ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF EMBA PROGRAM

THE EFFECTS OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE: THE CASE OF INSURANCE COMPANIES OF ETHIOPIA

THE THESIS SUBMITTED IN PARTIAL FULFILLMENT OF REQUIREMENT FOR MASTER OF EXECUTIVE BUSINESS AND ADMINISTRATION (MBA)

BY: SOLOMON ASSEFA

May 2021
ADDIS ABABA, ETHIOPIA

THE EFFECTS OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE: THE CASE OF INSURANCE COMPANIES OF ETHIOPIA

BY: SOLOMON ASSEFA

APPROVED BY THE BOARD OF EXAMINERS

Dr. Asres Abitie	_____	_____
Advisor	**Signature**	**Date**
Dr .Zelalem G/tsadik	_____	_____
Examiner (Internal)	**Signature**	**Date**
Dr.Temesgen Belayneh	_____	_____
Examiner (External)	**Signature**	**Date**

Acknowledgments

There are a lot of individuals who helped me along the way in my journey of completing this thesis work. But here I want to take a moment to thank some of them.

First and foremost, I want to thank my advisor Dr.Asres Abitie for his valuable and unreserved support. Without his guidance and support, I would not have been made and reach my goal. Thank you so much!

The greatest thank need to be given to my beloved wife, Betelhem Endeshaw, and my uncle, Belay Ejigu. Your love and understanding helped me through the challenging times of working day and night. Without you believing in me, I would never have completed this thesis. It is time to celebrate; you earned this degree right along with me.

Finally, my gratitude will also go to my friends, especially Dr. Yassin Mohammed, my parents, and my siblings. I am forever grateful for your patience and understanding. I hope to have time now to reconnect with each of you.

Abstract

Empirical studies over the effect of Capital structure on financial performance are inclusive and need further investigation. The purpose of this study was to examine the effects of capital structure on financial performance of 17 insurance companies in Ethiopia over the past ten (10) years period from 2008 to 2017 using secondary data collected from financial statements of the insurance companies. In this study ROA and ROE were used as performance measures while growth, liquidity, firm size, and tangibility were used as capital structure measures. Descriptive and inferential statistical tools were employed to analyze the data. The study revealed that Liquidity, Size, and growth made a statistically significant contribution in predicting ROA while Liquidity, Tangibility, and Size were the significant predictors of ROE. From these findings, we can conclude that size, liquidity, growth, and tangibility of insurance companies are important capital structure variables that contribute towards better financial performances of insurance companies in Ethiopia. Based on the findings, important recommendations are made that include working on tangibility, liquidity, size, and growth to improve their financial performances.

Key Words: Capital structure, Financial Performance, Insurance, Insurance companies, Ethiopia

Table of contents

Contents **Pages**

List of Tables

List of Figures

Abbreviations

GRT: Growth

LQ : liquidity of the firm

ROA: Return on asset

ROE: Return on equity

SIZE: Firm size

TANG: Tangibility of fixed asset

CHAPTER ONE

INTRODUCTION

This is an introduction chapter. The chapter includes sections on background of the study, statement of the problem, objective of the study, significance of the study, and scope of the study.

1.1. Background of the Study

Capital structure decisions are important for business organizations. In competitive environments, capital structure decisions become more salient (Gill, Biger and Mathur,2011). Capital structure decisions are a mix of debt and equity. It refers to the mix of firms' long and short-term debts plus common and preferred equity. The debt-to-equity ratio would tell us about the risks of the company (Gharaibeh, 2015).

Capital structure decisions, i.e. the debt-to-equity ratio, determine the financial performances/ profitability of the firm. Financial performance is used to see the financial health of the company for a shorter period (Gharaibeh, 2015).

Research works revealed that capital structure and financial performance are important gradients of insurance companies for they were found to increase the companies' values (Ayuba, Bambale, Ibrahim and Sulaiman, 2019).

The issue of capital structure and its relationship with a firm's performance are important issues in accounting and corporate finance literature (Al-Taani, 2013a). Studies examined the association between capital structure and financial performance thereby comes up with varied or mixed results as, for example, some found positive (e.g. Gharaibeh, 2015; and Al-taani, 2013b) others found negative (e.g. Nassar, 2016; and Biritu, 2016), and some others revealed that no relationship exists between capital structure and the performance of the firm.

Some found a positive relationship between capital structure and financial performance. For example, Gharaibeh (2015) conducted a study on 17 non-financial institutions in Bahrain. In that study, it was found that capital structure has a positive effect over the institutions' performance when performance was measured using ROE (Return on Equity) but the capital structure was found to have no significant effect on performance when performance was measured using ROA (Return on Asset), EPS (Earning Per Share), and DYIELD (dividend yield).

Gill and colleagues conducted (2011) a study among 272 American firms in the service and manufacturing sectors. Financial performance/profitability in that study was measured using ROE and capital structure was found to be positively associated with profitability.

Positive association between capital structure and financial performance is also found in the banking industry. Al-Taani (2013b) conducted a study among 12 commercial banks in Jordan. Capital structure measured by total debt was found to be positively associated with the banks' financial performance which was measured by net profit, return on capital employed, and net interest margin.

On the other hand, the study depicted that capital structure, measured by total debt, has insignificant relationship with banking performance when performance is measured by return on equity (Al-Tanni , 2013b).

Other Studies, (e.g.Nassar, 2016 and Biritu, 2016), found negative relationships between capital structure and financial performance. For example, the study by Nassar (2016) examined the association between capital structure and financial performance among 136 industries in Turkey. In that particular study, it was depicted that capital structure affects financial performance negatively. In other words, a negative association was found between the two variables.

Negative association between capital structure and financial performance is also reported from a study among Banks in Ethiopia (Birru, 2016). In the study, financial performance was measured

using ROA and ROE while debt ratio, debt to equity ratio, loan to debt, bank's size, and asset tangibility were used as measures of capital structure. It was then found that both ROA and ROE were significantly and negatively related to capital structure measures.

Besides the positive and negative associations, mixed results have also been reported from other researches, (e.g. Mouna, Jianmu, Havidz, and Ali,2017). These researchers examined the association of capital structure and financial performance of 53 companies in Morocco. The researchers used debt ratio, debt-equity ratio, and size as measures of capital structure while they used ROE and ROA as measures of financial performance. They then found that size has a positive impact on ROE, the debt-equity ratio has a negative impact on ROE, and debt ratio has a negative impact on ROA.

Serious scrutiny of the above studies depicted that the association of the two variables is dependent on the type of firms the studies allude to. A study among different institutes in the financial sector in Indonesia (Saputra, NoarAzamAchesani, and Annggraeni, 2015) revealed that the effect of capital structure over financial performance is dependent on the type of sector/subsector. Specifically, it was revealed that capital structure has a positive effect on financial performance in the banking and insurance subsectors while capital structure has a negative effective effect on financial performances of security and funding companies.

All in all, it can be argued that the effect of capital structure over financial performance is dependent on the type of sector the studies were conducted. Hence, it is imperative to examine the effect of capital structure on financial performance in the insurance industry. Doing so will help us identify important capital structure components that are crucial to the better financial performance of insurance companies.

1.2. Statement of the Problem

In the developed world several research works were conducted over the association between capital structure and financial performances (Gharaibeh, 2015). Besides, most of the studies on the association of capital structure and financial performance are conducted among the Insurance industry (Gill et al., 2011).

There are scarcities of studies in the insurance subsector in general and among Ethiopian insurance companies in particular (Kindie, 2013).

A critical examination of the available studies (e.g. Getahun, 2016; and Guruswamy and Marew, 2017) on Ethiopian insurance companies would inform us that there are at least three research gaps that need to be filled. The first one is related to measures used to determine insurance companies' financial performance. Nassar (2016) argues that in different corners of the globe several variables are used to measure financial performance. While this is the fact on the ground, the Ethiopian studies dwell on one or two measures. For instance, Getahun (2016) has examined the association between capital structure and financial performance. In that study capital structure and financial performance were found to have a positive relationship. However, the study used return on asset (ROA) as the only measure for financial performance. Likewise, the study by Guruswamy and Marew (2017) used ROA as a single measure of financial performance. This happened while studies in other countries used a host of financial performance measures including return on equity, return on investment, etc. For example, the study among 27 insurance companies in Nigeria (Ayuba et al., 2019) used Return on Capital Employed (ROCE), ROA, and ROE as measures of financial performance.

The second research gap is related to the periods. Studies on insurance companies collect data for shorter periods. For example, the study by Kindie (2013) used data over a period of seven years.

The other limitation of these studies in Ethiopia is related to the type of companies they included. The studies so far included privately-owned insurance companies. The study by Getahun (2016) is a good example here where the researcher collected data from 9 privately owned insurance companies.

Generally speaking a critical look into the above-mentioned studies implied that the studies so far (a) measured financial performance from a narrow point of view; (b) focused on private insurance companies, and (c) used data for a shorter period. These call upon a study that will fill the gaps identified. Therefore, the present study tried to fill the above stated three gaps by focusing over the effects of capital structure on financial performance among all insurance companies in Ethiopia using ten-year data (2008 – 2017).

1.3. Objectives of the study

The very objective of the present study is to investigate the effects of capital structure on financial performance among insurance companies in Ethiopia. Specifically, the study will try to:

- Identify the capital structure determinants in the insurance industry of Ethiopia.
- Assess the association between capital structure components and financial performance among insurance companies in Ethiopia.
- Examine the predictive ability of capital structure over financial performances of insurance companies in Ethiopia.

1.4. Significance of the study

The present study will have practical and theoretical significance. Let us begin with its practical contributions. Insurance shareholders, the board of directors, managers, investors, policymakers, and other stakeholders will always want to know the best mix of debt and equity (capital

structure) that would improve the financial performance of their firm. Therefore, the present study would give insights over the types of mixes that will result in better performances.

In line with the above claim, managers need to know which financial decisions result in better financial performance. Thus, the findings of the study would benefit insurance managers.

The findings of the present study will also benefit investors who planned to invest in the insurance industry want to know about the decisions made by insurance companies and the results they have achieved because of their decisions. This is so because the debt-to-equity ratio (i.e. capital structure) would tell us about the risks of the company (Gharaibeh, 2015).

Besides the practical contributions mentioned above, the present study has a theoretical contribution. There are a host of theoretical models on capital structure. The present study, therefore, will identify the best fit theoretical model for the Ethiopian insurance industry.

1.5. Scope of the study

The scope of the study is delimited in terms of variables, including companies considered and the time period of the collected data

In terms of variables, the present study is determined to capital structure and financial performance. Capital structure serves as the independent variable and is measured using size, Tangibility, Liquidity and Growth; the dependent variable in the present study is financial performance is measured using ROA and ROE.

With regards to companies included the present study is delimited to government and private insurance companies. Besides, data about insurance companies is delimited to 10 years.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

In this section literature concerning the aim of the study is thoroughly expounded. In doing so pieces of many researchers are going to be discussed about the intended purpose of the study i.e. examining the effects of capital structure on financial performance. The first section will present major theories related with capital structure. The second section alludes to the determinants of capital structure. Empirical studies related with insurance companies will be discussed in the third section of the chapter. The last section of the chapter will present findings of Ethiopian studies that are related with capital structure and financial performances

2.1. Capital structure theories

Capital structure refers to the way a firm finances its assets through some combination of equity and debt. A firm's capital structure is the composition of structure of its liabilities. Capital structure theory is one of the most important issues in the corporate finance literature. In the literature of capital structure, there are a host of theories and for the sake of this study four main important theories are included: Modigliani and Miller theory, Trade of theory, Packing-order theory, and Agency cost theory

2.1.1. Modigliani Miller theorem

Modigliani and Miller (1958) are scholars who proposed the first capital structure theory. In doing so Modigliani and Miller assumed a perfect market. For them, the perfect market is based on five assumptions. The assumptions are; a) Firms with the same degree of business risk are in homogenous risk call; b) Investors have homogenous expectations about future corporate

earnings and their levels of riskiness; c) securities are traded in perfect capital markets; d) Interest rate on debt is the risk-free rate, and e) All cash flowers are perpetuities.

