College of Business and Economics

Department of Accounting and Finance

THE EFFECT OF CAPITAL STRUCTURE ON PERFORMANCE OF AVIATION INDUSTRY: A CASE OF ETHIOPIAN AIRLINES

By; Temesgen Demessie

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

JUNE, 2020

Addis Ababa, Ethiopia

Addis Ababa University

School of Graduate Studies

Department of accounting and Finance

Letter of Declaration

I, Temesgen Demessie, declare that this study "***The Effect Of Capital Structure On Performance Of Ethiopian Airlines***" is my own work. I have carried out the research work independently with the guidance and support of my research advisor. As far as my knowledge is concerned, this study has not been done at any institutions in Ethiopia. The results of this study were not either partly or wholly submitted to any college or university for the award of diploma or degree. It is done at Addis Ababa University as a partial fulfillment of the requirements of the M.Sc. Degree in Accounting and Finance.

Name: Tmesegen Demessie

Signature _____

Date _____

Addis Ababa University

School of Graduate Studies

Department of accounting and Finance

Letter of CERTIFICATION

This is to certify that Temesgen Demessie has carried out his research work on the topic entitled "***The Effect Of Capital Structure On Performance Of Ethiopian Airlines***". This work, to the best of my knowledge, is original in nature and is suitable for submission for the award of MSc in Accounting and Finance**.**

Advisor: Habtamu B. (PHD) Signature_____Date:_____

External examiner: Zinegnaw (PHD) Signature _____ Date_____

Internal examiner: Tekalign (PHD) Signature_____ Date _____

Acknowledgements

First I would like to thank to my almighty GOD for giving me the potential and patience to accomplish this study during this difficult time. Next I would like also to express my sincere gratitude to my advisor Habtamu Berhanu (PHD) who always gives a time to read and made the necessary criticisms, suggestions and corrections in the course of writing this thesis. I would also like to thank all my families for their special support. A special thanks goes to my wife for all her care and absolute love from the beginning to date and this piece of work is dedicated to her. I thank my friends who in one way or another provided assistance during the time of conducting this research.

ABSTRACT

Several studies on capital structure and its impact performance has been widely explored as an area of study in finance in the different parts of the world. These studies, however, end up with contrary results despite differences in economic set ups and sectors. This study, therefore, seeks to examine the effect of capital structure on performance of the Ethiopian Airlines for the period 1994- 2018. The study has adopted a quantitative research approach and collected secondary data from audited financial statements of the Ethiopian Airlines. While short term debt to total asset ratio, long term debt to total asset ratio, total debt to total asset ratio were used as variables to explain the capital structure, return on assets was used as dependent variable as performance indicator. The data were analyzed using STATA econometric software to come up with descriptive, regression and correlation results. The regression result show that short term and long term debt to asset had statistically insignificant and positive relationship with performance of Ethiopian Airlines (measured by ROA) at 5 % significance level, whereas total debt to asset had statistically insignificant negative impact on performance of Ethiopian Airlines. On the other hand, asset tangibility had statistically significant and negative relationship with performance of Ethiopian Airlines. Finally the finding shows that a negative and insignificant relationship with firms size and performance of Ethiopian Airlines. Generally, the findings revealed that capital structure has statistically insignificant impact on performance of Ethiopian Airlines. Finally, the study recommended that Ethiopian Airlines should employ an appropriate mix of capital structure and attention should be given for variables which have negative impact on performance in order to increase performance the company.

Key words: Ethiopian Airlines, Capital structure, firms performance, debt, firm-size, asset tangibility

Table of contents

Acknowledgement……..……I

Abstract…..……..……..II

Table of content……..…….....III

List of acronyms and abbreviations……...…...…….....VI

CHAPTER ONE INTRODUCTION

1.1 background of the study …….. …….....1

1.2 Statement of the problem…….....3

1.3 Objective of the study…..……..……6

1.31 General objective…….....6

1.3.2 Specific objective……...……...…….....6

1.4 Research questions……...…….....6

1.5 Research hypothesis……..…….……6

1.6 Scope of the study...…….……..8

1.7 Significance of the study……...……....8

1.8 Limitation of the study.…….....8

1.9Organization of the study..……9

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction…….....10

2.2 Theoretical reviews…….…….....10

2.2.1 Capital structure irrelevant theory……..……..……..10

2.2.2 Trade-off theory……..……11

2.2.3 Peckingorder theory……..13

2.3 Capital Structure…….....14

2.4 Variables ……..……..16

2.4.1 Short-term debt……...15

2.4.2 Long-term debt……16

2.4.3 Total debt……17

2.4.4 Return on asset…….……...18

2.4.5 Size of firms…….……18

2.4.6 Asset tangibility…….…..……..…….20

2.4.7 Firms performance…….…….20

2.5 Empirical Literature…….…….....21

2.6 Conceptual framework…….…….…….26

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Introductions……..…….…. 27

3.2 Research design and approach…….....27

3.3 Data type and Source of Data …….27

3.4 Model Specification ……....…….…….28

3.5 Data analysis method……..…..…..…..……..28

CHAPTER FOUR DATA ANALYSIS AND INTERPRETATION

4.1 Introduction…….……..30

4.2 Descriptive Statistics……..30

4.3 Correlation analysis…….…….....32

4.4 Classical Linear Regression Model (CLRM) assumptions…….……...33

4.4.1Multicollinearity Test……..……..33

4.4.2 Heteroskedasticity Test……...……34

4.4.3 Test for normality……35
4.4.4. Test of autocorrelation…….……..…….36
4.5. Multiple regression analysis and results interpretations……..……..37
4.6 Researchhypothesesand discussions…….…..……38
CHAPTER FIVE SUMMARY, CONCLUSION, AND RECOMMENDATION
5.1 Summary of finding…….……...42
5.2 Conclusion …….....43
5.3 Recommendations…….……44
References…….……..……45
Appendix…….....51

List of figures

Figure 2.1: Conceptual frame work of dependent and independent variables.……26

List of tables

Table 4.1 Descriptive statistics……..…..…….30
Table 4.2 Correlation matrix……..…..…….32
Table 4.3 Correlation Matrix between independent variables…….……..……..33
Table 4.4 Heteroskedasticity Test…….…….……..35
Table 4.5 Normality test……..……...…….36
Table 4.6 Test for autocorrelation…….……..…….36
Table 4.7 Result of model Regression…….…….…….……...37
Table 4.8: Summery of Comparison of expected and actual result of hypothesis……....41

List of Acronyms and Abbreviations

EAL= Ethiopian Airlines

EPS =earnings per share

IATA=international air transport association

LTD= long term debt

LTDTA=long term debt to total asset

LTDTAR= long term debt to total asset ratio

ROA= return on asset

ROE=return on equity

ROI= return on investment

SDr=short term debt ratio

STDTAR=short term debt to total asset ratio

TDTTAR= total debt to total asset ratio

CHAPTER ONE
INTRODUCTION

This chapter has contain back ground of study, statement of the problem, objective of the study, research questions, and hypotheses of the research, significance of the study and scope of the study.

1.1 Background of the study

The capital structure of a firm describes the way in which a firm raised capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintained resulting from the firm's financing decisions Ionela (2014). M&M proposition (I) theory states that capital structure of a firm does not influence its market value the assumption that under certain conditions the firm's debt equity ratio has no effect on the firm's market value. Modigliani and Miller (1958). At any point in time, management has a specific target for capital structure assumes the optimal one while this target may change over time. Firm's capital structure influenced by several factors these include managerial conservatism or aggressiveness, business risk, need for financial flexibility, tax position, and growth opportunities. A firm's owners may decide to use a relatively large amount of debt to constrain the managers. A high debt ratio may increase risk of bankruptcy, which not only carries a cost but also forces managers to be more careful and less wasteful with shareholders' money. Many corporate takeover and leveraged buyout in recent years were designed to improve efficiency by reducing the cash flow available to managers Michal & Eugene(2010).

