financing has a positive effect on performance of the Ethiopian banking industry. Besides, banks which have higher performance may have better access to external financing like lenders and other financial institutions, and the require for debt finance may possibly be higher.

From the result above in total debt ratio (TDR), we can say that it supports trade off-theory. Holding the firm's assets and investment plans constant, trade off-theory assumes that a firm's optimal debt ratio is determined by the trade-off between the bankruptcy cost and tax advantages of borrowing. In another dimension, according to pecking order theory capital structure is driven by firm's desire to finance new investments, first internally, then with low-risk external financing.

From some previous empirical studies in Ethiopia, as Mathewos Woldemariam Birru (2016) has studied, the debt ratio (DR) was used as a factor for a capital structure. And also it has a positive

and significant relationship with the dependent variable ROA. This paper finding was with consistent with Methewos's research.

The agency cost theory assumes that higher profitability lowers the expected cost of distress. Subsequently, to take the advantage from the tax benefits, companies increase their leverage. That is, profitability and leverage are positively related is also supported by the free cash flow theory of Jensen (1986).

4.4.2 Loan to Deposit ratio (LDPR)

The result of random effect model table 4.7 and 4.8 point out that liquidity had a positive relationship with profitability (ROA) as calculated by loan to deposit. Statistically it was not significant (p-value = 0.1039) at even 10% significant level, and it was similar with the expected sign. Therefore, the null hypothesis H2: There is a positive relationship between loan to deposit ratio and its profitability in Ethiopia was not rejected in ROA model.

This implies that keeping the other thing constant, in bank's loan to deposit ratio has a subsequent change of 3 cents (Coeff. = 0.323312) on the profitability (ROA) for every one birr change in the same direction.

From this output anybody could understand that an increase in amount of loan and advances to customers from deposit financing in Ethiopian banking industry has a positive effect on profitability.

From empirical studies, Aragaw Hailu (2015) has studied capital structure had a positive relationship with profitability as measured by the independent variable loan to deposit ratio. Statistically it was significant and the finding was the same result as this paper.

The cause of the relation might be the interest income financed by deposit sources was greater than the costs or interest paid to loan related issues. It is supported by the previous empirical findings of keeping (Eltabakh et al., 2014).

4.4.3 Deposit to asset ratio (DPA)

The result of random effect model in the table above indicated that Deposit to asset ratio had a negative relationship with profitability with p-value of 0.0094 and strongly statistically significant at 1% level. The output and the sign expected were not similar.

As a result, the null hypothesis H3: There is a positive relationship between deposit to asset ratio and banks profitability in Ethiopia was rejected.

This implies that keeping other thing constant, in bank's deposit to asset ratio has brought about change of 4 cents (Coeff. = -0.38003) for every one birr change on ROA in the opposite direction. The end result shows that in Ethiopian banking industry, financing with deposit have a negative impact on performance of banks.

The possible reason that causes could be that the cost (interest expense) related with debt financing through deposit mobilization is not cheap in the context of Ethiopian banking industry.

As this result keeping with(Myers &Majluf, 1984), the pecking order theory that suggests profitable companies prefer internal financing to external financing, and hence a negative relation between profitability and leverage is anticipated.

From some previous empirical studies like, Opoku et al. (2013), Shubita& alsawalhah (2012), Amidu (2007), and Taani (2013) a negative relationship between capital structure/leverage and profitability was also observed. The finding of this thesis is the same as the above results.

4.4.4 Growth

The result of random effect model table 4.7and 4.8 discloses that banks growth had negative relationship with profitability, and statistically significant at 5% significant level in profitability of ROA, and it had as the same as the expected sign. Therefore, the null hypothesis H4: There is a negative relationship between growth and banks profitability in Ethiopia not was rejected.

This implies that keeping the other thing constant, in banks a subsequent change of 0.008273 birr (Coeff. = -0.008273) on the profitability (ROA) was recorded for every 1% change in growth the different direction.