According to the Modigliani-Miller theorem, in a perfect capital market (no transaction or bankruptcy costs; perfect information); firms and individuals can borrow at the same interest rate; no taxes; and investment decisions aren't affected by financing decisions. Under these conditions, Modigliani and Miller have made two findings. Their first ' proposition' stated that the cost of equity for a leveraged firm is equal to the cost of equity for an unleveraged firm, plus an added premium for financial risk. That is, as leverage increases, while the burden of individual risks is shifted between different investor classes, total risk is conserved and hence no extra value is created. Under a classical tax system, the tax-deductibility of interest makes debt financing worthwhile; and the cost of capital decreases as the proportion of debt in the capital structure increases. The optimal structure would be to have virtually no equity at all. However, there is no such perfect market in the real world. Under this situation, capital structure is necessary when scrutinizing a company's performance from a finance perspective.

Later on, Modigliani and Miller reviewed their position by incorporating tax benefits as determinants of the capital structure of firms. Interest is a tax-deductible expense which is the key feature of taxation. A firm that pays taxes receives a partially offsetting interest "tax shield" in the form of lower taxes paid. Hence, Modigliani and Miller (1963) proposed to use as much debt capital as possible to increase profitability and hence maximize the value of firms.

2.1.2. Trade-off theory

Trade-off theory assumes that there are benefits and costs associated with the use of debt as against equity and firms, thus chose an optimal capital structure that trades off marginal benefits and costs of debt. In the beginning, the theory was limited to the trade-off between the tax

advantages of debt against the bankruptcy costs. Then it had been extended to incorporate benefits and costs related to the use of debt in mitigating the conflicts among the agent groups associated firm (i.e. Managers, equity-holders, and debt-holders).

Trade-off theory grew out of the debate over the Modigliani-Miller theorem. When corporate income tax was added to the original irrelevance, this created a benefit for debt therein served to shield earnings from taxes. Since the firm's objective function is linear, and there is no offsetting cost of debt, this implied 100% debt financing.

Trade-off theory concerns the bankruptcy cost, it states that there is an advantage to financing with debt, the tax benefit of debt and there is a cost of financing with debt, the bankruptcy costs of debt. As the marginal cost increases a firm that is optimizing its overall value will focus on this trade-off .when choosing how much debt and equity to use for financing. While the marginal benefit of further increases in debt declines as debt increases, thus, as a result, debt-to-equity ratio is affected. In addition, the debt-to-equity ratio varies among industries and also depends on industrial characteristics.

The trade-off theory argues that firms generally prefer debt for tax considerations. And therefore, Profitable firms would employ more debt because increased leverage would increase the value of their debt tax shield (Myers,1984). It states also that firms seek debt levels that balance the tax advantage of additional debt against the cost of possible financial distress. Apart from the tax advantage of debt, agency and bankruptcy costs may encourage highly profitable firms to have more debt in their capital structure. This is because highly profitable firms are less likely to be subject to bankruptcy risk because of their increased ability to meet debt repayment obligations. Thus, they will demand more debt to maximize their tax shield at more attractive costs of debt. For these considerations, the trade-off theory predicts a positive relationship between leverage and profitability.

From the insurance perspective, the theory's focus is on the costs and benefits of leverage and weighs them against each other. The fact that insurance policies can lead to underwriting profit is an important benefit in comparison with equity capital. Plus, the tax shelter provided by increased leverage applies to insure liabilities as well. Playing out claims or reserving funds for future claim settlements reduces the taxable profit. Furthermore, an additional benefit of the increased use of policies as a source of funding is that this way the insurer can exploit the law of large numbers to a greater extent and that it can further diversify its risks.

2.1.3. Pecking-order theory

The so-called pecking-order theory or pecking-order hypothesis was developed by Stewart Myers in 1984, as a way of describing the corporate finance behavior that he has observed, and based on that he pointed out three major points that corporate finance managers tend to adhere to and that is highly relevant for capital structure choices.

The pecking order theory of Myers & Majiluf (1984) argues on the contrary of static trade-off theory. It advocates also that the firm will borrow, rather than issuing equity when internal cash flows is not sufficient to fund capital expenditures. Thus the amount of debt will reflect the firm's cumulative need for external funds. It concludes a negative association between leverage and profitability because high profitable firms will be able to generate more capital through retained earnings and then have less leverage. Therefore, it is expected that there is a negative relationship between leverage and profitability ratio.

For pecking order theory, due to the information asymmetric, companies prioritize their source of financing (from internal financing to equity) according to the law of least effort, or of least resistance, preferring to raise equity as a financing means " of last resort". Hence internal funds are used first, then the debt is issued, equity is issued as the last step.

The pecking order theory is based on two assumptions. Firstly, that firms' managers have asymmetric information relative to external investors. This is because managers have more knowledge of profitability and growth opportunity of the firm. Secondly, firms' "managers" make decisions that are best for existing shareholders. As a result, a new equity issue is not favored in seizing investment opportunities. This is because the return from investment opportunities will be split between new shareholders at the expense of old shareholders. As a result, the market would react negatively to a new equity issue that would be reflected in falling stock price for the firm.

The following are Myers' three points:

1) Managers want to maintain stable shareholder dividends over time, despite possible fluctuations in earnings, stock prices, or investment opportunities.

2) Mangers prefer internal financing compared to external financing, i.e. funds which are raised through the issuing of either new debt or equity shares.

3) If external financing is necessary, managers opt for the least risky option first and so on. Myers ranks different securities based on their perceived riskiness, with going from straight debt on one end of the spectrum, through common stock on the other end.

The pecking order theory concerns the analysis of asymmetric information. Thus, in order to properly apply this theory, insurers have to take into account both premiums from policyholders and funds obtained through other liabilities are forms of external financing. In this aspect, the pecking order theory shows us that internal funds are less expensive than external premium financing because external parties do not have full knowledge about the insurer's situation. Specifically, potential policyholders are uncertain about the future ability of the insurer to cover their claims. As outsiders, it is generally very difficult for them to judge the adequacy of the

technical provisions and the capital buffer. Policyholders usually lack the technical knowledge of calculated risks of the company and insurers do not disclose detailed information about the risks they are covering (Cheng and Weiss, 2012).

Insurance liabilities have legal priority over debt. In case of liquidation or bankruptcy, the debt will only be paid after all insurance liabilities have been settled. As a result, investors holding debt should be more interested in the fundamental value of the insurer than policyholders. because of their greater sensitivity to inside information. Because of their greater sensitivity to inside information, the pecking order theory would thus state that debt instruments are more expensive sources of funds than insurance policies.

Another possibility to gain financing for stock insurers is issuing new shares. However, according to the pecking order theory, as the residual nature of equity holders' claims results in the largest information sensitivity, insurers would prefer the previous two possibilities, (Miller, 1989).

2.1.4. Agency Cost Theory

The agency cost theory was found by Jencen and Mackling (1976), subsequently define the agency relationship inside the firm as: "A contract under which one or more person, “the principal”, engages another person, “the agent”, to perform some service which involves delegating some decision making authority to the agent on their behalf. In accordance with the agency theory, the way of professional management style, which is the separation of ownership and management may result from agency conflicts that are caused by indulging in perquisites, choosing inputs or outputs according to one’s preferences, and insufficient work effort of managers, Due to these reasons, a firm may fail to maximize its value. Conversely, with these reasons, one can maximize his/her wealth and utility (Berger & Bonaccorsidipatti, 2006).

However, the theory suggests that choosing the best/optimal capital structure may mitigate agency conflicts and decrease agency costs. Therefore, according to the theory, a high leverage/debt ratio helps a firm to reduce its agency cost and mitigate agency conflicts. This debt ratio also encourages managers to do more for the benefit of shareholders. As a result, the firm's value increases.

Agency theory is focused on the costs which are created due to conflicts of interest between shareholders, managers, and debt holders. Harris &Raviv (1991) explained the three types of agency costs which can help explain the relevance of capital structure as follows; Asset substitution effect: As D/E increases, management's incentive to undertake risky (even negative NPV) projects increased. Hence if the project is successful, shareholders get all the upside, and if it is unsuccessful, debt holders get all the downside. If the projects are undertaken, there is a chance of firm value decreasing and a wealth transfer from debt holders to shareholders.

2.2. Determinants of Capital structure

National and international studies attempted to identify determinants of capital structure. The studies reviewed to come up with several capital structure determinant factors. However, hereunder factors related with the objectives of the present study are presented.

2.2.1. Size of a firm

The firm's size has been recognized to be one of the vital determining factors of firm's capital structure or leverage, the bigger the firm in terms of sales or turnover, the more debt it will use. This is, because, larger companies have more business segments or streams of income and therefore experience lower fluctuations of income, causing them to be capable of tolerating high debt ratios. External fund providers generally prefer to give credit to bigger firms because; these bigger companies are seen to have lower business or operational risk. In addition to that, with

increasing levels of turnover which can be translated into profit, repayment or servicing of loans and interest should not be a challenge. However, smaller firms generally find it more expensive to deal with issues with asymmetric information with external fund providers, thus constraining their capability to take external credit for their business (Oppong-Boakye et al., 2013).

Empirical evidence also revealed firm size as having positive effect over the financial performances of insurance companies (e.g. Malik, 2011; Saputra et al., 2015; AlAli et al., 2018). Studies among insurance companies in Ethiopia replicated this finding (e.g. Solomon, 2012; Regasa, 2014; Getahun, 2016).

2.2.2. Growth

According to the pecking order theory, developing firms may utilize retain earnings to bolster the growth or developmental activities of the firm, in the short term. Nonetheless, pressure on the retain earnings would imply that the firm has to look out for external funds to finance its growth as the internally generated funds get depleted. Research findings relating to the linkage that exists between leverage and chances for growth appear mixed. Myers (1977) and Auerbach (1985) contended that leverage is negatively linked to growth rate, for the advantage gained from the tax-deductibility of finance cost is of less value to fast-growing companies as they normally do not have any tax shields.

Empirically Oppong- Boakye et al, (2013) also found a negative correlation between growth and debt. However, Tornyiva (2013) found a positive relationship between growth and leverage in the insurance industry of Ghana and concluded that the growing insurance companies depend more on debt to finance their growth. In Ethiopia Kinde (2013) and Amanuel (2011) empirically found a significant positive relationship between the growth opportunity and the level of leverage.

2.2.3. Tangibility

Tangibility refers to the appearance of equipment, physical facilities, personnel, and communication materials. The past literature has evidenced the importance of the type of assets owned by a firm as it affects the firm's capital structure choice. If a company has more tangible assets in its composition of total assets, it has a higher capacity to raise debt on the collateral argument. Most of the empirical studies evidenced a positive influence of asset tangibility on leverage. Booth et al. (2001) state: "The more tangible the firm's assets refer the greater its ability to issue secured debt and the less information revealed about future profits." So that, positive relation between tangibility and leverage is predicted.

Empirical pieces of evidence elsewhere depicted the positive contribution of tangibility on financial performance. For example, a study was conducted among insurance companies listed in stock exchange markets of Kuwait (AlAli et al., 2018). In that study, tangibility was found to have statistically significant contribution towards the profitability of the insurance companies.

On the other hand, tangibility was also found to have negative and significant contribution in a study among insurance companies in Ghana (Antwi and Lartey, 2013).

In Ethiopia Birru (2016) has found a positive relationship between asset tangibility and capital structure of Banks. Although the result shows statically insignificant, Kinde (2013) also found negative relationship between asset tangibility and capital structure.

2.2.4. Liquidity

Liquidity refers to as the ratio of current assets over current liabilities. Pecking order theory and Trade-off theory have two complementary views about the relationship between liquidity and debt ratio (leverage ratio). According to Pecking Order theory, the more liquid firm would use

first its internal funds and would decrease the level of external financing, resulting in negative relation between liquidity and leverage. Trade-off theory, on the other hand, assumes that, the more liquid firm would use external financing due to their ability to pay back liabilities and to get the benefit of tax shields, resulting in positive relationship between liquidity and leverage.

For insurance companies, Liquidity shows the ability of insurers to pay current liabilities, for payment of compensation in case of damage, or for those which have the nature of operating expenses. For the insurer, primary sources of liquidity are cash flow from net premiums, liquidation of assets, and investment returns (Chen and Wong, 2004).