MM proved, under a restrictive set of assumptions, that a firm's value should be unaffected by its capital structure. Put another way, MM's results suggest that it does not matter how a firm finance its operations. Hence, that capital structure is irrelevant Modigliani and Miller (1958). The optimal capital structure is the one that maximizes the price of the firm's stock and this generally calls for a debt ratio that is lower than the one that maximizes expected EPS. Firms have to consider sales stability, asset structure, operating leverage, growth rate, profitability, taxes, lenders and rating agency attitude e.t.c when making capital structure decisions Eugene. F&Joel F. (2008)

There is no universal theory to choice how many debts and equity the investor had select. There are several useful conditional theories. For example, the tradeoff theory Myers (1984) says that firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress. The tradeoff theory expects reasonable borrowing by tax-paying firms. The pecking order theory Myers and Majluf (1984) states that the firm will go to internal fund first rather than borrowing and issuing equity during insufficient internal cash flow and for new project.

Modigliani and Miller (1958) proved that the choice between debt and equity financing has no material effects on the value of the firm or on the cost or availability of capital. They assumed perfect and frictionless capital markets, in which financial innovation would quickly put out any difference from their predicted equilibrium.

The logic of the Modigliani and Miller (1958) results is now widely accepted. Nevertheless, financing clearly can matter. The main reasons why it matters include differences in information, agency costs and taxes. Theories of optimal capital structure differ in their relative emphases on these factors. The tradeoff theory emphasizes taxes, the pecking order theory emphasizes differences in information, and the free cash flow theory emphasizes agency costs.

Each industry has its own characteristics which may alter the standard format of the optimal capital structure. In the airline industry it is difficult to compare companies from the same country.

This paper seeks to impacts of capital structure on performance of Ethiopian Airlines taking into account their short term and long term debt firm's size, asset tangibility firm's age, return on assets.

1.2 Statement of the problem

The study of capital structure attempts to explain how firms utilize the mix of various forms of securities in order to finance investment. Modigliani and Miller (1958) demonstrated that capital structure is irrelevant under certain restrictive assumptions. Ever since, many researchers have

approached the study of corporate capital structure under less restrictive assumptions. This led to the proof of an existence of the optimal choice of capital structure.

When we come to Airline, because of their unique nature of the industry, it must have to strict and good capital structure. Most airlines in Africa are faced challenges in financial performance that resulted from wrong mix of capital structure. i.e. increasing their debt and put their equity constant and that leads higher bankruptcy (African Airlines Association,2017). Since, Air transportation mostly entails the transportation of high added value people and cargo is unrivalled and has the advantages of being safe and time saving. The demand for air transportation is linked to economic growth, technological development, the need for people to meet and the lowering of trade barriers between countries Kasim & Nurhan (2018). Because of this, airline companies must seek capital in order to meet the constant need for investment. This pressure for keeping technology updated has led several companies to high financial risk. Here the question is how capital structure affects performance of ET? the study answers the question.

A number of studies have been done on how capital structure influence performance of a firm both internationally and locally in different context in different industries.

Globally, Kamau(2018) assess the relationship between capital structure and profitability amongst African airlines. on the study, the researcher take debt ratio and capital ratio as independent variables and performance of the airlines which measured by return on capital as dependant variable. the study shows positive relationship between debt ratio and airlines performance and inverse relationship between debt to capital ratio and airlines performance which measured by return on capital. Prisca (2015) assess external environmental factors that influences financial performance of Kenya Airways. On his study the researcher include only external factors that influence financial performance of Kenya Airlines and the study fail to include internal factors which influence financial performance. Amir (2014) determinant of financial performance and profitability in Turkish Airlines. the study includes tangibility of assets, firm size, leverage ratio, growth opportunities and liquidity ratio. From thus variables Tangibility of assets are negatively affecting the profitability of the firms in the airline industry. Idris S(2016) assess the effect of capital structure on financial performance of airlines in Kenya. on his study the researcher includes liquidity, debt-equity ratio and firm size as independent variables and financial performance which measured by return on asset as dependant variable.

The finding shows that debt-equity ratio had but significant relationship with financial performance and firm size had positive and significant impact on financial performance of the airlines in Kenya.

Vatavu (2015) examined how capital structure and financial performance of Romanian firms are related. Arulevl and Ajanthan (2013) assessed how capital structure and financial performance are related and the study shows inverse relationship. They conclude that the financial performance has improved when firms evade debt finance in capital structure.

Domestically, Abebew (2019) assesses the effect of leverage on Airlines profitability on selected African Airlines. On his study, he takes financial leverage, firm size and operating efficiency as independent variables and he conclude that degree of operating leverage have positive effect on airlines profitability which means airlines operating with high fixed cost of operation can improve level of profitability, on the other hand financial leverage and firm size have negative and significant effect on ROA. Since profitability is major measure of firm's performance, the researcher fails to review more variables (specific variables like short and long term debt) which influence Airlines performance. Yared (2019) assess determinants of capital structure in the airlines industry: an empirical study on major airlines in Africa. Findings of the study shows that there is statistically significant and negative relationship between leverage and profitability.

Mathewos (2016) The impact of capital structure on financial performance of Commercial Banks in Ethiopia and get significantly factors that affect financial performance of CBE. Negussie (2019) The effect of capital structure on financial Performance of Insurance companies: empirical evidence from private insurance companies in Ethiopia and get significant effect on financial performance of privet insurance company in Ethiopia. Abnet (2013) The effect of capital structure on financial Performance: Ethiopia's Metal and Engineering Industry and get significant and negative impact on financial performance. Maru (2018) the effect of capital structure on financial performance of construction companies in Addis Ababa and get positive effect on financial performance. Argew(2015) assesses impact of capital structure on profitability in the case of CBE and gets significant impact of capital structure on profitability.

All listed studies assess effects of capital structure on financial performance of a company. The studies were done in different meaning including different industry, organization as well as in different countries. In the best knowledge of the researcher no studies were done among

Ethiopian Airlines and this is a research gap. To fill this gap, the researcher initiates to answer the question of what is the effects of capital structure on performance of Ethiopian Airlines. So, this thesis gives reliable information about impacts of capital structure on performance of Ethiopian Airlines for the past 25 years (1994-2018)

1.3 Objective of the study

1.3.1 General objective

The general objective of this study is to assess the impact of capital structure on performance of Ethiopian Airlines.

1.3.2 Specific objective of the study

From the above general objective of the research, Specific objective of the study are:

- To assess the impact of short term debt (short term debt to total asset) on performance of Ethiopian Airlines
- To assess the impact of long term debt (long term debt total asset) on performance of Ethiopian Airlines
- To assess the impact of total debt (total debt to total asset) on performance of Ethiopian Airlines
- To analyze the impact of firm size on performance of Ethiopian Airlines
- To assess the impact of asset tangibility on performance of Ethiopian Airlines

1.4 Research questions

The study has formulated the following research questions of the study.

- ✓ What is the impact of short term debt on performance of Ethiopian Airlines?
- ✓ What is the impact of long term debt ration performance of Ethiopian Airlines?
- ✓ What is the impact of total debt ratio on performance of Ethiopian Airlines?
- ✓ How firm size affect performance of Ethiopian Airlines
- ✓ What is the impact of tangibility of asset on performance of Ethiopian Airlines?

1.5 Research hypotheses

The study aims to analyze different aspects of capital structure and Firm performance by addressing the following hypotheses:

I. ***H1There is positive relation between short term debt and performance of Ethiopian Airlines***.

Short term debts are a debt that will pay within twelve months and that will have single interest rate so it will not impact negatively firm's performance. Abor (2005) also found a positive relation with performance which he indicated that short term debts are less expensive in which increasing short term debt with a relatively low interest rate will lead to an increase in performance level. Additionally, Ellili and Farouk (2011) supported this and justified that more profitable companies used short term debt in financing their operating activities.

II. ***H2 There is negative relationship between long term debt and performance of Ethiopian airlines***.

Long term debts are a debt that will pay more than 1 years and the interest is very high since, most long-term interests are compound interest. In Ethiopian Airlines long term debt have very high interest. I.e. Ethiopian Airlines long term debt is its aircraft lease and has high interest. Different studies discovered that it has a negative impact on financial performance and support pecking order theory, which to indicate that highly profitable companies use internal fund in financing their long term investment rather than borrowing a long term debt. So the researcher expects negative relationship between long term debt and its performance.

III. ***H3 There is negative relationship between total debt ratio and performance of Ethiopian Airlines***.

Total debt is a mixture of short and long term debt. As of Ethiopian Airlines most debt is long term debt.EAL annual report (2018). Since, it has high interest bring debt; it will have negative relationship between total debt ratio and performance of Ethiopian Airlines. Kraus and Litzenberger (1973), the static trade-off theory predicts that higher level of debt usage, due to its benefits of tax deductibility of interest payments, will favor companies' performance up to a certain range. So Ethiopian Airlines are not paid tax and it does not get tax shield advantage. For this reason, the researcher expects negative impact of total debt on firm's performance.