From some previous empirical studies in Ethiopia, as Weldemichael (2012), the study revealed that there was a negative and statistically insignificant relationship between leverage and growth

of banks. The negative coefficient of growth indicates a negative relationship between growth and leverage. Thus, the finding of this paper was the same as Weldemichael's study. According to the trade-off theory, because of growth opportunities cannot be collateralized, firms holding future growth opportunities(which are intangible assets) tend to borrow less than firms holding more tangible assets as confirmed by Myers (1977).In addition, agency theory defines, managers can invest in less profitable projects or even in the projects of negative net present value due to their personal interest when they have internal finance, so the profitability of the firm is deteriorated as keeping (Sanjaya, r. a. a. (2019).

4.4.5 Size

The result of random effect model table 4.7 and 4.8 reveals that banks size and its performance had a negative relationship, and statistically significant at 1% significant level. And it was as similar with the expected sign with the p- value of 0.0001.

As a result, the null hypothesis H5: There is a negative relationship between bank size and its profitability in Ethiopia was not rejected. This implies that keeping the other thing constant, for in the banks size had follow-on a change of 0. 0.001809 birr (Coeff. = -0.001809) on the profitability (ROA) for each 1% change in the different direction. From the random effects model, the outputs told us smaller banks are more profitable than higher ones.

From some previous empirical studies as Mathewos Woldemariam Birru (2016) studied in Ethiopia, the bank size which measures natural log of total asset has negative relation with ROA and ROE. And it has significantly affected the financial performance of banks at 1% significant level. The relation indicates that small Commercial banks perform better than larger Commercial banks. The reason was that it was because of the loss of control by top managers over strategic and operational activities within large banks.

Kasimodou et al. (2006) categorized UK banks for two types, large and small according to assets volume when testing the banks effectiveness of UK using the bank size as a key factor.

The results of the study concluded that, small banks showed higher performance in comparison to large ones. Moreover, the size of bank was verified to have an effect on profitability in addition to other factors such as liquidity. Banks effectiveness and efficiency represented by profitability also has been argued that profitability is strongly related to total assets (Mohammed Aladawn, 2015). Based on the result of this study, banks did not perform as their size increases rather the size had inverse relation. That is small Commercial banks perform better than larger Commercial banks. The reason was that it was because of the failure of attention of organize how to perform their work from top level management up to lower level. That is large banks could not used the advantage of their branch coverage, ATM network and comprehensive products and services. This issue must be handled by top level managers over strategic and operational activities within large banks**.**

Table 4.9: Comparison of expected sign/impact and actual result of the paper.

Category	The independent Variables	Measurement or Ratios used	Expected sign/impact of independent variables on dependent variables	Actual result sign/ impact of independent variables on dependent variables	
				ROA	
	Total debt ratio	Total debt /total asset	Positive(+)	Positive (+)	
	Loan to deposit ratio	Total loan/total deposit	Positive (+)	Positive (+)	
	deposit to asset ratio	Total deposit /total asset	Positive (+)	Negative(-)	
	Growth	% change in asset	Negative (-)	Negative (-)	
	Size	Natural log of total asset	Negative (-)	Negative (-)	

By using one of the suitable methods that is random effects model, the output of the data analysis and the discussions of the output has included in this chapter. Consequently, by applying the regression analysis using statistical package EViews 10(x64) software, the chapter has discussed the descriptive statistics, and tests for the classical linear regression model (CLRM) assumptions. The chapter has demonstrated the capital structure and its influence on profitability (ROA) of banks and the dependent and independent variables' relationship in Ethiopia in the specified period.

From now, the result indicates that most independent variables were statistically significant factors that packed up the profitability of Ethiopian banks. The variables were short term debt ratio, total debt to asset ratio, deposit to asset ratio, growth and asset size.

On the other hand, the output indicates that loan to deposit ratio was not significantly explanatory variable of profitability in return on asset in the banking industry of Ethiopia. The conclusions and recommendations of the study would include in the coming chapter.