Most studies in this field treat liquidity as a factor affecting profitability, represented by the current ratio (current assets / current liabilities)., The results of different studies have been different regarding the relationship between liquidity and profitability of insurance companies. Some studies have concluded that there is a statistically insignificant link between liquidity and profitability for insurance companies (e.g. Naveed, Zulfqar and Ahmad, 2011; AlAli et al., 2018) while other studies suggest that there are statistically significant negative links between liquidity and profitability of the insurer (e.g. Chen and Wong, 2004).

Like the diverse global findings, Studies in Ethiopia among insurance companies reported diverse results. Kinde (2013) found a significant positive relationship between liquidity and leverage while Regasa (2011) found negative relationship between leverage and liquidity in Ethiopian Insurance companies' capital structure. On the other, handGetahun (2016) found no significant association between liquidity and financial performance of insurance companies in Ethiopia.

2.3. Empirical studies on insurance companies

The effects of capital structure variables over the financial performances of insurance companies are examined in different corners of the globe. However, diversified, sometimes contradictory, results are reported from these studies implying that there are difficulties in making conclusive remarks. Moreover, the studies employed different measuring tools to assess capital structure and financial performance variables. The studies presented below would show the essence of the claims above and let's begin with an African study.

In Zimbabwe, Mazviona, Dube, and Sakahuhwa (2017) studied the factors that affect the performance of insurance companies in Zimbabwe in a sample of 20 insurance companies. They used nine independent variables namely leverage, growth, expense ratio, inflation, retention, size, liquidity, equity, and claims ratio. Using multiple linear regression and factor analysis on the panel data, they found that expense ratio, claims ratio, retention ratio, size of company, and liquidity has a positive significant effect on the profitability of the insurance companies while equity capital has a negative significant effect on the profitability of insurance companies.

Kripa and Ajasllari (2016) studied the factors that affect the profitability of insurance companies in Albania using sample of 7 insurance firms by applying a descriptive and correlation analysis, where they chose six independent variables namely fixed assets, liability, liquidity, growth rate, size, volume of capital and investigate their effect on the dependent variable (Return on Assets). The study found that liabilities, liquidity, and fixed assets are negatively related to profitability while growth rate is positively associated with profitability.

in addition to a risk variable, Boadi, Antwi and Lartey (2013) studied on the determinants of profitability of insurance firms in Ghana by taking sample of 16 insurance companies in Ghana using the same independent variables of Kripa and Ajasllari study. They found that tangibility

has a negative relationship whereas there is a positive relationship between leverage and liquidity, from one side, and profitability of insurance firms in Ghana, from the other.

A study by Almajali, Alamro and AlSoub (2012) aimed to investigate the factors that mostly affect financial performance of Jordanian Insurance Companies by studying a sample of twenty-five insurance companies listed in Amman Stock Exchange. This study used five independent variables (size, age of company, liquidity, leverage, management competence index) and investigate their effect on the dependent variable, return on assets, using multiple regression analysis. They found that leverage, liquidity, size, and management competence index have a positive effect on the financial performance of Jordanian Insurance Companies.

Malik (2011) disclosed slightly different results. He studied the effect of five determinants (size, age of company, capital, leverage, and loss ratio on the return on assets. He used data of 35 listed life and non-life insurance companies in Pakistan. He found significant positive association between size and capital of the company and profitability and no relationship between profitability and age of the company while loss ratio and leverage ratio exhibited a negative relationship with profitability.

2.4. Empirical studies in Ethiopia

In Ethiopia there are few numbers of studies over the effect of capital structure and financial performance and the studies are conducted among institutions in both financial and non-financial sectors.

When we see the studies among non-financial institutions, Amanuel (2011) in the case of manufacturing share companies of Addis Ababa city; regressed firm's profitability, earnings volatility, age, size, tangibility, growth, and non-debt tax shields against leverage as measured by total debt, long term debt and short term debt ratios over the period of seven years from 2004-

2010. From his regression results; he concluded that firm's growth and age had no statistically significant impact on leverage in any of the three capital structure models whereas; tangibility, non-debt tax shields, earning volatility, profitability, and size of the firm were the significant determinants of capital structure for Addis Ababa manufacturing share companies. Specifically, he found that tangibility, profitability, earnings volatility, and non-debt tax shields have a significant positive relationship with leverage; whereas size appears a significant and positive relationship with total debt ratio.

Usman (2013), for his study in case of large taxpayer share companies in Ethiopia for the study period of 2006-2011 used explanatory variables of age, size, growth, profitability, tangibility, liquidity, non-debt tax shield, dividend payout ratio, and earnings volatility then regressed them against the dependent variable of leverage as represented by long term debt ratio. Usman (2013) 26 found that size, age, tangibility, liquidity, and non-debt tax shield of a firm were positively associated with leverage whereas; profitability, earnings volatility, and dividend payout ratio established an inverse relation with leverage. Moreover, he revealed that among the regressed variables, only growth opportunity variable was statistically insignificant in affecting capital structure of large taxpayer share companies in Ethiopia, by suggesting Agency cost theory is a more relevant theory for the sector.

Netsanet, (2012) conducted a study among construction companies in Addis Ababa. He found that the variables including tangibility, growth opportunity and non-debt tax shield positively affect the capital structure of construction companies. On the other hand, Profitability, size, earning volatility, liquidity and age are inversely Affect their capital structure.

In the case of the Ethiopian banking sector, Another study by Shibru (2012) examined the impact of firm-specific factors of growth, profitability, liquidity, tangibility, risk, and size on leverage as measured by total debt ratio by using twelve years of data from 2000-2011. He found that firm

size, profitability, asset tangibility, and liquidity were important determinants of capital structure for Ethiopian banks by suggesting pecking order theory as a pertinent theory for the sector. However, business risk and growth opportunity variables were found to have no influence on capital structure of banks in Ethiopia. Specifically, Shibru (2012) also revealed that only firm size positively significant relationship with the dependent variable while liquidity, profitability and tangibility appeared a significant negative relationship with leverage. There were only very few recent studies done on capital structure of insurance companies of Ethiopia. Kindie (2013) examined the role of firm-specific factors in determining a firm's capital structure. He made an empirical assessment selected nine Insurance Companies operating in Ethiopia for the study period from 2004 to 2010. The study intended to search for the specific factors that determine capital structure in the case of the insurance industry in Ethiopia. Regression analysis techniques were used using Panel data model with OLS. The study found that profitability, growth, business risk, and age of the firms are significant variables in explaining the capital structure pattern of those insurance companies included in the sample.

Solomon (2012) conducted a study in the case of the Ethiopian insurance sector on firm-specific factors of size, growth, profitability, liquidity, business risk, non-debt tax shield, dividend pay-out, firm age, and tangibility as independent variables and regressed them against the dependent variable of leverage as measured by total debt ratio over the period of eight years from 2003-2010. His study revealed that factors of profitability, liquidity, tangibility, firm age and dividend pay-out had no significant relationship with capital structure of firms in the Ethiopian insurance sector while size, growth, business risk, and non-debt tax shield have a significant direct impact on leverage of insurance companies in Ethiopia.

2.5. Conceptual framework of the study

Based on the literature allude to, the researcher developed the following conceptual framework to guide the study.

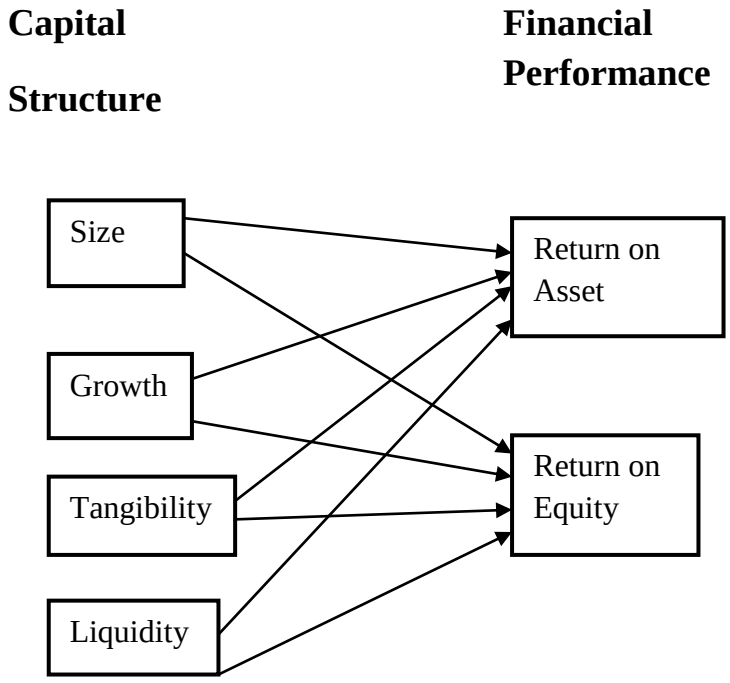


Figure 1: Pictorial presentation of the Conceptual Framework of the study

(Source: developed by the researcher)

As can be seen from the pictorial presentation, it is assumed that capital structure influences financial performance. Size, growth, tangibility, and liquidity were taken as capital structure components while return on asset and return on equity are considered as financial performance components. Therefore, size, growth, tangibility, and liquidity are assumed to influence both return on asset and return on equity.

CHAPTER THREE

METHODOLOGY OF THE STUDY

This chapter will present the methodological rigors that were used in the present study.

3.1. Research Design

In order, for the stated objectives to be fully achieved, the explanatory research design was used. The explanatory research design was used since it is the most appropriate to the study as it is used in studies that seek to analyze causal relationships between variables.

Furthermore, this study was employed a descriptive survey research design.

3.2. Variables of the study

3.2.1. Independent Variables

Capital structure served as the independent variable of the present study. According to a report from the National Bank of Ethiopia (Biritu, 2018), asset tangibility, growth, liquidity, and size of the firm are significant variables in the Ethiopian insurance industry. Hence, in the present study growth opportunities, firm's size, liquidity, and asset tangibility were used as measures of capital structure.

3.2.2. Dependent variable

Studies in different parts of the globe used different measures of firm financial performance. Some used market performance measures while others used accounting measures. This study adopted the two accounting-based measures of performance: return on assets (ROA) and return on equity (ROE).

ROA measures the overall effectiveness of management in generating profits with its available assets. ROA is a measure that is commonly used to measure the profitability of a firm's performance.

Return on equity (ROE) is an alternative measure of overall insurance performance and is a common measure of the return to shareholders from the investments made in the firm.

3.3. Data Type and Source

The study used panel data collected annually, that is, on the financial year-end of each insurance company. A cross-section of all companies followed over 10 years from 2008 to 2017. These kinds of data are referred to as panel data. Panel data, also known as longitudinal or cross-sectional time-series data, is a data set in which the behavior of entities is observed across time (Stock and Watson, 2003).

In the Ethiopian context, panel data obtained mainly from the insurances financial statements, annual reports, and the National Bank of Ethiopia. The research utilized secondary data because it is the most appropriate for this study since much of the information needed to answer the research questions are published in insurances' annual performance and the National Bank of Ethiopia. Using secondary data has its own advantage. It includes higher quality data compared to primary data which researchers collect by themselves (Stewart & Kamins,1993).

Data were collected during the peak CoViD-19 pandemic where travel restrictions were imposed. At that time, data collection requests couldn't be taken from Addis Ababa University. Therefore, the requested data was requested using personal contact in the National Bank of Ethiopia (NBE). The personal contact gave the email address of the insurance directorate office personnel at NBE. The email request was made to the personnel. The office personnel email back with a compiled data in an excel sheet that includes balance sheet statements and income

statements of all insurance companies. The excel sheet holds data collected from 2007 to 2017 from all insurance companies.

3.4. Methods of Data Analysis

For the purpose of analyzing the data, appropriate descriptive and inferential statistical tools were employed. Detailed descriptions of the tools used are presented below.

Descriptive statistics were computed to describe the data. Specifically, no observations, mean, standard deviation, minimum, and maximum scores for each variable were computed.

The association among ROA, ROE, size, tangibility, liquidity, and growth were computed using Pearson's product momentum correlation. Before the correlation analysis, bivate assumptions were checked. In doing so, assumptions of linearity and homoscedasticity were checked using scatter plots.