IV. ***H4There is positive relationship between firm size and performance of Ethiopian Airlines***.

According to Penrose (1959) argue that larger firms benefit from economies of scale, which can also have a Positive impact on performance.

V. ***H5There is positive relationship between asset tangibility and performance of Ethiopian Airlines***.

According to Mackie- Mason (1990) firms that have high tangible asset, makes debt choice more, which will influence firm performance. Moreover, Akintoye (2008) argues that firms with high investments Levels in tangible assets will have lower costs relating to financial distress compared to firms relying mostly on intangible assets.

1.6 scope of the study

Scope of the study is things that will be covered in the research. It identifies the boundaries of the study in terms of subjects, objectives, areas, time frame and the issues to which the research is focused. As the main objective of this study is to assess the impact of capital structure on performance of Ethiopian airlines, this research covers Ethiopian Airlines audited financial report and the time frame covers from 1994-2018. So the research focuses mainly on Ethiopian Airlines financial report.

1.7 Significance of the study

Significance of the study is more important to the reader's i.e. it provide to the reader on how the study will contribute and who will benefit from it. It also includes explanations of the researchers as well as its potential benefits.

- ✓ This study provides to top management of Ethiopian Airlines about impacts of capital structure on performance of Ethiopian airlines in order to minimize negative impact of capital structure.
- ✓ To the investors who want to invest in airlines industry, the study gives how capital structure affects firm's performance by setting supporting evidences in order to minimize negative impact of capital structure.
- ✓ To scholar and academic researchers, the research will give hint about impacts of capital structure on performance of airlines industry

1.8 Limitation of the study

There is many factors that affect Ethiopian Airlines but this study was limit to factors such as short term debt to total asset, long term debt to total asset, total debt to total asset, asset tangibility and firm size.

1.9 Organization of the study

This paper contains five chapters. The first chapter presents introduction, background of the study, statement the problem, objective of the research (general and specific objectives),research questions, research hypothesis, scope of the study, limitation of the study and organization of the study. Second chapter consists literature review of relevant theories as well as empirical research. The third chapter presents research methodology which includes research design and approach, data type and source of data, model specification and data analysis method. The fourth chapter presents data analysis and interpretation of results of the study. Finally, the study presents summary of finding, conclusion and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is a surveying of academic sources that provides an overview of a particular topic. This chapter had contain information about theoretical and empirical literature of capital structure, dependent and independent variables, extraneous variable, conceptual frame works, literature gaps and model specification.

2.2 Theoretical review

Theoretical review represents theories that form the bases of the study. The theoretical review contains capital structure irrelevant theory; tread off theory and packing order theory.

Capital structure forms the basis for whether the firms were use debts, equity or both and in what proportion to maximize the wealth of shareholder. According to Adesina (2015) capital structure discussion is complex since they affect the overall operation of the business and the wealth of shareholders. Capital structure decision results in to leverage especially when the firm operation to use debts in financing operation Kodongo (2015). Use of debt are beneficial to an organization since they provide an interest tax shield that maximize the wealth of shareholder and improve on financial performance of firms Mwangi & Birundu (2015).

2.2.1 Capital structure irrelevant theory

This theory was founded by Modigliani and Miller (MM) in 1958. Firstly, they produce two propositions, the first concerns the irrelevance of firm value to its capital structure and the other concerns its irrelevance to dividend policy. In this paper we only see the irrelevance of firm value to its capital structure. The MM theory states that the conditions under which the choice between debt and equity to finance a given level of investment does not affect the value of a firm, implying that there is no optimal leverage ratio in other word, they hypothesized that if markets are perfectly competitive, firm performance will not be related to capital structure

thereby suggesting no much significant relationship between a firm's capital structure and performance of the firm. The value of the firm is similarly unaffected by its capital structure. Their assumption is on perfectly competitive market and it excludes the impact of tax, inflation and transaction costs associated with raising money or going bankrupt.

The choice of capital structure is irrelevant for maximizing the value of the firm which means market efficiency and no asymmetry information, no tax, no transaction cost and bankruptcy cost and hold the firm's investment policy constant then the value of the firm is independent of its capital structure or financing discussion does not matter.

There were various criticisms, which encourage M&M theory to issue a change to their first theory, which is referred to as MM2. In their revised proposition theory MM2 they include corporate tax benefits as determinants of capital structure. The vital characteristic of taxation is the acknowledgement of interest as a tax-deductible expenditure.

According to M&M2 a company that respects its tax obligations, benefits from partially offsetting interest, namely the tax shield in the form of paying lower taxes. Thus, M&M indicate that companies can maximize their value by employing more debt due to tax shield benefits allied with the use of debt. Hence, firms benefit from attractive on more leverage. M&M show that firm value and firm performance is an increasing function of leverage due to the tax deductibility of interest payments at the corporate level Modigliani & Miller (1963).

2.2.2 *Trade-off theory*

This theory is an extension of the MM theory developed by Miller. 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 the marginal benefits and costs of debt. In the beginning, the theory was limited to the tradeoff between the tax advantages of debt against the bankruptcy costs. Then it was extended to include benefits and costs associated with the use of debt in mitigating the conflicts among the agent groups associated firm.

Thus theory proposes that the firm's optimal capital structure include the tradeoff among the influences of firms and personal taxes, agency costs and bankruptcy costs, etc. it expect that corporations choose levels of debt in order to achieve a balance among the benefits from the

interest tax shield with the costs related to a future financial distress or with current financial inflexibility

Statics trade off theory and agency cost theory are two basics part of tradeoff theory. According to Kraus and Litzenberger (1973), the static trade-off theory assumes that Firms trade-off the benefits and costs of debt and equity financing and finds an optimal Capital structure after accounting for market imperfections such as taxes, bankruptcy costs and agency costs.

It also states that there is a benefit to financing with debt for the tax benefit. However, there is also a cost of financing with debt, namely the indirect bankruptcy costs and the more direct financial distress costs of debt. This is thus the trade-off that all firms, whom are maximizing value, should focus on when choosing the amount of debt and equity needed to finance their operations. therefore, this static trade-off theory of capital structure states that optimal capital structure is obtained where the tax advantage of debt financing balances leverage related costs like financial distress and bankruptcy by holding firm's assets and investment decisions stable. Baxter (1967) & Altman (1984) in view of this theory, claim that issuing equity means moving away from the optimum and should be considered bad news. According to Myers (1984), firms adopting this theory could be regarded as setting a target debt-to-value ratio with gradual attempt to achieve it.

Ebaid (2009) argue that leverage mitigates lower agency costs, since the firm's reputation and the managers' wages are at stake. On the other hand, higher leverage also means that the firm has higher commitment to fulfill its future obligations, in terms of principal and interest payments. Furthermore, higher leverage ratios also lead to higher costs relating to financial distress. Miller (1977) stated that the cost related to financial distress is not material compared to the benefits of higher leverage ratios.

Moreover, the trade-off theory suggests that those firms with higher levels of retained earnings, i.e. profitable firms, tend to have higher debt levels because they can more effectively use the tax shields on interest. in addition, since these companies have higher operating profits, the probability and costs of financial distress for the mare also lower. As a result, the trade-off theory expects a direct association between firms' leverage ratios and their performance.

However, if companies keep on raising debt beyond the optimum level, the advantage of tax eventually disappears and would most likely makes companies to go bankrupt; as a result, the inverse relationship will be observed.

2.2.3 *Pecking order theory*

The pecking order theory was initiated by the work of Myers and Majluf (1984). These theory states that due to asymmetric information occur in between managements (insiders) and investors (outsiders) in which there are situations management would have more information about companies' value and investment opportunities whereas investors might not.

Unlike the trade-off theory, the pecking order theory does not assume an optimal level of capital structure. Previously indicated Myers &Majluf (1984) help the pecking order theory which incorporates the assumptions of information asymmetry and transaction cost. This pecking order theory therefore suggests that firms should follow a financing hierarchy in order to minimize information asymmetry between parties. The theory states that companies prioritize their sources of financing from internal finance to equity finance, according to the principle of least effort of preferring to raise equity as a financing means of last resort. So, the pecking-order theory claims that internal funds are used first and only when all internal finances have been depleted, firms will option for debt. When it is not sensible to issue any more debt, they will eventually turn to equity as a last financing resource.