CHAPTER FIVE

5 CONCLUSION AND RECOMMENDATION

As the research analysis and results of the findings as well as discussion of results were presented in the previous chapter, the conclusion and recommendation based on the major findings of the study were presented in this chapter. The major findings were the following. The first finding was capital structure as measured by total debt to asset ratio had a positive relationship with performance of the bank, and statistically significant at 5% significant level. The result was supported by trade-off theory. The second finding was capital structure had a positive relationship with profitability (ROA) as calculated by loan to deposit and statistically it was not significant at even 10% significant level. It was also supported by trade –off theory. The third finding was deposit to asset ratio had a negative relationship with profitability and strongly statistically significant at 1% level. The third finding was supported by picking order theory. The fourth outcome was banks growth had a negative relationship with profitability and statistically significant at 5% significant level in profitability of ROA. The last result from the study was that banks size and its financial performance had a negative relationship and statistically significant at 1% significant level.

This last chapter was arranged in to two parts and talks about all the paper. The first part presents the conclusion and the second part contains the recommendations in line with findings of the research.

5.1 Conclusion

Capital structure has been a much debated and unsolved topic in the finance field starting from the Modigliani& Miller (1958) proposition or irrelevant theories. There are also different capital structure theories that has developed, such as the pecking order theory, the tradeoff theory and agency cost theory occurred into the finance field. Many researchers have tried to analyze the inferences of these theories for organizations in the market. For maximization of the shareholders' wealth and sustainable growth, capital structure decision has been the most substantial decisions to be taken any business body. The overall objective of this study was to review the capital structure and its consequence on financial performance of selected commercial banks in Ethiopia.

The study used panel data for the period of ten years and five banks operating in our country from 2010 up to 2019.

The panel data were collected from audited financial statements for the most part from financial position and statements of income and loss of the sampled banks.

The study used random effects regression model (REM) as per Hausman test to estimate the capital structure and the company's performance association measured by ROA. The study has used statistical package EViews 10(x64) software. In this study the regression analysis discloses that short term debt ratio, total debt ratio, deposit to total asset ratio, loan to deposit ratio of the banks as an independent variable, and growth and asset size as control variables while the profitability the firm measured by return on asset (ROA) was dependent variable.

The existence of the following association between the independent variables and banks performance were included in the research with the help of the random effects estimation model.

Capital structure/Leverage as measured by short term debt to total asset ratio indicates that short term debt to asset ratio and banks' profitability had a positive relationship when measured by ROA and statistically significant at 5% level, and the result was not as the same as the expected sign. This result also supports the trade-off theory and prefers using external finance or debt financing approach.

Similarly, the result of random effect model indicates that as measured by total debt to asset ratio, capital structure had positive relationship with profitability ROA and statistically significant at 5% level, and the result was not as the same as the expected sign. This result also supports the trade-off theory and prefers debt to equity financing.

On the other hand, the result of random effect model indicates that deposit to asset ratio had negative relationship with profitability with strongly statistically significant at 1% level measured by ROA. And it was not as the same as the expected sign. The finding suggests using internal finance before raising debt or equity means which supports the pecking order theory.

Besides, loan to deposit ratio had positive relationship with profitability (ROA) and statistically not significant at even 10% significant level and it was as the same as the expected sign.

In addition to the above four variables, the effect of control variables on profitability of banks was as follow. Growth had a negative relationship with profitability, and statistically significant at 5% significant level in profitability of ROA, and it had as the same as the expected sign. Which means the output does not support trade-off theory. Sometimes growth in banking should be pursued by competing on value rather than price, with the focus on revenue enhancement rather than purely on cost reduction.

The same is true that banks size and profitability had a negative relationship and statistically significant at 1% significant level and it was as the same as the expected sign.

The concept "The more economics of scale is, the more profitable for larger banks" was not functional as the result has indicated. Because profit is not determined only by bigger size of the company, but also management efficiency and effectiveness also govern. Banks effectiveness and efficiency represented by profitability also has been argued that profitability is strongly related to total assets (Mohammed Aladawn, 2015).