Multiple linear regressions were used to investigate the effects of capital structure over financial performance measured by ROA and ROE. To reveal the effects of capital structure over insurances' performance, the fixed effects regression model is also used as a method of data analysis since this study is based on panel data. There are different models, that can be used to analyze panel data and these include fixed effects and random-effects model. In this study, the fixed effect regression model was used to analyze the panel data collected as it is assumed that the individual-specific effects are correlated with independent variables, unlike the random effects model which assumes that the individual-specific effects are uncorrelated with the independent variables. The regression analyses are computed used based on the model specified in the next section.

Before the regression analyses, assumptions of multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals were checked. Tolerance and variation inflation

factor (VIF) was used to check multicollinearity assumptions. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. VIF is just the inverse of the Tolerance value. Histograms and the Normal Probability Plot (P- P) of the Regression Standardized Residual were used to check assumptions of normality. Assumptions of outliers, linearity, homoscedasticity, and independence of residuals were checked using scatter plots.

Data secured for the present study was compiled, Sorted, edited, classified, coded, and analyzed using SPSS version 23.

3.5. Model specifications

To examine the effects of capital structure on the financial performance of insurance companies in the Ethiopian insurance industry, the researcher adopted a modified model. The model is developed based on the conceptual framework presented in chapter two. The modified model expressed as follows:

$Y^{it} = \beta 0 + \beta Xit + \mu$

Where::

$Y^{it}$is dependent variable,

β0 is the intercept (constant variable),

Xit is independent variable,

μ are the error terms,

i is the number of firms and

t is the number of time period.

t is the number of time period.

$FPit = \beta 0 + \beta 1TANGit + \beta 2GRT\ it + \beta 3SIZE\ it + \beta 4LQit + U$

Where: FP = Financial performance

B0= constant coefficient

β1, β2, β3, and β4 = regression coefficients for measuring independent variables

SIZE = firm size

TANG = tangibility of fixed asset

GRT = Growth

LQ = liquidity of the firm

i = no of insurance companies

t = time period

U = Error term

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter presents the analysis and interpretation of the secondary data. In doing so results of the study are presented first and the second section presents the discussions of the results in line with the literature consulted.

4.1. Results

Hereunder are the results of the study.

4.1.1. Description of Variables

For the purpose of describing the collected data descriptive statistics were computed. The summaries of the computations are presented in Table 1 below.

Table 1

Descriptive Statistics of Dependent and Independent Variable.

Variable	N	Minimum	Maximum	Mean	Std Deviation
ROA	100	-.28	.37	.0785	.06152
ROE	100	-.39	8.55	1.0579	1.29762
Liquidity	100	.26	1.63	.9777	.20950
Tangibility	100	.04	.54	.1882	.11923
Log of Size	100	16.96	21.93	19.5855	1.00875
Growth	100	-.31	.55	.3150	.19937

Source: Data collected from National Bank of Ethiopia, 2020

Table 1 shows descriptive statistics results of dependent and independent variables. The total observation of this study was 100. As can be seen from table 1 the mean value of return on asset (ROA) as 0.79 with a standard deviation of 0.062. The minimum and maximum score of return on equity (ROE) were -0.39 and 8.88 respectively which indicates a very high range (8.94) between the maximum and minimum score of return on equity. The mean score of return on equity was 1.06 with a standard deviation of 1.30. Similarly, we can also observe a high range (4.97) between the maximum and minimum score of size with an average deviation of 1.01 from the mean score of 19.59. Regarding Growth, the mean score was 0.31 and the standard deviation was 0.19. Finally, the above table 1 also displays that the mean Liquidity and Tangibility of selected insurances was 0.98 and 0.189 with a standard deviation of 0.21 and 0.12 respectively.

4.1.2. Correlational Analysis

Assumptions of Linearity and Homoscedasticity

Linearity

If we look at the scatter plot we can draw a straight line through the main cluster of points. This suggests that we can assume that there is a linear relationship between ROA and independent variables (liquidity, tangibility, size, and growth) as well as ROE and independent variables (liquidity, tangibility, size, and growth). Look at Appendix I.

Homoscedasticity

By looking at the shape of the scatter plot, we can inspect that the shape is even from one end to the other for ROA and ROE with independent variables (liquidity, tangibility, size, and growth), suggesting that the data does not violate the assumption of homoscedasticity. Look at Appendix II.

Table 2

Correlation between ROA and Independent Variables

	ROA	Liquidity	Tangibility	Log of Size	Growth
ROA	1	.176	-.169	.408**	.295**
Liquidity		1	-.611**	-.114	.095
Tangibility			1	-.184	-.099
Log of Size				1	-.102
Growth					1

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

Source: Data collected from National Bank of Ethiopia, 2020

Correlation analysis estimates the extent of the relationship between any pair of variables (Reimann, Filzmoser, Garrett, & dutter,2008). The correlation coefficient is measure of this relationship and depends on the variability of each of the two variables. Because of covariance, the correlation coefficient can take a number with + or – sign (Reimann et.al,2008). One of the widely- used methods to calculate a correlation coefficient is the Pearson product-moment correlation. This method results in the number between -1 and +1 that expresses how closely the two variables are related, $\pm$ shows a perfect 1:1 relationship (positive or negative), and 0 indicates that no systematic relationship exists between the two variables (Reimann et.al, 2008).

In relation to the magnitude of correlation coefficient, Cohen (1988) stated that a correlation coefficient between 0.10 to 0.29 can be considered as small or weak, from 0.30 to 0.49 medium, and from 0.50 to 1.00 large or strong.

Table 2 shows correlation between ROA and independent variables (Liquidity, Tangibility, Size, and Growth). Accordingly, as indicated in table 2, there was a statistically significant positive correlation between ROA and Size, ROA, and Growth. The correlation between ROA and Size

was moderate, r = 0.408, p < 0.01. Similarly, there was weak correlation between ROA and Growth, r = 0.295, p < 0.01. However, there was no statistically significant correlation between ROA with Tangibility and Liquidity.

Table 2 also shows correlation among independent variables. The only and strongest statistically significant correlation was between Liquidity and Tangibility, r = -0.611, p < 0.01. However, the correlations among the rest independent variables were not statistically significant.

Table 3

Correlation between ROE and Independent Variables

	ROE	Liquidity	Tangibility	Log of Size	Growth
ROE	1	.338**	-.103	.195	.095
Liquidity		1	-.611**	-.114	.095
Tangibility			1	-.184	-.099
Log of Size				1	-.102
Growth					1

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

Source: Data collected from National Bank of Ethiopia, 2020

Table 3 shows correlation between dependent (ROE) and independent variables (Liquidity, Tangibility, Size, and Growth). Consequently, as indicated in table 3, there was a statistically significant positive and moderate correlation between ROE and Liquidity, r = 0.338, p < 0.01. However, there was no statistically significant correlation between ROE with Tangibility, size, and Growth.

4.1.3. Multiple Linear Regressions ROA and ROE as Dependent Variables

Tests of assumptions for Multicolliniearity, Outliers, normality, linearity, homoscedasticity, independence of residuals.

Multicollinearity

As we have seen in the correlation table 2 and 3, the variables (Liquidity, Tangibility, size, and growth) have shown significant relationship with each other which was not too high. This shows that the assumption of multicollinearity was not violated for both ROA and ROE. In addition, the assumption of multicollinearity can also be assessed using SPSS as part of multiple regression procedure. In the collinearity statistics section, Tolerance and VIF values are given. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model and is calculated using the formula (1-R squared for each variable. If this value is small (less than 0.10) it indicates that the multiple correlations which other variables are high, suggesting the possibility of multicollinearity. In the present study, the tolerance value for each independent variable was not less than 0.10. therefore this also suggests that the assumption of multicollinearity was not violated (see table 4) the other value given in the VIF (Variance Inflation Factor), which is just the inverse of the Tolerance value. VIF values above 10 would indicate multicollinearity. Again in the present study, the VIF value was less than 10 for all independent variables (see table 4). This also indicates that the assumption of multicollinearity was not violated for both dependent variables of ROA and ROE.

Table 4

Collinearity Statistics Test of Independent Variables (ROA and ROE)

Variable	Collinearity Statistics	
	Tolerance	VIF
Liquidity	.574	1.743
Tangibility	.557	1.794
Log of Size	.872	1.147
Growth	.975	1.026

Homoscedasticity - " homogeneity of variance" assumption or homoscedasticity. It states that the variance of the variable, selected from independent samples, will be equal. In regression analysis, this assumption states that the variances of the Ys, for each X, will be equal. The standard suggestion for examining the assumption of Homoscedasticity in regression analysis is to plot the predicted Y values against the residual values. Heteroscedasticity is indicated when these values spread or fan out from left to right or right to left. The scatterplot shows that the points are connected around 0 which shows that no violation of homoscedasticity (see figure 2 for ROA and figure 5 for ROE).

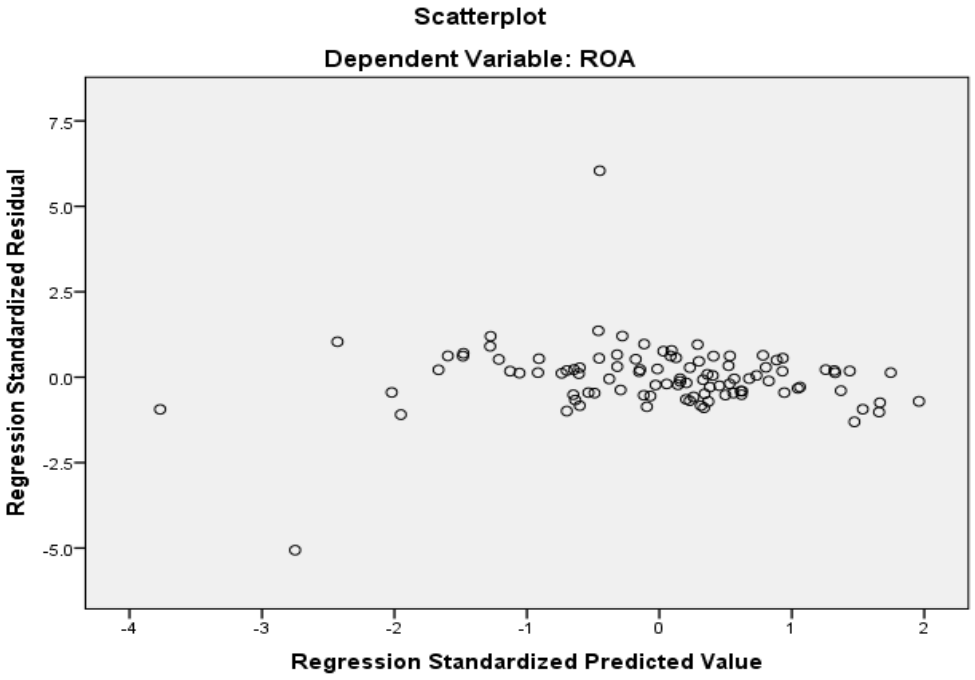


Figure 2: Scatterplot of ROA

Outliers and Independence of Residuals

The scatterplot of the standardized residuals was roughly rectangular with most of the scores concentrated in the center, along with line 0. This suggests no violation of the assumption of independence of residuals. Outliers can also be detected from the scatter plot of figure 2 for

ROAand figure 6 for ROE. From this scatter plot, we can find that there were no major outliners (see figure 2 for ROA and figure 6 for ROE)

Normality

These assumptions can be checked by inspecting the normal probability plot (P-P) of the Registration Standardized Residual and the Scatterplot shown as part of the analysis. If points lie in a reasonably straight diagonal line from the bottom left to the top right in the normal P-P plot, no major deviation from normality can be suggested. In the present study, we can easily inspect from the Normal P-P plot that points line in a reasonably straight diagonal line from bottom left to top right for all dependent variables (see figure 3). This suggests that the assumption of normality was not violated. Figure 3 for ROA and figure 6 for ROE also indicate that the majority of the scores of ROA and ROE were concentrated around the mean score which further confirms that the assumption of normality was not violated.