Summarizing, theory predicts that more profitable firms that generate high cash flows are expect to use less debt than those who generate lower cash flows. The pecking order theory argues that businesses hold to a hierarchy of finance sources and prefer internal financing when available. When external financing is required, a firm has preferred debt than equity. Equity requires the issuance of additional shares of a company which generally brings a higher level of external ownership into the company. So the form of debt that a firm chooses can be proceeding as a sign for its need of external finance. Thus firms that are profitable and generate high cash flows are expected to use less debt comparing to those who had generate low cash flows. So the theory suggests that firms prefer more debt. Muritala (2012) .All the previous mentioned mechanism suggests the pecking order theory claims a negative relationship between capital structure and performance of a firm. Hence, more profitable firm's options to use internal finance than debt finance.

Previous literature on the pecking order theory has provided different evidence regarding the impact of capital structure on firm performance.

To conclude the discussion with related to leverage and performance I forward some argument that profitable companies, with future investment opportunities, have the potential to build up their internal equity by retaining income from operation than those of unprofitable companies. Consequently, as pecking order theory suggest profitable companies could finance their project by using internal source of financing so that they come up with low debt level; the reverse effect also true. Therefore, leverage expected to has a negative relation with performance.

2.3 Capital Structure

It is all about portion of debt and equity or a combination of debt and equity used to finance a company's project or how a firm finance for its overall operations and growth. Debt is the main way of raising capital in the capital markets. Companies issue debt because of the tax advantage. Interest payments are tax-deductible. Debt also allows a company or business to retain ownership, unlike equity but if a firms finance its activity with debt the creditor expect the amount of the interest and principal fixed, legal commitment to be paid back as promised. Failure to pay may result in legal action by the creditors or may result financial distress and a distress company may enter a bankruptcy. Equity represents a claim on the future earnings of the company as a part owner and unlike debt; equity does not need to be paid back if earnings decline Bonaccorsi (2006).

On the other hand, both debt and equity can be found on the balance sheet. Companies that use more debt to finance assets generally have a high leverage ratio and an aggressive capital structure and the inverse is true when company use more equity than debt or a company that pays for assets with more equity than debt has a low leverage ratio and a conservative capital structure. That is, a high leverage ratio and/or an aggressive capital structure can also lead to higher growth rates, whereas a conservative capital structure can lead to lower growth rates. Finding the optimal mix of debt and equity is the goal of a company management also referred to as the optimal capital structure**.** Ebaid (2009), an optimal capital structure is the best debt-equity ratio for a firm that maximizes its value. The optimal capital structure for a company is one that offers a balance between the ideal debt-to-equity ranges and minimizes the firm's cost of capital.

While formulating or amending capital structure, companies have to consider the pros and cons of various sources of capital. Interest payments on debt are generally tax-deductible, but debt increases leverage and hence, the risk profile of the company. Firms in the same business sector generally will have similar capital structure and it varies widely across different sectors.

2.4 Variables

2.4.1 Short-Term Debt to total asset ratio

Short term debt ratio also indicates what portion of the total assets of a company is financed using from short term matured debt. And this measured as;

$$SDr = \frac{\text{Current Liabilitie}}{\text{Total Assets}}$$ Eugene F.&Joel F.(2008)

It also called current liabilities and a firm's financial obligations that would be pay within a year. It is the current liabilities from the portion total liabilities of a company. The value of the short-term debt account is very important when determining a company's performance. Simply put, the higher the debt equity ratio the greater the concern about company liquidity. If the account is larger than the company's cash and cash equivalents, this suggests that the company may be in poor financial health.

Most leases are considered long-term debt but sometime it may be considered as short term if it will be expecting to be paid within one year. If a company, for example, signs a six-month lease on an office space, it would be considered short-term debt. Finally, taxes are sometimes categorized as short-term debt. If a company owes quarterly taxes that have yet to be paid it could be considered a short-term liability and be categorized as short-term debt. Richard, Luqman & Joshua (2017)

2.4.2 Long-Term Debt-to-Total-Assets Ratio

Long term debt is a component in the capital structure of a firm. It is any amount of outstanding debt a company holds that has a maturity of 12 months or longer. It also classified as non-current liability on the company's balance sheet.

Prior studies on long term debt have offered varied results on the effects of Long term debt on financial performance. Ebaid (2009) in his study on the emerging market economy of Egypt

found that long term debt has a negative effect on return on asset. Huang & Song (2006) found that a long term debt has a negative effect on profitability as measured by the return on assets. Some researchers found that long term debt has a positive effect on financial performance such as Abor (2005). While others found that long term debt has a negative effect on financial performance such as Ebaid (2009) Huang & Song (2006), presents conflicting results on this important element of capital structure. As we know the major disadvantage of long term debt is interest. Ethiopian airlines most debt is long term debt and paid higher amount of interest to the lender. It would affect performance of the airlines. So the study would prove the negative relationship between long term debt and performance of Ethiopian Airlines

The long-term debt-to-total-assets ratio is a measurement representing the percentage of a corporation's assets financed with long-term debt which encompasses loans or other long term debt. This ratio provides a general measure of the long-term financial position of a company, including its ability to meet its financial ratio for outstanding loans.

The Formula for the Long-Term Debt-to-Total-Assets Ratio

LTD/TA =Long-Term Debt/Total Asset Eugene & Joel (2008)

A year-over-year decrease in a company's LTDTA ratio may suggest that it is becoming progressively less dependent on debt to grow its business. Although a ratio result is an indicative of a "healthy" company varies by industry, generally speaking, a ratio result of less than 0.5 is considered as good. Will (2019).

This ratio also a coverage or solvency ratio used to calculate the amount of a company's leverage. If a business has a high long-term debt-to-assets ratio, it suggests the business has a relatively high degree of risk and eventually it may not be able to repay its debts. This makes lenders and investors leerier about buying shares.

In contrast, if a business has a low LTDTA ratio, it can indicate the relative strength of the business. So, the assertion an analyst can make based on this ratio vary based on the firm’s industry as well as other factors and for this reason, analysts tend to compare these numbers between companies within the same industry.

2.4.3 Total debt to total asset ratio

The debt ratio (total debt to total asset) is financial ratio that measures the extent of a company's leverage or an indicator that measures the amount of debt in a company's capital structure which measures a company's financial leverage. A ratio that is greater than 1 show that a considerable portion of debt is funded by assets or the company has more liabilities than assets. A high ratio also indicates that a company may be put itself at a risk on its loans if interest rates were to rise unexpectedly. A ratio below 1 indicates that a greater portion of a company's assets is funded by equity.

A high debt to equity ratio generally indicates that a company has been hostile in financing its fund with debt. This can result in explosive earnings as a result of the additional interest expense. If the company's interest expense rises too high, it may increase the company's chances of a default or bankruptcy

2.4.4 Return on assets

Return on assets shows how profitable a company is relative to its total assets. It gives an idea as to how efficient management is use its assets to generate earnings. Maru (2018) ROA is calculated by dividing a company's total annual earnings by its total assets. It displayed as a percentage and it shows the percentage profitable a company's asset is in generating revenue. So the number tells that what the company can do with what it has, it means how many dollars of earnings they derive from each dollar of assets they control. It's a useful number for comparing competing companies in the same industry. The number will vary widely across different industries. Stephen (2008) Return on assets gives an indication of the capital intensity of the company which will depend on the industry; companies that require large initial investments will generally have lower return on assets. ROAs over 5% are generally considered good. Return on Assets measures the net income returned on each shilling of assets. This ratio measures overall profitability from our investment in assets. Higher rates of return are desirable. Return on Assets is calculated as Net income divided by average total assets.

2.4.5 Size of the Firm

Schmalensee (2001) define size in terms of total assets and used a number of accounting profitability measures including profit and ROA. Boyd and Runkle (1993) argue that a larger firm is more cost efficient and less likely to fail. This theory suggests that being bigger proffers an advantage in reducing pooled risks through a large number of contracting parties, thereby reducing the possibility of failure. Larger institutions are believed to have more profitable investment opportunities, higher efficiency, more diversification and a lower risk level. As pointed out by Mainelli and Giffords (2010), firms larger in size can enjoy economies of scale and scope and also pass an important criterion to enable them to compete globally. The size of a firm can be measured in a number of ways: assets, sales, employees and value added are commonly used measures.