To summarize, the finding of the study endorses that in Ethiopia, capital structure had a considerable impact on profitability of banks. From the finding, managers who are concerned have to reflect this very important impact in their financing or capital structure decision.

5.2 Recommendation

The following recommendation was taken in to consideration based on the above results which are confirmed in this study, and discussed in detail within the previous four chapters.

Some empirical studies on capital structure disclose a negative correlation between leverage and performance of the firm and support my study. Others expose that positive relationship between leverage and performance of the company.

For those variables that have significant and straightforward, the relationship between the capital structure and its effect on performance of the firm, managers should devote their time and efforts on those variables. The first reason is in order to maximize the income of the bank by handling the debt properly and secondly to get tax shield from the debt.

To the contrary, company size is a negatively related to the borrowing capacity because of the potential bankruptcy costs make up a large portion for large firms. If the management is not efficient and effective, company size may have reverse relation with its performance. So, the management should take in to account to maximize the shareholders' wealth as follow. The first measure to be taken is that the failure of attention of organizes how to perform their work from top level management up to lower level should be solved. That is large banks could use the advantage of their branch coverage, ATM network and comprehensive products and services. If so banks size and their performance may have direct and significant relation. This issue must be handled by top level managers over strategic and operational activities within large banks**.**

The same is true in the relationship between growth and performance of the firm. The negative relation between growth and profitability may be diversification problem of profit making of managers and with no focus on revenue enhancement rather than innocently on cost reduction.

By using ROA as dependent variable, and some independent variables and control variables to examine capital structure and its influence on profitability of Ethiopian commercial banks.

Consequently, future researchers may address limitations which were not addressed by this paper. The limitations were variables used were only five variables and the panel data observation was fifty because of the time and internet limitations to collect data, the study used only internal factors/ bank specific factors and macroeconomic /external factors were not used. So by focusing of these limitations the upcoming researchers can do better research on the same title. Such as by increasing observations, variables and by including external factors. Besides it is possible to include dummy variables to increase the value of adjusted R square keeping the significance of both F-statistics and independent variables.

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ANNEX 1: PANEL DATA

	PANEL DATA OF FIVE SELECTED COMMERCIAL ETHIOPIAN BANKS FROM 2010 TO 2019								
YEAR	FIRM	ROA	ROE	SDR	TDR	LDPR	DPA	GROWTH	SIZE
2010	AWASH	2.744	37.591	77.003	89.367	51.518	67.671	20.951	2,292.30
2011	AWASH	3.252	18.523	80.88	87.948	51.479	69.83	18.634	2,312.93

2012	AWASH	3.005	23.895	81.402	87.424	58.187	70.127	15.51	2,329.78
2013	AWASH	2.466	21.228	80.735	88.382	60.041	70.542	26.196	2,360.16
2014	AWASH	2.797	23.807	78.169	88.253	59.626	68.033	19.553	2,381.91
2015	AWASH	2.559	20.262	85.067	87.366	66.224	73.463	12.313	2,395.05
2016	AWASH	2.388	16.166	84.791	87.369	66.639	73.302	17.619	2,416.20
2017	AWASH	2.377	17.544	89.583	86.449	72.944	76.698	23.545	2,441.28
2018	AWASH	2.27	22.976	89.971	88.247	71.457	78.619	27.577	2,473.55
2019	AWASH	3.259	2.523	93.094	87.085	78.595	79.876	25.949	2,503.59
2010	CBE	2.639	35.253	82.149	92.512	40.542	73.66	19.916	2,502.99
2011	CBE	2.46	44.9	83.468	94.52	39.163	73.951	35.075	2,546.18
2012	CBE	3.436	71.319	81.107	95.134	48.664	73.386	27.732	2,578.66
2013	CBE	3.001	63.766	84.373	95.293	44.066	78.789	19.101	2,599.85
2014	CBE	2.822	62.113	84.582	95.456	44.976	79.121	19.942	2,622.10
2015	CBE	2.881	67.791	84.473	95.634	44.698	79.603	19.587	2,643.90
2016	CBE	2.173	58.456	79.524	96.283	47.529	75.155	20.866	2,667.30
2017	CBE	1.952	21.468	82.987	0.90.908	41.185	74.282	21.716	2,691.78
2018	CBE	0.935	11.368	86.47	91.774	38.317	78.53	14.606	2,707.57
2019	CBE	1.611	22.86	82.741	92.951	36.845	75.881	19.496	2,729.26
2010	DASHEN	2.623	28.845	91.529	90.906	48.684	82.119	21.215	2,323.72