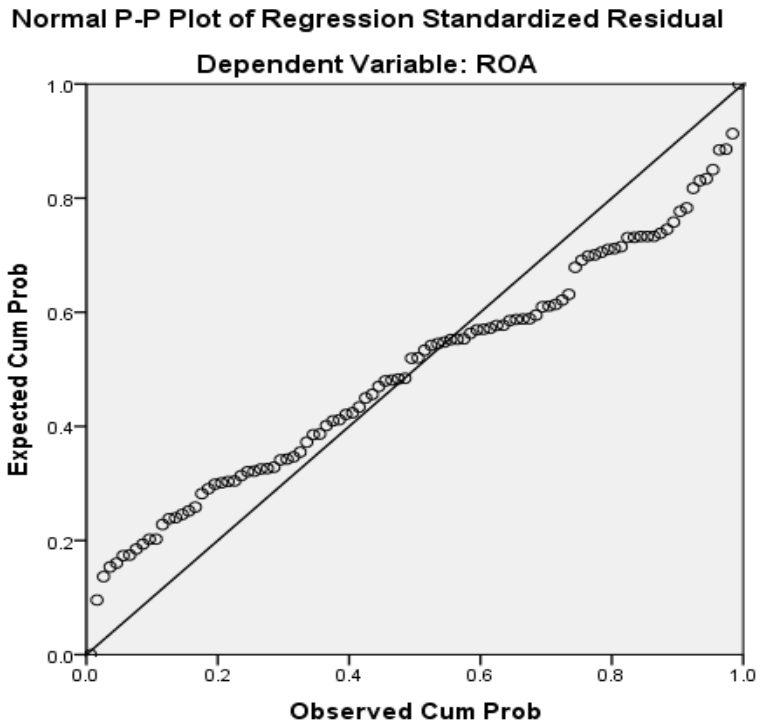


Figure 3 Normal P-P Plot of ROA

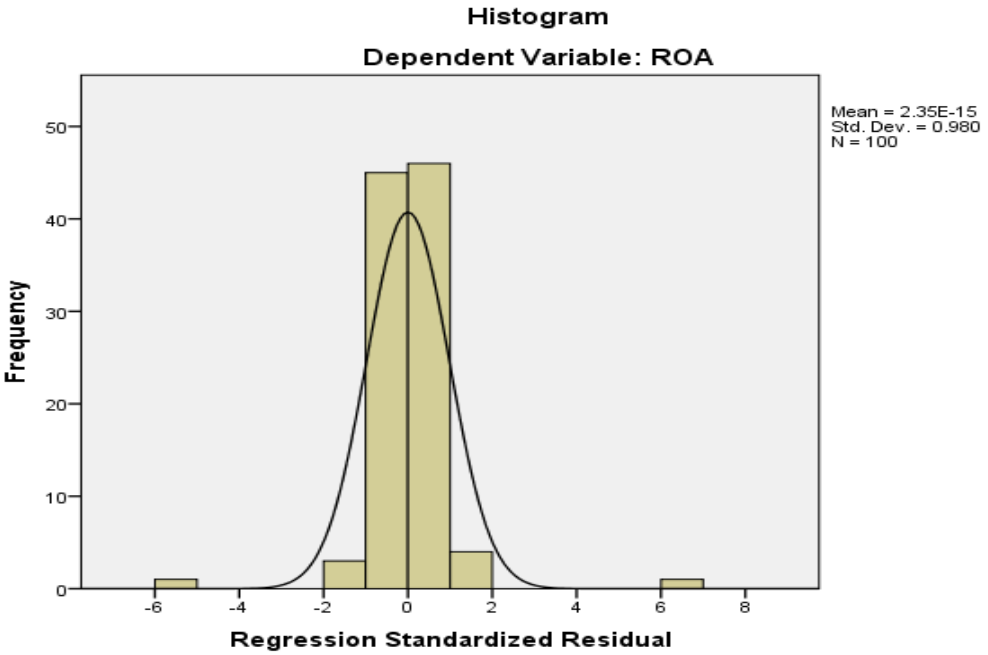


Figure 4 Histogram of ROA

Table 5

The influence of Independent Variables on the Dependent Variable (ROA): Model Summery

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.573[a]	.328	.300	.05147

a. Predictors: (Constant), Growth, Liquidity, Log of Size, Tangibility

b. Dependent Variable: ROA

As shown in table 5 the value of R square was 0.328. this value tells how much of the variance in the dependent variable (ROA) is explained by the model (Liquidity, Tangibility, size and Growth). In other words, multiplying R square value with 100, the model explains 32.8 of the variance in the dependent variable (ROA).

Table 6

Goodness of Fit- ANOVA Result

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	.123	4	0.31	11.603	.000[b]
Residual	.252	95	0.003		
Total	.375	99			

a. Dependent Variable: ROA

b. Predictors: (Constant), Growth, Liquidity, Log of Size, Tangibility

The goodness of fit results of linear multiple regression with ROA as the dependent variable and variables (Liquidity, Tangibility, Size, and Growth) as predictors are indicated in table 6. The model reveals a statistically significant relationship between ROA and predictor variables, $F(4,95) = 11.603$, $p < 0.001$. in other words, the model was significant.

Table 7

Regression coefficients of predictor variables in predicting the Dependent Variable, ROA

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.639	.127		-5.018	.000
Liquidity	.082	.033	.279	2.509	.014
Tangibility	.065	.058	.126	1.116	.267
Log o fSize	.030	.005	.497	5.515	.000
Growth	.102	.026	.332	3.895	.000

a. Dependent Variable: ROA

In order to assess the effect/influence of the predictor variables such as Liquidity, Tangibility, size, and Growth on ROA, multiple linear regression analysis was computed. Table 7 shows that,

among the predictor variables, variables like Liquidity, Size, and Growth made a statistically significant prediction in predicting the dependent variable, ROA.

In order to evaluate the contribution or influence of each independent variable to the dependent variable, we can see the Beta value. In table 7 above, the Beta value for predictor variable, Size, was 0.497 which implies that this predictor variable made the first strong positive and statistically significant influence in explaining or predicting the dependent variable (ROA) when the variance explained by all other variables in the model is controlled for. The Beta value of the predictor variable, Growth, was 0.332 which implies that this predictor variable made the second strong positive and statistically significant influence in explaining or predicting the dependent variable (ROA).

The predictor variable, Liquidity made a statistically significant positive prediction to the dependent variable with Beta value of 0.279. This implies that Liquidity made the third positive strong influence in predicting the criterion value, ROA. However, the remaining predictor variable, Tangibility, didn't make any statistically significant contribution/influence in determining the dependent variable, $p > 0.05$.

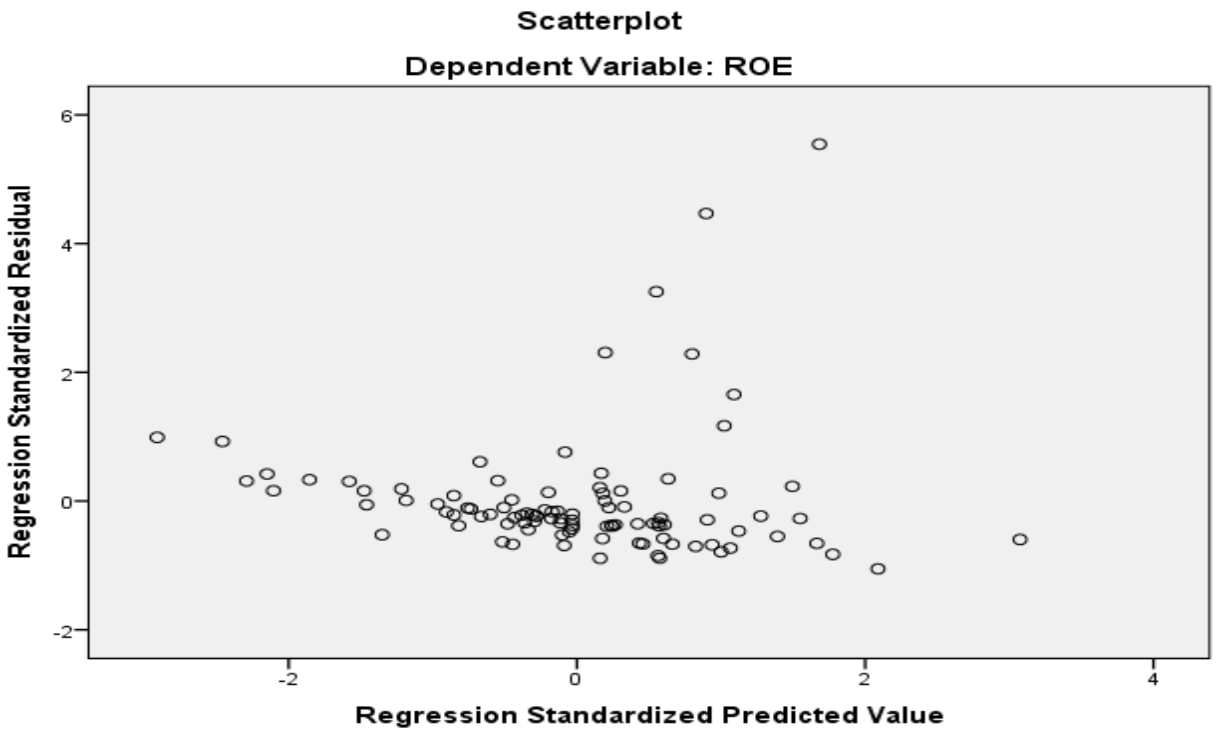


Figure 5, Scatterplot of ROE

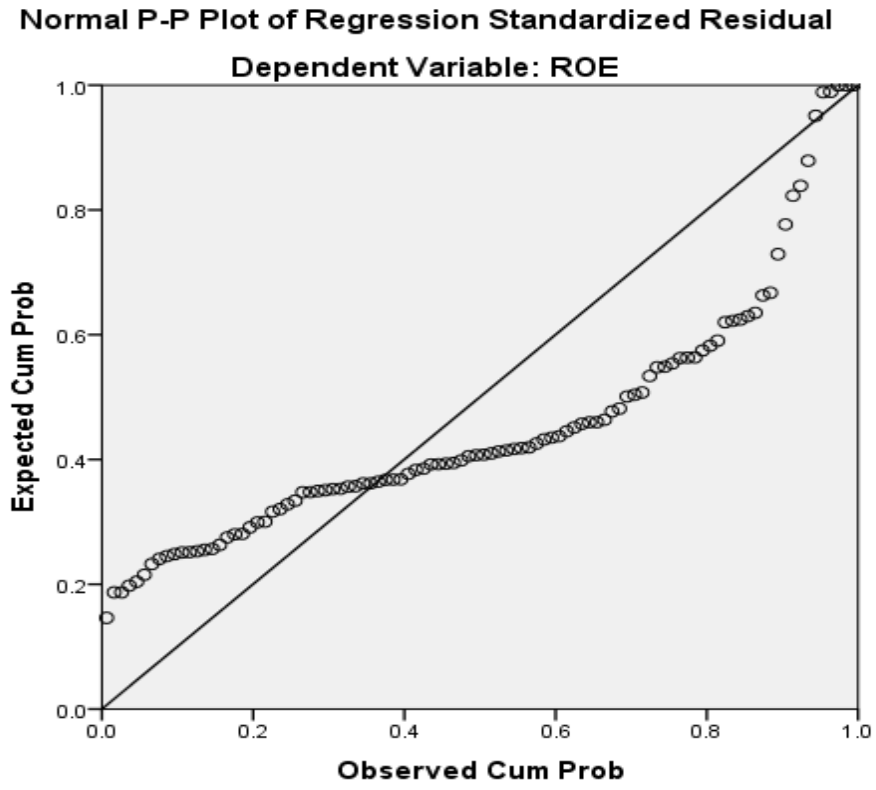


Figure 6 Normal P-P Plot of ROE

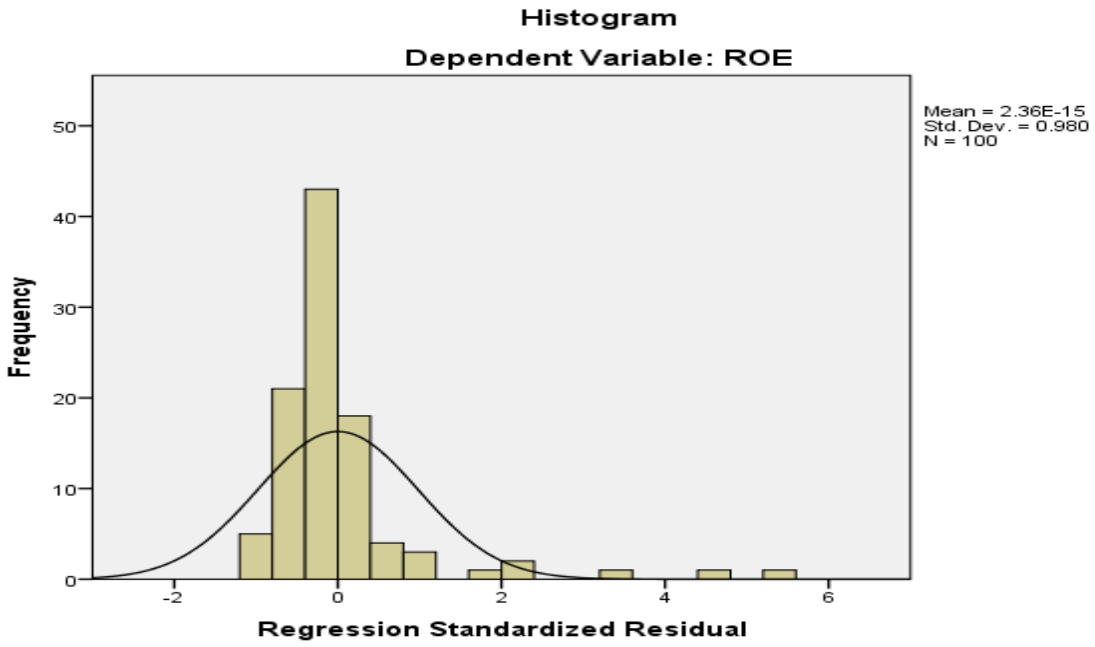


Figure 7 Histogram of ROE

Table 8

The influence of independent variable on the Dependent Variable: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.478[a]	.228	.196	1.16388