Firm size is an important characteristic to increase performance. Large firms have more resources and capacity to undertake more product lines and higher production capacity together with organizational resources. This enables the firm to improve their financial performance since they can mitigate risks Alvarez and Barney (2001). Although smaller firms may be more flexible, it can be argued that larger firms have better prerequisites for behavior compared to their smaller counterparts. This is because larger firms may be better equipped to engage in inter-firm networking both in width (number of networking actors) and depth (networking intensity with the actors), with other organizations as well as outside the banking industry Pais and Stork (2011)

Large firms are posited to exhibit more trust to their cooperative partners in compared to smaller firms. This kind of trust enables large firms to gain high level of confidence that a firm has for its cooperative partners in matters of reliability and integrity to accomplish their obligation in the partnership. Boyd and Runkle (1993) argue that trust can serve as a substitute for or a complement to more formalized governance structure. Firms characterized by high levels of trust in cooperative partners will expect less potential drawbacks from exposure to possible losses or harm derived from actions taken by its partners in a situation of dependence and uncertainty. This assists the firm to save costs and hence improve financial performance.

Theory has shown that size has a positive impact on the financial performance of the firm as the larger firms achieve and make good use of the economies of scale and that their greatness allows

them to have better abilities to use technology in order to achieve larger market shares and better diversification of products and thus profitability Majumdar and Chhibber(1999). On that note, size of the firm is expected to have a positive impact on the financial performance of the firm

2.4.6 Asset tangibility

Tangible assets are physical assets that are used in a company's operations like property, plant and equipment or a physical item with a clear purchase value in a company. It contains both fixed and physical assets of airlines and in the long term investment in other companies or airlines. In airline it consists of aircraft, buildings, land, vehicles and equipment's. The second could be in share of quoted companies in which valuation can be based on the market price tangibility.The main purposes of tangible assets are providing collateral to lenders in times of financial distress and act as security against debt. It also represents protection to lenders against moral hazards resulted by the shareholder-creditor conflict, Jensen and Mekling, (1976). So, firms which have higher level of tangible assets are more likely to employ higher levels of leverage. Wessel and Titman (1988), Ragharam and Zingales(1995) argue that there is a strong negative relation between a firm's performance and asset tangibility but a positive association with long term debt. For instance, firms which have intangible asset are relatively less risky and tend to borrow less than firms which have tangible assets. Also companies that secure their long term debt with tangible assets are in fact able to borrow at much lower interest rates than the ones with intangible assets Bradley, Janell and Kim, (1984). However, the researcher expects that positive relationship between asset tangibility and firm's performance

2.4.7 Firm performance

The firm performance implies performance the organizational , including manufacturing of products and services, functioning of different units of the firm Performanc**e**. The accomplishment of a given task measured against the preset known standards of accuracy, completeness, cost, and speed.

The firm performance is a complex term which may include different shadows of meaning as long as it relates to organizational performance, functioning of the firm and outcomes of its operations. Normally, the firm performance implies the organizational performance including manufacturing of products and services, functioning of different units of the firm, performance

of its employees and outcomes of their work in total. At the same time, the firm performance can be viewed in a broader context as a part of the business development of the firm. What is meant here is the fact that the business development mirrors the firm's performance and allows to assess the extent to which the organizational performance is effective. At this point, it is important to place emphasis on the fact that the firm's performance is basically measured in terms of efficiency of the firm's operations. In fact, the more effective the firm's operations are completed the more positive the organizational performance and on the contrary, the low efficiency of firm's operations and employees' performance means the poor firm's performance. In this respect, employees' performance comprises an integral part of the firm's performance because, in the contemporary business environment human resources, comprise an important marketing asset of any organization. Therefore, the efficiency of employees' performance affects consistently the firm's performance Juliana & Luiz (2012)

2.5 Empirical Literature

Social research often needs to locate valid and reliable information concerning the dimensions of a population. It also seeks information about the way specific problems or resources are distributed among the populations in professional practice. Empirical literature resources may provide answers to many of these types of social work questions. In addition, resources containing data regarding social indicators may also prove helpful. So this paper review the previous research paper and journals in order to find the gap that the researchers are not assess.

Indris (2018) examine the effect of capital structure on financial performance of Kenya Airlines. The study is guided by capital structure irrelevance theories (MM1 hypothesis), the tradeoff theory and the packing order theory. He includes 46 airlines in a sample and 5 years (2013-2017) years' secondary data. The study concludes that debt equity ratio has inverse relation with financial performance and it supported by packing order theory and tradeoff theory. Furthermore, the study indicates firm size have direct link to financial performance and liquidity have inverse relationship with financial performance. The study recommends that the management team of all airlines in Kenya should be cautious on the amount of debt and equity on capital structure because too reliance on debts would affect financial performance of their company However, the researcher use only three variable to measure financial performance of a firm and it is not enough.

Amani (2013) Examine the impact of capital structure on financial performance CRDB bank PLC Mwanza branch. The researcher uses 15 (1998 - 2012) years' secondary data. The researcher takes only debt equity ratio as independent variable and ROE, ROA, ROI, EPS, net profit as dependent variable. The result shows that negative relationship between capital structure and net profit margin ROE, positive relationship between capital structure and ROA& EPS. The research concludes that, in order to increase the financial performance based on capital structure companies should consider taking several measures such as establishing performance standards. The research includes only one independent variable to measure firm's financial performance.

Nigussie (2019) Assesses the effect of capital structure on financial performance of insurance companies. The researcher used secondary data and the time frames are covers 10 years (2008-2017). The result of the study shows that debt ratios, degree of operating leverage and company size have statistically significant positive effect on the profitability of private insurance companies in Ethiopia and he conclude that that agency theory is relevant theory of capital structure in Ethiopian private insurance companies.

Abnet (2013) Examines the effect of capital structure on financial performance of Ethiopian metal and engineering industry. He takes debt ratio, short term debt and long term debt ratio as independent variable and company size and asset tangibility as control variable. The result shows that, debt ratio and short term debt ration a positive effect of debt ratio on financial performance of Ethiopia's metal and engineering industry and it supports tradeoff theory which suggesting that higher debt usage enhance financial performance since it has an advantage of tax deductibility of interest payments, lowering agency cost and reducing inefficiencies. On the other hand the long term debt ratio also shows insignificant and positive effect on financial performance with coefficient of 0.71 and p-value of 0.126. More over the researcher hypothesized that company size has significant and positive effect on financial performance but the result shows that there is positive but statically insignificant even at 10% significant level. In addition the researcher predict that asset tangibility has a significant and positive effect on financial performance of Ethiopia's metal and engineering industry companies but the result shows a negative impact on performance.

Maru (2018) Assesses the effect of capital structure on financial performance of construction companies in Addis Ababa. The researcher shows that short- term debt with p- value of 0.0472 was found to be statistically significant at 5% level and positively associated with returns on asset. The result also shows that long term debt with a p-value of 0.0388 recorded a significant positive relationship with return on asset at 5% level and total debt to equity had negative and statistically significant impact at 5% significance level. Moreover, the result shows firm size had positive and statistically significant effect on profitability at 1% level whereas; tangibility had positive and statistically significant effect on profitability at 1% level.

Roanne (2013) examines the impact of capital structure on firm performance and is based on the constituents of the S&P 500.Results of the research shows that leverage ratio negatively affects a firm's performance, while tangibility positively and significantly affect performance. Firms with higher levels of asset tangibility tend to have more flexibility when making financing decisions, since companies with higher tangible assets are faced with less bankruptcy risk. In addition to both asset turnover and asset tangibility also controls firm size and firm age. More established and mature firms tend to achieve higher return on assets, as they have gained market experience and survived throughout the years. When firms grow older, they are usually more experiences. However, the results are not in line with firm's age theory, since the results show a negative link between firm's age and firms performance it also shows that firm size has a positive impact on ROA.

Mohammed (2014) Assesses determinants of capital structure and its impact on the performance of Ethiopian insurance industry and the result shows, leverage effects negatively and statistically significant at 5% on firm performance (ROA) of Ethiopian insurance companies. On the other hand, fixed effect model shows firm size a positive and highly significant relationship for performance of Ethiopian insurance industry. The significance of firm size on performance indicates the large firms can earn high return compared to smaller firms, most likely as results of diversification of investment and economic scale so that it is supported by trade-off theory. More over the result indicates a negative and significant relationship between assets tangibility and performance (ROA) of the firm.