2011	DASHEN	3.074	32.273	90.629	90.475	51.463	80.774	15.733	2,340.84
2012	DASHEN	3.722	35.67	91.172	89.567	56.516	80.283	16.326	2,358.66
2013	DASHEN	3.073	29.66	90.712	89.641	54.653	80.271	11.278	2,370.63
2014	DASHEN	3.244	27.428	92.573	88.172	53.331	80.508	10.086	2,381.26
2015	DASHEN	2.944	24.937	91.798	88.193	57.197	80.012	11.314	2,393.27
2016	DASHEN	2.544	21.652	91.131	88.249	54.831	79.641	13.342	2,407.59
2017	DASHEN	2.045	18.936	91.429	88.468	63.772	80.239	17.468	2,426.78
2018	DASHEN	2.045	15.835	91.682	87.085	64.072	79.222	23.777	2,453.93
2019	DASHEN	1.809	14.85	91.072	87.821	72.372	79.549	19.198	2,475.25
2010	WEGAGEN	3.889	21.236	85.646	81.683	62.626	66.454	10.439	2,247.11
2011	WEGAGEN	4.01	24.173	90.611	83.409	48.448	71.129	29.103	2,281.03
2012	WEGAGEN	4.021	20.923	87.213	80.782	64.089	65.032	3.429	2,284.52
2013	WEGAGEN	3.272	18.578	89.456	82.389	64.144	68.773	19.69	2,306.45
2014	WEGAGEN	2.762	14.851	90.366	81.401	56.409	69.619	9.845	2,316.81
2015	WEGAGEN	2.57	14.598	91.333	82.195	61.513	71.991	15.918	2,334.15
2016	WEGAGEN	2.32	13.387	89.425	82.669	67.755	68.429	15.308	2,350.77
2017	WEGAGEN	2.54	15.858	89.653	83.981	73.002	66.625	22.72	2,376.54
2018	WEGAGEN	2.897	20.738	87.861	86.03	73.689	73.25	0.23518	2,403.35

2019	WEGAGEN	2.086	14.462	92.969	85.577	69.946	77.299	7.992	2,411.68
2010	ZEMEN	2.757	18.35	78.723	84.976	54.928	65.177	56.178	2,077.74
2011	ZEMEN	3.937	26.394	87.313	85.091	54.512	72.034	34.592	2,120.19
2012	ZEMEN	2.706	23.086	90.663	84.297	55.473	74.883	32.592	2,159.63
2013	ZEMEN	2.174	14.308	91.999	84.809	50.018	77.111	26.297	2,190.15
2014	ZEMEN	3.26	19.475	93.938	83.259	43.013	77.224	17.231	2,209.06
2015	ZEMEN	3.153	20.094	94.183	84.308	56.466	78.358	19.481	2,230.73
2016	ZEMEN	2.749	20.236	87.2	86.412	59.304	74.408	33.899	2,272.12
2017	ZEMEN	2.736	20.126	88.81	86.404	54.219	75.739	23.735	2,299.22
2018	ZEMEN	2.179	15.973	96.12	86.359	48.887	82.142	22.268	2,324.41
2019	ZEMEN	3.293	20.739	95.311	84.119	65.457	79.142	15.318	2,341.04