a. Predictors: (Constant), Growth, Liquidity, Log of Size, Tangibility

b. Dependent Variable: ROE

As shown in table 8 the value of R square was 0.228. This value tells how much of the variance in the dependent variable (ROE) is explained by the model (Liquidity, Tangibility, size and Growth). In other words, multiplying R Square value with 100, the model explains 22.8% of the variance in the dependent variable (ROE).

Table 9

Goodness of Fit- ANOVA result

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	38.009	4	9.502	7.015	.000[b]
Residual	128.689	95	1.355		
Total	166.698	99			

a. Dependent Variable: ROE

b. Predictors: (Constant), Growth, Liquidity, Log of Size, Tangibility

The goodness of fit results of linear multiple regression with ROE as the dependent variable and variables, (Liquidity, Tangibility, Size, and Growth) as predictors are indicated in table 9. The model reveals a statistically significant relationship between ROE and predictor variables, $F(4,95) = 7.015$, $p<0.001$. in other words, the model was significant.

Table 10

Regression coefficients of Predictor variables in {predicting the Dependent Variable, ROE

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std error	Beta		
(constant)	-11.300	2.880		-3.924	.000
Liquidity	3.407	.737	.550	4.622	.000
Tangibility	3.300	1.314	.303	2.511	.014
Log of Size	.418	.124	.325	3.367	.001
Growth2	.687	.594	.106	1.157	.250

a. Dependent Variable: ROE

In order to assess the effect/influence of the predictor variables such as Liquidity, Tangibility, Size, and Growth on ROE, multiple linear regression analysis was computed. Table 10 shows

that, among the predictor variables, variables like Liquidity, Tangibility, and Size made a statistically significant prediction in predicting the dependent variable, ROE.

To evaluate the contribution or influence of each independent variable to the dependent variable, we can see the Beta value. In table 10 above, the Beta value for predictor variable, Liquidity, was 0.550 which implies that Liquidity made the first strong positive and statistically significant influence in explaining or predicting the dependent variable (ROE) when the variance was explained by all other variables in the model is controlled for. The Beta value for predictor variable, Size, was 0.325 which implies that Size made the second strong positive and statistically significant influence in explaining or predicting the dependent variable (ROE).

The predictor variable, Tangibility made a statistically significant positive prediction to the dependent variable with Beta value of 0.303. This implies that Liquidity made the third positive strong influence in predicting the criterion variable, ROA. However, the remaining predictor variable, Growth, didn't make any statistically significant contribution/influence in determining the dependent variable, $p > 0.05$.

In general, the study explored the effects of four determinants (independent variables) on ROA and ROE (dependent variables). The correlation results of this study indicated that the relationship between ROA and independent variables (Size and Growth) were positive and statistically significant ($p < 0.05$). Regarding the relationship between ROE and independent variables, the result showed that there was a statistically significant positive and moderate correlation between ROE and Liquidity.

The regression result also indicated that the model (Liquidity, size, and Growth) explains 32.8% of the variance in the dependent variable (ROA). Among the predictor variables, variables like Liquidity, Size, and Growth made a statistically significant prediction in predicting the dependent variable, ROA. For ROE, the model (Liquidity, Tangibility, and size) explains 22.8%

of the variance in the dependent variable (ROE). Among the predictor variables, Liquidity, Tangibility, and Size made statistically significant contributions in predicting the dependent variable, ROE.

Therefore, the specified model which was

$ROA_{it} = \beta_0 + \beta_1 TANG_{it} + \beta_2 GRT_{it} + \beta_3 SIZE_{it} + \beta_4 LQ_{it} + U$ and $ROE_{it} = \beta_0 + \beta_1 TANG_{it} + \beta_2 GRT_{it} + \beta_3 SIZE_{it} + \beta_4 LQ_{it} + U$

Where: ROA = Return on Asset, ROE = Return on Equity

β_0 = Constant coefficient

β_1, β_2, β_3 and β_4 = regression coefficients for measuring independent variables,

SIZE = firm size,

TANG = tangibility of fixed asset,

GRT = Growth

LQ = liquidity of the firm,

i = no of insurance companies

t = time period

U = Error term

is modified as:

$ROA_{it} = \beta_0 + \beta_1 \text{ Liquidity}_{it} + \beta_2 \text{ Size}_{it} + \beta_3 \text{ Growth}_{it} + U$

$ROA_{it} = -0.639 + 0.279 \text{ Liquidity} + 0.497 \text{ Size} + 0.332 \text{ Growth} + 0.05147$ and

$ROEit = \beta 0 + \beta 1 Liquidityit + \beta 2\ Tangibility\ it + \beta 3 Size\ it + U$

$ROEit = \beta 0 + .550 Liquidity + 0.303 Tangibility + 0.325 Size\ it + 1.164$

4.2. Discussions

4.2.1. The overall effects of capital structure on financial performance

The very objective of the present study was to investigate the effects of capital structure over financial performances of insurance companies in Ethiopia

In the present study, therefore, we have included four of the firm-specific capital structure variables that were found to influence the financial performances of insurance companies in Ethiopia (Biritu, 2018). It was found that all these factors are important predictors of performance but their effect on ROA and ROE found in this study are not exactly found in the study by the national bank of Ethiopia. Specifically, it was revealed that liquidity, size, and growth made a statistically significant contribution in predicting ROA while liquidity, tangibility, and Size were the significant predictors of ROE. In other words, tangibility was not a significant predictor of ROA and growth was not a significant predictor of ROE. The difference could be attributed to differences used to measure financial performance. The present study used ROA and ROE while the study by the national bank of Ethiopia used Leverage as financial performance measures. Based on these findings let's discuss the effects of each capital structure variable over financial performance variables considered in the present study (i.e. ROA and ROE).

4.2.2. The predictive ability of firm size

In the present study, firm size is found to predict insurance companies' financial performance measured in both ROA and ROE. This implied that larger insurance companies have higher returns than firms with smaller sizes.

The effect of firm size on financial performance is also reported in other studies among insurance companies in Ethiopia. The study by Getahun (2016) found that firm size is an important and significant predictor of insurance companies' financial performance when financial performance is measured by ROA.

Likewise, a study among private insurance companies in Ethiopia (Regasa, 2014) revealed that size is a significant contributor to the insurance's capital structure as measured by leverage. The study by Solomon (2012) also found that size of insurance companies is a significant contributor to capital structure measured by total debt ratio.

Similar findings are reported from other studies on insurance companies in different corners of the globe. A good example here is the study among insurance companies in Indonesia (Saputra et al., 2015). In that particular study, it was revealed that size predicted financial performances of insurance companies when performance is measured in terms of both ROA and ROE. Similarly, the study among insurance companies in the stock exchange market of Kuwait (AlAli et al., 2018) revealed positive statistically significant associations between size and financial performance measured by ROA.

Likewise, the study among 25 insurance companies in Jordan (Almajali, Alamro and AlSoub, 2012) and the study among 35 insurance companies in Pakistan (Malik, 2011) revealed the positive contribution of the size of the insurance companies over their financial performances.

The predictive ability of firm size on financial performances (measured by ROA and ROE) is also confirmed in an Ethiopian study among Banks (Birru, 2016). In that study size of the banks was found to be statistically significant predictor of the Banks' financial performance measured by ROA and ROE.

Trade-off theory predicts a positive relationship between companys' size and their financial performance. The findings from the present study and elsewhere among insurance companies are in line with the propositions made by trade-off theory.

4.2.3. The predictive ability of Tangibility

In the present study, tangibility is found to be an important predictor of capital structure when capital structure is measured using ROE. This finding substantiated the proposition made by pecking-order theory that claimed the relationship between tangibility and financial performance.

A similar result was reported from a study among private insurance companies in Ethiopia (Regasa, 2014) where tangibility was found to be an important predictor of financial performances measured by leverage.

On the other hand tangibility, in the present study, was not found to be associated with financial performance measured by ROA. In line with this finding, the study by Solomon (2012) among insurance companies in Ethiopia revealed that tangibility is insignificantly related with financial performance measured by total debt ratio. Contrary to this finding in the study among insurance companies in Kuwait (AlAli et al., 2018) tangibility was found to have a significant and positive association with the profitability of the companies measured by ROA.

Tangibility as an important predictor of financial performance is also confirmed in a study among Banks in Ethiopia (Birru, 2016). In that particular study, tangibility was found to be an

important predictor of financial performance when financial performance is measured by both ROA and ROE.

4.2.4. The predictive ability of Liquidity

In the present study, liquidity is found to have significant positive predictive contribution towards capital structure as measured by both ROA and ROE. A similar finding is reported from an Ethiopian study among insurance companies. Kinde (2013) found a significant positive relationship between liquidity and leverage in Ethiopian Insurance Companies' capital structure.

The positive effect of liquidity on capital structure is also reported from the study among insurance companies in Jordan (Almajali, Alamro and AlSoub, 2012). The study revealed that liquidity has positive and significant contribution to financial performances of the insurance companies measured by ROA.

Similar results are reported from the study among 16 insurance companies in Ghana (Antwi and Lartey, 2013) and the study among 20 insurance companies in Zimbabwe (Mazurona, Dube and Sakahuhwa, 2017).

The significant contribution of liquidity on insurance companies' capital structure is confirmed in the study among private insurance companies in Ethiopia (Regasa, 2011). However, there are directional differences over the stated effect of liquidity on capital structure. In the current study, liquidity has positive contribution while in the study by Regasa (2001) the contribution of liquidity is negative. The difference could be attributed to the measure employed to assess capital structure where leverage is used in Regasa's study while ROA and ROE are used in the present study.

The negative effect of liquidity on insurance companies' capital structure is reported in the study in Albania (Kripa and Ajasllari, 2016). Liquidity, in that study, was found to be negatively associated with capital structure measured by ROA.

Unlike the present study, the study by Getahun (2016) among insurance companies in Ethiopia revealed that liquidity is an insignificant predictor of financial performance. The insignificant contribution of liquidity on the financial performance of insurance companies is reported from the study in Kuwait (AlAli et al., 2018). The differences in findings could be attributed to the measures used in the studies. The study by Getahun (2016) and the study in Kuwait (AlAli, et al., 2018) used ROA as the only measure of financial performance while the present study used both ROA and ROE as measures of financial performance.

The finding of the present study is in line with the propositions made by trade-off theory that has proposed a positive relationship between liquidity and financial performance. Besides, the finding refutes the propositions made by pecking-order theory that proposed negative relationship between liquidity and financial performance.