Abey (2017) Examines the impact of debt capital on financial performance in comparative analysis of South African and Sri Lankan listed companies by taking five-year period, 2011-

2015. The result shows that short-term debt and long-term debt has a negative impact on firm performance whereas size of the firm has a significant positive impact on firm performance.

Sohail (2019) Assesses the effect of debt financing on firm performance on non-financial sector of Pakistan. The result shows that performance of companies is negatively related to the short term and long term debt. He concluded that increase in debt cause the decrease in performance of the companies because debt is the expensive source of finance. So, the companies should rely on internal source of finance which is most reliable and cheapest source of finance on the other side firm size has significant and positive impact on the performance of companies. This shows that as the firm size increase the companies will take the benefit of economies of scale.

Nassar, (2016) Examines the impact of capital structure on financial performance of the firms a case of Borsa Istanbul. The researcher uses 8 years 'data and the results of the study shows a negative relationship between capital structure and financial firm. That mean using a high level of debt negatively affects a firm's performance.

Haziran (2016) Assesses the relationship between capital structure and firm performance on manufacturing industry in Borsa Istanbul during the period of 2003-2015. The researcher gets both short-term debt and long-term debts have a negative and statistically significant effect on ROA & ROE.

Umar & Sylvanus (2015) Assess the relationship between firm age and financial performance in Nigeria and an inverse relationship was found between firm age and financial performance.

Literature gap

Many scholars have done a lot of papers regarding on relationship between capital structure and firm's financial performance, effects of capital structure and firm's performance, impacts of capital structure and firm's performance and others. The research has done in different context in different country and different industries. But I have found some problems on the pervious study.

First, there is no universal agreement of the sign. Some researchers conclude that there is negative relationship between capital structure (STD and LTD) and firm's performance and the other concludes their positive impact capital structure on firm's performance. Not only capital

structure but also control variables like firm size asset tangibility and firm's age have different sign by different scalars.

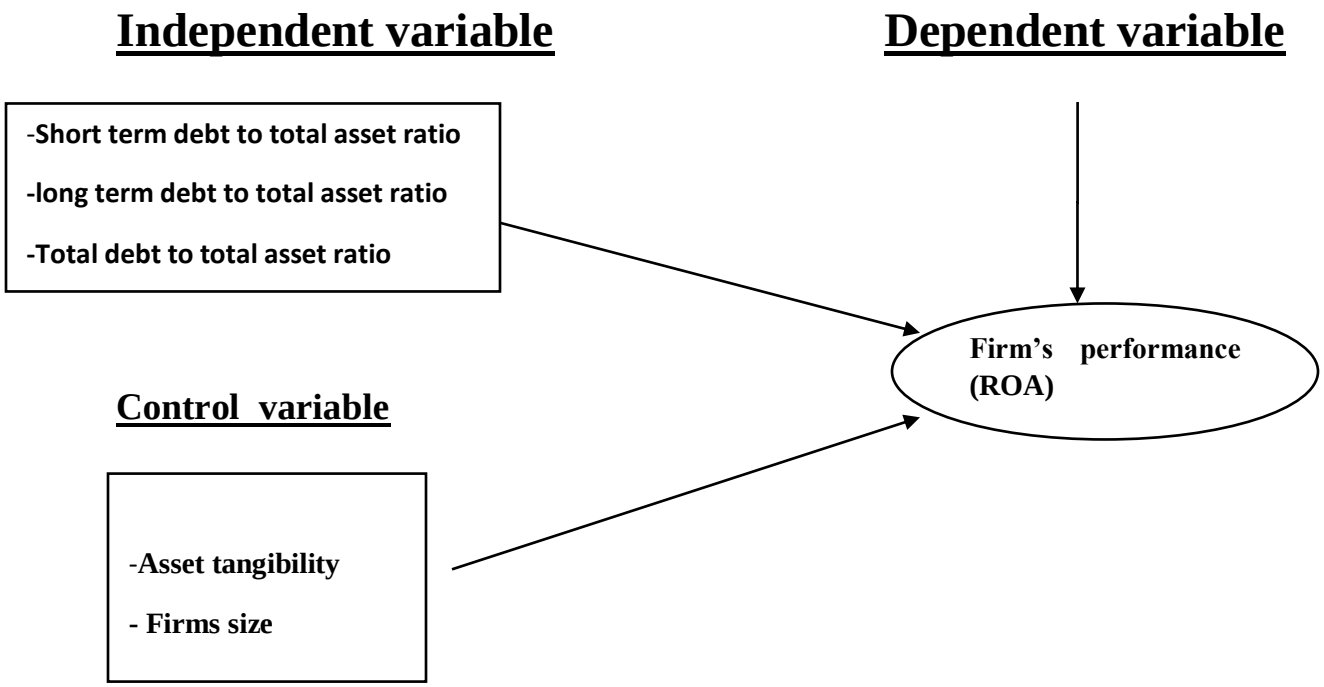
Abnet (2013) Maru (2018) Examines the effect of capital structure on financial performance of Ethiopian metal and engineering industry and construction companies in Addis Ababa and gets positive relation between short& long term debt on financial performances of a firm. Moreover, Roanne (2013) and Nassar (2016) get negative relationship between short & long term debt and firms performance. All the above thesis have no same agreement on relationship of capital structure and its impact on firm's performance. Some researches get negative relationship between capital structure and firm's performance and the other gets positive relationship even within the same industry in the same country. So this paper would set clear relationship about capital structure and firm's performance specifically impacts of capital structure on performance of Ethiopian Airlines.

Second, most scholar use two or less than two independent variables. Even some researches use one dependent and on independent. This is not enough to measure impacts of capital structure on firm's performance. Indris (2018) use only debt equity ratio to know impacts of CS on airlines performance. Sohail (2019),Nassar, (2016), Amani (2013) use only short & long term debt ration by ignoring other control variables like firms age, size and asset tangibility. To fill this literature gap, the researcher will cover short term debt long term debt ratio, debt ratio as independent variable and asset tangibility and firm size as control variable and firm performance specifically return on asset as dependent variable.

Lastly, all the above scalars listed in literature review are taking less than 10 years' data on their paper but it is not enough for masters research paper and this research uses 25 years (1994-2018) data to assess impacts of capital structure on performance of Ethiopian Airlines.

Conceptual framework

Figure 2.1Conceptual frame work of dependent and independent variable



CHAPTER THREE
RESEARCH METHODOLOGY

3.1. Introductions

This chapter describes the research methodology and research design with its corresponding methods that the researcher would conduct. It describes the type of research methodology the researcher would use and research design researcher would apply and also methods that select for data collection and analysis. Generally, it consists of research design, research methodology, data type and source of data, method of data analysis and interpretation and model specification.

3.2. Research design and approach

As the name indicates, research design is a master plan that specifies the methods and procedures for collecting and analyzing the needed information. It provides a framework or plan of action for the research as it constitutes the blueprint for the collection, measurement and analysis of data. There are three main categories of research approaches this are quantitative, qualitative and mixed. Quantitative research methodology describes, infers and resolves problems using numbers whereas qualitative data gathers non-numerical data and focuses on meaning making. The researcher will use quantitative research approach. Since, quantitative research approach is a means of testing objective theories by examining the relationship among variables. So the researcher would use quantitative research method. On the other hand, explanatory study aims to investigate social phenomena and display relationships between variables. Thus, in order to achieve the research objectives considering the nature of research problem and the research perspective, the study would apply quantitative research approach and explanatory research design.

3.3. Data type and Source of Data

The type of data used for this study would be secondary data from audited financial report of Ethiopian Airlines, portal page of Ethiopian Airlines and from Ethiopian Airlines website.

3.4 Model Specification

As indicated above, the dependent variable was performance of Ethiopian Airlines whereas total debt to total asset ratio, short term debt to total asset ratio, long term debt to total asset ratio, asset tangibility and firms size were used as independent variables of the study. So, models of this will be as follow:

$$\text{Performance} = \alpha + \beta_1 \text{STDTAR} + \beta_2 \text{LTDTAR} + \beta_3 \text{TDTAR} + \beta_4 \text{size} + \beta_5 \text{tangiable asset} + £_t$$

Where

βs= are coefficients

STDTAR=short term debt to total asset ratio
LTDTAR= long term debt to total asset ratio
TDTAR= total debt to total asset ratio
Size=firms size
£ =error term

3.5 Data analysis method

To achieve the stated objective of the study, time series data would be used that covers the period of 25 years (1994 to 2018) and multiple-regression analysis would be applied to verify the research hypotheses. After collecting the data from Ethiopian Airlines audited financial statements, the researcher would analyze by using STATA software package. Using this STATA package, the researcher undertakes various statistical analysis methods in order to test the proposed hypothesis. First, the study employed a descriptive statistics of variables to provide the researcher and audience in picturing the situation and to present relevant information Malhotra, (1997) cited in Bayeh, (2011). Then it conducted Pearson's correlation matrix test to

identify the relationship of each variable among them and with dependent variables, and various specification tests have been done to check for assumptions of classical linear regression model: heteroscedasticity, autocorrelation, multi-collinearity, and normality are held along with a test for either a fixed effect or random effect model is appropriate for the study. Finally, the study used multiple regression models to test the impact of capital structure on performance of Ethiopian Airlines by applying ordinary least square (OLS) regression method with a rational that it can minimize the error between the estimated point on the line and the actual observed points of the estimated regression line giving the best fit San and Heng, (2011).

The impact of each explanatory variable on performance was assessed in terms of the statistical significance of the coefficients 'βs'. Using a 1%, 5%, and 10% level of significance, an estimated coefficient was considered to be statistically significant: at 1%, if p-value < 0.01,at 5%, if p-value < 0.05 and at 10%, if p-value < 0.1. It is conventional to use a 5% significance level, but 10% and 1% are also commonly used Brooks (2008). The signs in the model reveals the expected relationship between the dependent variable and independent variables. Lastly, all results are presented in tables.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introductions

This chapter presents researcher main findings of capital structure and its impact on the performance of Ethiopian Airlines and also includes analysis and discussion of the results in comparison to the theories and earlier empirical results discussed and presented in previous chapters by using classical linear assumption and model specifications. In this study return on asset (ROA) used as dependent variable for measuring firms performance and short term debt to total asset ratio, long term debt to total asset ratio, total debt to total asset ratio, asset tangibility and firm size as independent variable. It also presents the results of time-serious data regression analysis results, data taken from balance sheets and income statements in Ethiopian Airlines.

4.2 Descriptive Statistics

Under this section, summary of descriptive statistics of dependent and independent variables of 'the study have been presented.

Table 4.1 Descriptive statistics of dependent variable followed by independent variables for the study period of 1994-2018

Variables	ROA	TDTTA	STDTAR	LTDTAR	Asset tangibility	Firm-size
Mean	0.0548	0.8696	0.3476	0.5228	0.8856	9.9104
Std.Dev.	0.0403237	0.1160632	0.0950561	0.1071805	0.1148216	.6848629
Min	0.01	0.64	0.21	0.2	0.71	9.14
Max	0.17	1.06	0.55	0.68	1.05	11.24
Observation	**25**	**25**	**25**	**25**	**25**	**25**

- Source; generated from STATA

As presented in above table the average value of the performance ratios measured by ROA is 5.48% (0.0548) which implies that on the study period (1994-2018) EAL on average earned a net profit of 5.48% of total asset with minimum and maximum value of 1% (0.01) and 17% (0.17) respectively. The standard deviation of ROA is 4.03% (.0403237) this statistical measurement implies that, the volatility of return on asset (ROA) from the mean value is 4.03% during the study period.

The average value of short term debt to total debt ratio which is measured by short term debt divided by total asset was 34.76 %. It shows that on average EAL financed 34.76 % of its assets through short term debt financing. Furthermore, the highest short term debt to asset ratio of EAL in a particular year was 55 % and in the same way the minimum ratio for the company in a year was 21%. The value of short term debt to asset ratio can deviate from its mean by 9.51% during the studying period.

Similarly, the results of descriptive statistics show that the average long term debt ratio which measured by long term debt divided by total asset was 52.28% it shows that on average EAL financed 52.28 % of its assets through long term debt financing. It also shows that the company use long term debt as their major source of financing as compared to short term debt.

The maximum and minimum long term debt ratio financing used by a company is 68% and 20% respectively. The standard deviation long term debt is 10.72% which indicates the value of long term debt to total asset ratio deviate from its mean by 10.72%

Besides, the average value of total debt ratio measured by total debt over total asset was 86.96%. The ratios imply most of the company's asset is financed by debt financing. The maximum and minimum values were 106 % and 64 % respectively for the study period. With regard to standard deviation, the value of debt ratio is deviate from its mean by 11.61%.

Moreover, the average value of asset tangibility which is measured by fixed asset divided by total asset is 88.56%. This result also could be described in other words as 88.56% of the total assets are fixed assets so in most situations it used as collateral to get loan providers. The maximum and minimum values of asset tangibility were 105% and 71% respectively. The standard deviation of asset tangibility is 11.48% which indicates the value of asset tangibility deviate from its mean by 11.48%

Lastly, the average size of the EAL is 991.04% (9.9104) which implies control variable measured by natural log of total asset which indicates very important for a company to be large in order to have superior performance. A maximum and a minimum value of size is 1124% (11.24) and 914% (9.14) respectively. The standard deviation of the firm size is 68.49% (0.6848629) which indicates that it deviate from mean by 68.49%.

4.3 Correlation analysis

Correlation is a measure of the degree of linear association between two variables that don't depend on the unit of measurements and it indicates about how the relationship is strong between two variables Gujarati (2009). Before conducting a regression analysis, it is important to conduct a correlation analysis among the study's dependant and independent variable to check whether the association between the variable exists or not

Table 4.2 correlation matrix between dependant and independent variables for the study period of 1994-2018

Variables	ROA	TDTTA	STDTAR	LTDTAR	Asset tangibility	firmsize
ROA	1.0000					
TDTTA	-0.2889	1.0000				
STDTAR	0.3608	0.4913	1.0000			
LTDTAR	-0.6280	0.6318	-0.3641	1.0000		
Asset TAN	-0.6684	0.6849	0.0482	0.6958	1.0000	
Firm-size	0.0627	-0.4835	-0.4049	-0.1645	-0.5752	1.0000

- Source, generated by STATA

Table 4. 2 above show that the performance of Ethiopian airlines measured by ROA is positively correlated with firm-size and STDTAR and negatively correlated with TDTTA, LTDTAR and Asset TAN. The positive correlation shows that when firms are become large & increase short term debt, airlines performance (measured by ROA) also increase and the reverse is true. On the other hand, the negative relationship implies that the airlines performance (measured ROA) goes down as total debt, long term debt and asset tangibility rise and the reverse is true. To study the mutual disparity of these relationships, multiple correlations analysis have been taking up. If there is high degree of correlation (i.e. greater than 80% correlation coefficient) between variables, there will be a multi-collinearity problem in the model Guajarati (2004). The above table reveals that the highest correlation is 69.59% between Asset tangibility and LTDTAR and which is less than 80% and there is no multi-collinearity problem which affects the model.

4.4 Tests for the Classical Linear Regression Model (CLRM) assumptions

4.4.1 Multicollinearity Test

Multicollinearity test is used to identify the correlation between explanatory variables and to avoid double effect of independent variables from the model Brooks (2008). An implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another. If there were no relationship between the explanatory variables, they would be said to be orthogonal to one another. If the explanatory variables were orthogonal to one another, adding or removing a variable from a regression equation would not cause the values of the coefficients on the other variables to change. if the correlation coefficient along with the independent variables is 0.8 and above, multicollinearity problems will be existed. Brooks (2008) and Guajarati (2004)

On the other hand According to Kennedy (2008) as it is cited in Negussie (2019), the multicollinearity problem exists when the correlation coefficient among the variables are greater than 0.70

As indicated in the below table 4.3, there is no correlations between independent variables. Since multicollinearity existed when the correlation between independent variables more than 0.7 or 0.8 and above. Kennedy (2008), Brooks (2008) and Guajarati (2004) respectively.

In the below table the highest correlation is 0.6958 or 69.58% between asset tangibility and long term debt which is less than 0.70 and0.80. Thus, the researcher concludes that there is no evidence for presence of multicollinearity problem in this study model.