4.2.5. The predictive ability of Growth

In the present study, growth is found to be an important predictor of Ethiopian insurance companies' financial performance when measured by ROA. There are other studies among insurance companies that found significant association between growth and financial performance. For example, the study by Solomon (2012) among insurance companies in Ethiopia found that growth is an important predictor of financial performance measured by total debt ratio.

A similar result is reported in the study among 7 insurance companies in Albania (Kripa and Ajasllari, 2016). In that study, growth was reported to be positively related with financial performance measured by ROA.

Contrary to the findings of the present study, in the study among insurance companies listed in the Kuwait stock exchange market (AlAli et al., 2018) growth is found to have no significant association with financial performance measured by ROA.

According to trade-off theory, there are negative relationships between growth opportunities and leverage. On the other hand, there is positive relationship between growth and financial performance according to pecking-order theory. The finding of the present study is, therefore, supports the proposition made by the pecking-order theory.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the conclusions drawn based upon the major findings of the study and the recommendations that are forwarded based on the conclusions arrived at. In doing so the conclusions will be presented first and recommendations will follow then after.

5.1. Conclusions

Based on the findings of the present study and the discussions made in line with the available literature, the following major conclusions are made.

In the present study, it was revealed that Liquidity, Size, and Growth made a statistically significant contribution in predicting ROA while Liquidity, Tangibility, and Size were the significant predictors of ROE. From these findings, we can conclude that size, liquidity, growth, and tangibility of insurance companies are important capital structure variables that contribute towards better financial performances of insurance companies in Ethiopia.

The positive contributions of firm size and liquidity among Ethiopian insurance companies' financial performance are in line with the propositions made by trade-off theory. On the other hand, the positive contributions of tangibility and growth opportunities in the companies' financial performance support the propositions made by the pecking order theory. From these findings, it can be concluded that there is no particular theory that is best applicable among insurance companies in Ethiopia.

Some of the findings of the present study are similar to results from other national and international studies. These are also findings that are contradictory to results reported from other

studies. From critical examinations of the global literature and the findings of the present study, it can be concluded that there are important issues related to measuring variables related with financial performance that needs to be addressed by scholars in the area.

5.2. Recommendations

Improving their financial performance is the major task of insurance companies in Ethiopia. Therefore, insurance companies need to work on tangibility, liquidity, size, and growth so as to improve their financial performances.

The fact that size is an important predictor of the financial performances of insurance companies in Ethiopia implies that insurance companies need to gear their attention towards expanding their firm size.

Insurance companies in Ethiopia need to organize themselves to critically identify important variables in their financial performances and the best possible ways of measuring each variable.

Studies over the financial performances of Ethiopian Insurance companies are scant. Therefore, researchers in different higher learning institutions need to extensively study the issue incorporating as many capital structure and financial performance variables as possible.

Reference

Al-Taani K. (2013a). The Relationship between Capital Structure and Firm Performance: Evidence from Jordan. *Journal of Finance and Accounting, 1(3):41-45*.doi: 10.11648/j.jfa.20130103.11.

Al-Taani, K. (2013b). Capital Structure Effects on Banking Performance: A Case Study of Jordan. *International Journal of Economics, Finance and Management Sciences,1(5):227-233*.doi: 10.11648/j.ijefm.20130105.13

Ayuba, H., Bambale, A.J., Ibrahim, M.A. and Sulaiman, S.A. (2019).Effects of Financial Performance, Capital Structure and Firm Size on Firms' Value of Insurance Companies in Nigeria.*Journal of Finance, Accounting and Management, 10(1), 57-74.*

Birritu (2018). External factors that determine capital structure of insurance companies: The case of Ethiopia. Magazine prepared by National Bank of Ethiopia, 125 (2010). Available online at www.nbe.gov.et.

Birru, M.W. (2016). The Impact of Capital Structure on Financial Performance of Commercial Banks in Ethiopia.*Global Journal of Management and Business Research: C Finance, 16 (8): 43- 52.*

Cohen, J.W. (1988). *Statistical power analysis for behavioral science.*(2^{nd}edn). Hillsdale, NJ: Lawerance Erlbaum Associations.

Getahun, M. (2016). Capital Structure and Financial Performance of Insurance Industries in Ethiopia. Global Journal of Management and Business Research: C Finance, 16(7): 45-53.

Gharaibeh, A.M.O. (2015). The Effect of Capital Structure on the Financial Performance of Listed Companies in Bahrain Bourse.*Journal of Finance and Accounting, 3 (3): 50-60*. doi: 10.11648/j.jfa.20150303.13

Gill, A., Biger, N. and Mathur, N. (2011). The Effect of Capital Structure on Profitability: Evidence from the United States. *International Journal of Management, 28 (4): 3- 15.*

Guruswamy, D., and Marew, A. (2017). Determinants of Profitability Performance of Insurance Companies: A Case Study of Selected Insurance Companies in Ethiopia. *i-manager's Journal on Management*, 12(2), 26-44. https://doi.org/10.26634/jmgt.12.2.13722.

Kinde, B.A. (2013). Impact of Firm Level Factors on Capital Structure: Evidence from Ethiopian Insurance Companies. Global Journal of Management and Business Research Finance, 13(4): 23-30.

Mouna, A., Jianmu, Y., Havidz, S.A.H. and Ali, H. (2017).The impact of capital structure on Firms performance in Morocco.*International Journal of Application or Innovation in Engineering & Management, 6 (10): 11- 16.*

Nassar S (2016) The impact of capital structure on Financial Performance of the firms: Evidence From Borsa Istanbul. *J Bus Fin Aff 5: 173. doi:10.4172/21670234.1000173.*

Reimann,*R.* C., Filzmoser,P., Garrett, R. G., &Dutter, R. (2008). S*tatistical Data Analysis Explained: Applied Environmental Statistics.* John Wiley & Sons, Ltd. ISBN: 978-0-470-98581-6

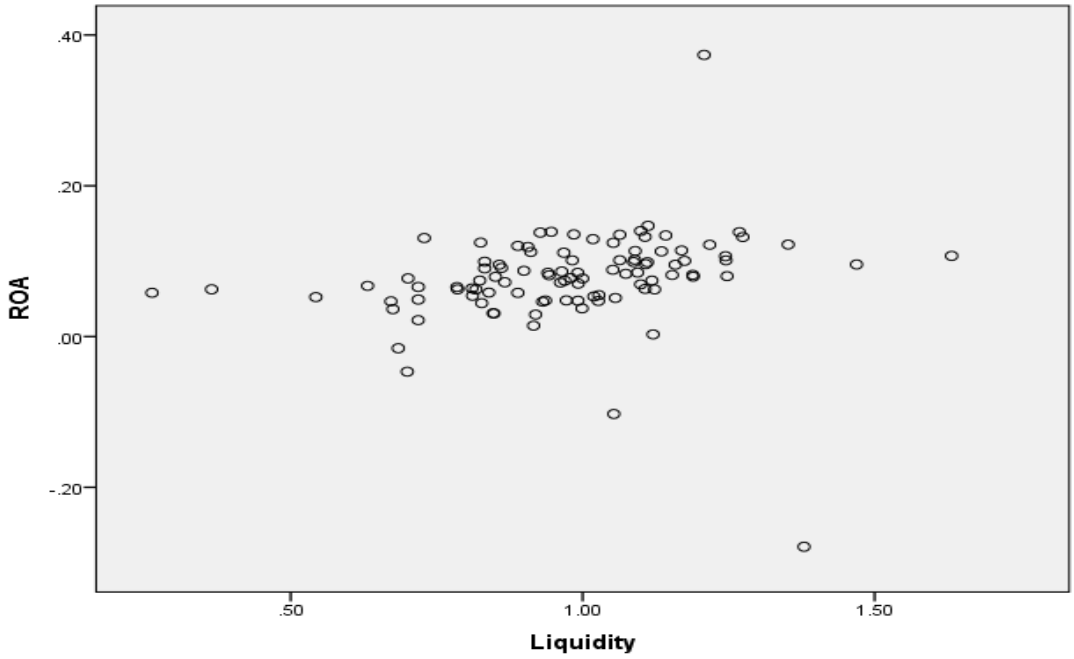
Saputra, T., NoerAzamAchsani, N.A. and Anggraeni, L. (2015). The Effect of Capital Structure on Firm Performance: Empirical Evidence from the Indonesian Financial Industry. *International Journal of Business and Management Invention, 4 (8): 57-66.*

Stewart, D. W., &Kamins, M. A. (1993). Secondary research: Information sources and methods. Newbury Park, CA: Sage.

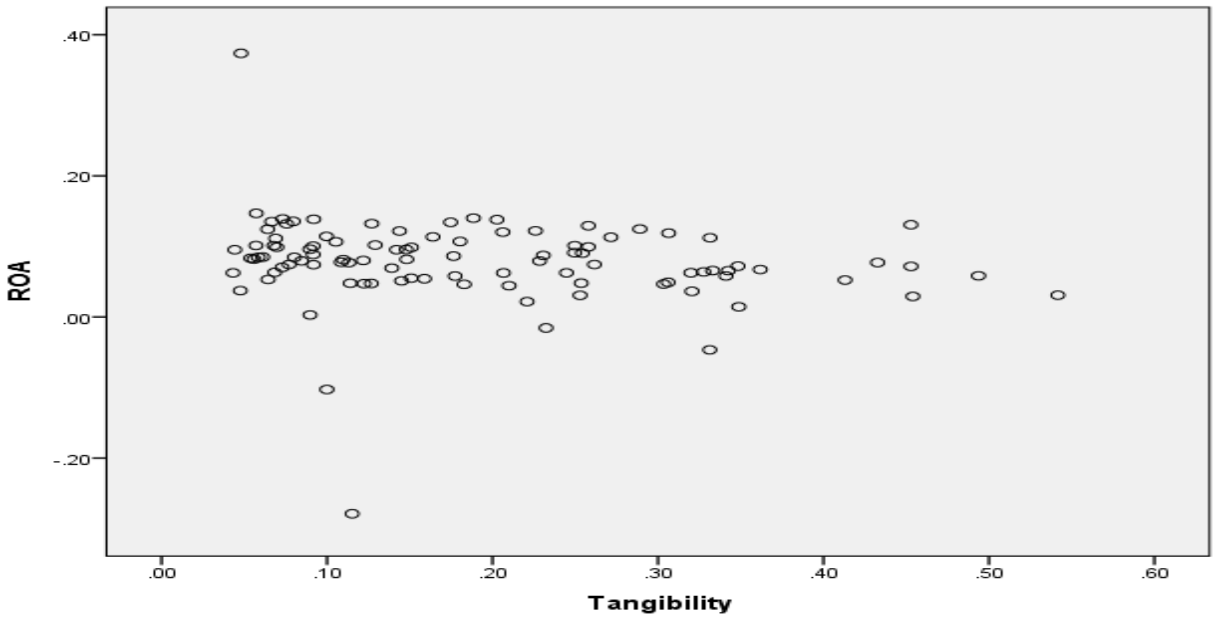
Appendix I

Scatterplots of independent Variables when ROA is dependent variable

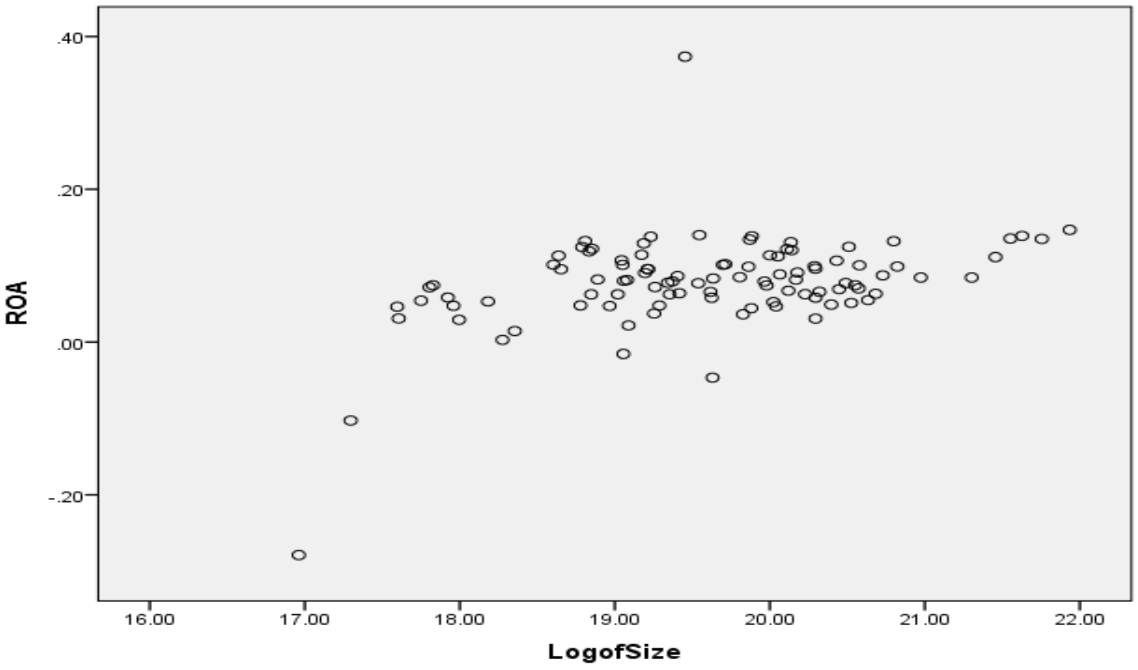
Scatterplot of Liquidity



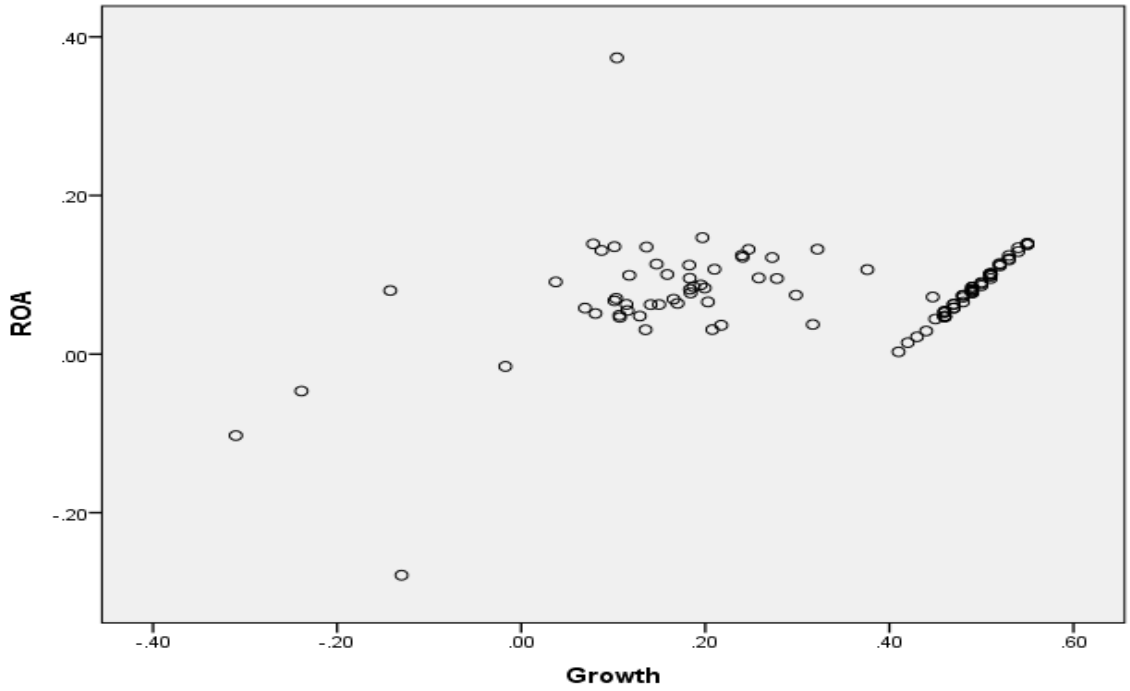
Scatterplot of Tangibility



Scatterplot of Size



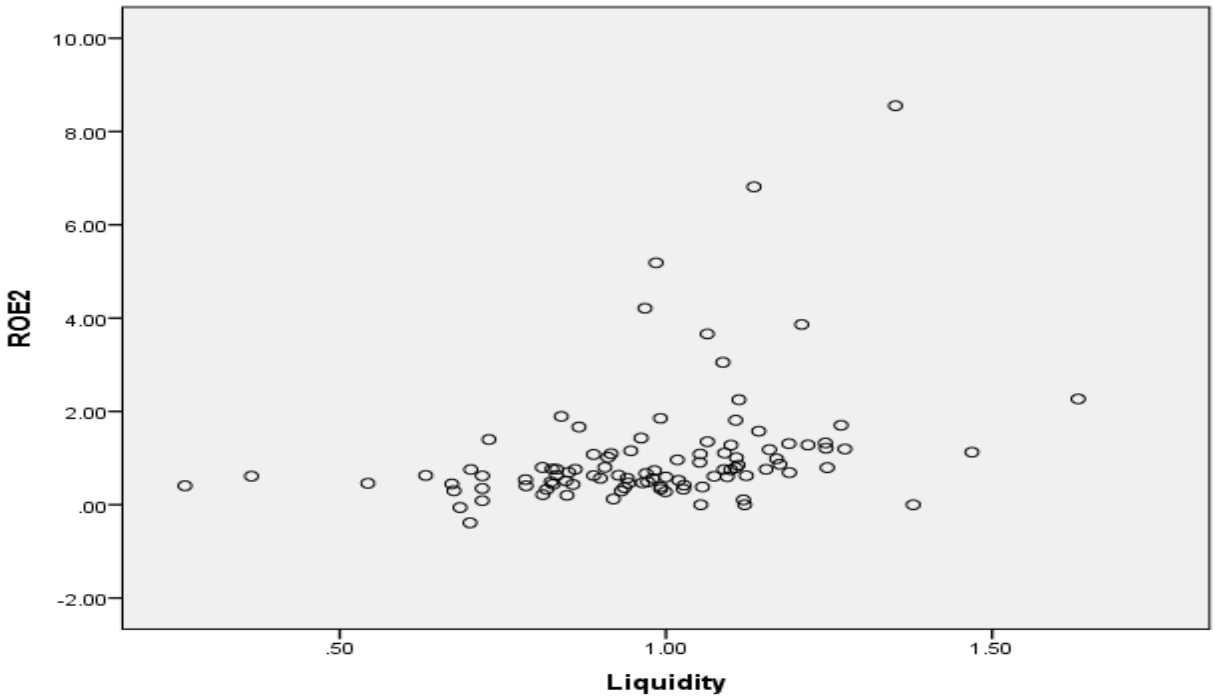
Scatterplot of Growth



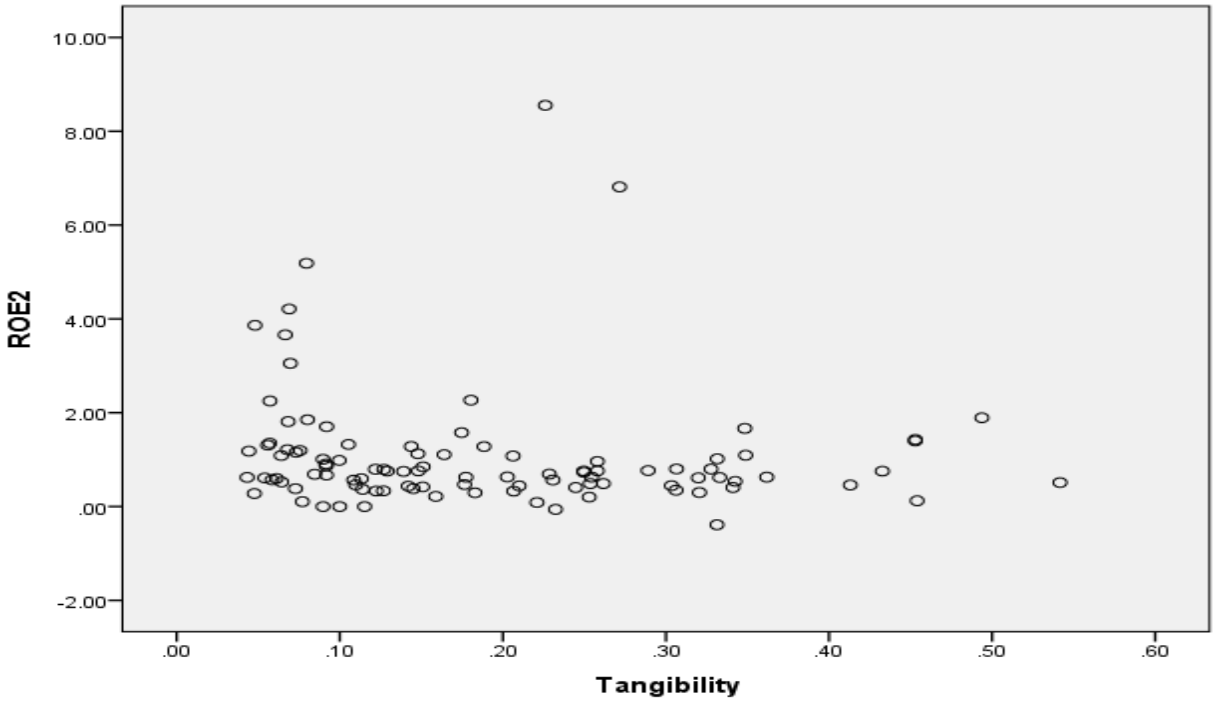
Appendix II

Scatterplots of independent variables when ROE is dependent variable

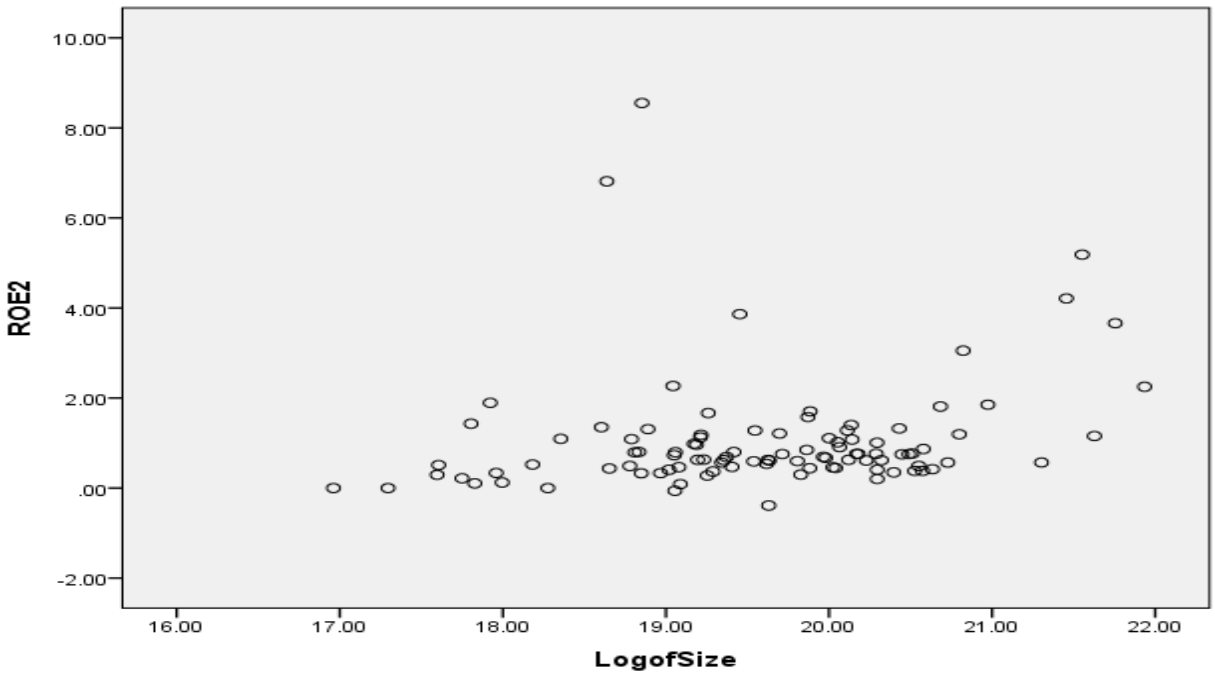
Scatterplot of Liquidity



Scatterplot of Tangibility



Scatterplot of Size



Scatterplot of Growth