Table 4.3 Correlation Matrix between independent variables

	TDTTA	STDTAR	LTDTAR	Asset tangibility	Firmsize
TDTTA	1.0000				
STDTAR	0.4913	1.0000			
LTDTAR	0.6318	-0.3641	1.0000		
Asset TAN	0.6849	0.0482	0.6958	1.0000	
Firm-size	-0.4835	-0.4049	-0.1645	-0.5752	1.0000

- Source, Correlation Matrix generated by STATA

4.4.2 Heteroskedasticity Test

The classical assumption required for the OLS estimator to be efficient states that the variance of the error term has to be constant and the same for all observations or the error terms are uncorrelated with mean zero and constant variance. This is referred to as a homoskedastic error term. When that assumption is violated and the variance is different for different observations we refer to this as heteroskedasticity. In other word Heteroskedasticity is a systematic pattern in the errors where the variances of the errors are not constant Gujarati (2003). Heteroskedasticity makes ordinary least square Estimators not efficient because the estimated variances and covariance of the coefficients are biased and inconsistent and thus, the tests of hypotheses are no longer valid.

Ho: there exists Hetroscedasticity

H1: There exists homoscedasticity

The researcher used White's test to check the presence of heteroskedasticity. White's test tests the null hypothesis that the variance of the residuals is homogenous. If the p-value is less than 0.05 there exist Hetroscedasticity problem and if P-value is greater than 0.05 there is not Hetroscedasticity we would have to reject the null hypothesis.

Table 4.4 Heteroskedasticity Test

White's test for Ho: homoskedasticity
against Ha: unrestricted heteroskedasticity
chi2(18) = 17.10
Prob > chi2 = 0.5163

Source: heteroskedasticty test results from STATA

As shown in the above table the P- value is 5.16. Since the p-values exceed 5% there is no problem of heteroscedasticity and we can't reject the null.

4.4.3 Test for normality

Normality test of data is applied to determine whether a data is well-modeled by a normal distribution or not, and to compute how likely an underlying random variable is to be normally distributed. Kibrom (2010)

Normality is the assumption that the distribution of residuals is normal Brooks (2008).This assumption is very important in hypothesis testing since the violation of the assumption would affect the reliability of hypothesis testing. A normal distribution is symmetrical (bell shaped) with skewness of 0 and kurtosis of 3.

Ho: The residuals are normally distributed

H1: The residuals are not normally distributed

The p-value given at the bottom of the normality test screen should be greater than 0.05 to not reject the null hypothesis normality at 5% significant level

Table 4.5 normality test

Skewness/Kurtosis tests for Normality					
------- joint ------					
Variable |	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
R	25	0.0591	0.1434	5.46	0.0652

Source: normality test results from STATA

As shown in the above table 4.5 the p-value is 0.06 which greater than 0.05 and we can't reject the null. So that the researcher conclude that the residual are normally distributed.

4.4.4. Test of autocorrelation

CLRM states that the covariance's and correlations between different disturbances are all zero. If this assumption is no longer valid, then the disturbances are pair wise autocorrelated or Serially Correlated. Autocorrelation is most likely to occur in time series data. This means that an error occurring at period t may be carried over to the next period t+1.

The researcher use BREUSCH-GODFREY LM test for autocorrelation.

Ho: there is no serially correlation

H1: There is serially correlation

Table 4.6 test for autocorrelation

Breusch-Godfrey LM test for autocorrelation			
lags(p) |	chi2	df	Prob > chi2
1 |	3.002	1	0.0832
H0: no serial correlation			

Source: autocorrelation test results from STATA

As shown in the above table 4.6 serial correlation LM test, there is no serial correlation. Since p-value is 0.0832 or 8.32% and it is more than 0.05 or 5% we can't reject the null hypothesis. In other word there is no a serial correlation between the residual in the model.

4.5. Multiple regression analysis and results interpretations

In the previous sections of this chapter the researcher tries to provide basic and important information about the characteristics of the data, number of observations, dependant and independent variables using a descriptive statistics, and it also tried to see the relation between the dependent variable with the independent and control variables and their relationships using a correlation matrix. The regression analysis was conducted to estimate the impact of short term debt, long term debt, total debt, firm-size, and asset tangibility on Ethiopian airlines performance (ROA) for a period of 25 years (1994-2018).

Table 4.7 result of model Regression for the period 1994-2018

```
opened on:  17 Jun 2020, 09:26:05
. reg roa tdtta stdtar ltdtar assettangiblityration firmsize
Source |       SS           df       MS                 Number of obs =      25
-------------+----------------------------                F(  5,    19) =    8.25
Model |     .026718328     5    .005343666               Prob > F      =  0.0003
Residual |  .012305673  19    .000647667                R-squared     =  0.6847
-------------+----------------------------                Adj R-squared =  0.6017
Total |    .039024001      24      .001626                Root MSE      =  .02545
------------------------------------------------------------------------------
roa |          Coef.          Std. Err.       t      P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
tdtta |        -1.803306       1.476881    -1.22    0.237    -4.894454    1.287842
stdtar |        1.968175       1.512373     1.30    0.209    -1.197258    5.133609
ltdtar |        1.867781       1.512347     1.24    0.232    -1.297598     5.03316
assettangi~n |  -.3405788      .085516    -3.98    0.001    -.5195658   -.1615918
firmsize |     -.0182429      .0107552    -1.70    0.106    -.0407538     .004268
```

_cons	.4447523	.1556651	2.86	0.010	.1189415	.7705631

Source; Regression result generated from STATA

As indicated the above table 4.7 shows that ROA is taken in to account as proxy or performance. When we see the R^2 is 68.47% which implies that 68.47% performance of the firm (ROA) explained by independent variables (short term debt, long term debt, total debt, asset tangibility and firm size).

Asset tangibility and firm size are statically significant at 5% level of significant. On the other hand total debt, short term debt and long term debt are not significant during the study period of the research.

As shown in the above table result short- term debt and long term debt with p- value of 0.209 and 0.232 respectively were found to be statistically insignificant at 5% level and positively associated with returns on asset. On the other hand total debt and firm size with p-value 0.106 and 0.237 respectively have negative and statistically insignificant effect on performance at 5% significant level. Whereas; asset tangibility with p-value 0.001 was fond to be statically significant at 5% significant level and negative association with ROA

4.6 Research hypotheses and discussions

In this section the researcher interprets the regression result and discuss on each research hypothesis. As stated in chapter one there are hypothesis in order to achieve the objective of the research.

H1 there is positive relation between short term debt and performance of Ethiopian airlines.

As indicated in the above tables 4.7, the coefficient of short term debt is positive and the study found a positive and statistically insignificant relationship between short term debt (stdtar) and performance of Ethiopian airlines which measured by return on asset, at 5 percent level of significance and the result sign was as expected. This implies that every 1 birr change (increase or decrease) in Ethiopian airline keeping other things constant had a resultant change of 1.97

cents on the return in the same direction. In addition to this, the result implies that short term debt level increases its return on asset also expect to increases

Therefore, the null hypothesis which states in chapter one, that short term debt to total asset has positive and insignificance impact on performance Ethiopian Airlines has failed to reject. This suggests that short-term debt tends to be less expensive as; therefore increasing short- term debt with a relatively low cost will lead to an increase in profit levels. This finding was consistent with the findings Abor (2005) which founds a positive relation with performance which he indicated that short term debts are less expensive in which increasing short term debt with a relatively low interest rate will lead to an increase in performance level. Additionally, Ellili and Farouk (2011) supported this and justified that more profitable companies used short term debt in financing their operating activities.

H2 there is negative relationship between long term debt and performance of Ethiopian airlines.

From the above table 4.7 Regression results, the long term debt ratio (ltdtar) is statistically insignificant and positive association with return on asset (ROA) with P-value 0.232 at 5% significance level. This implies that every 1 birr change (increase or decrease) in Ethiopian airlines keep other things constant had a resultant change of 1.87 cents on the return in the same direction. Therefore, the null hypothesis which states that long term debt to total asset has negative impact on performance Ethiopian Airlines were reject. The result sign was not as expected. This result implies that long term debt level increases its return on asset is expected to increases with less than short term debt on this research. The results tend to refute the pecking order theory which stated on chapter one and support the trade-off theory.

H3 there is negative relationship between total debt ratio and performance of Ethiopian airlines.

From the above table 4.7 Regression results, the debt ratio (tdtta) is statistically insignificant and negative association with return on asset (ROA) with P-value 0.237 at 5% significance level. This means that there is a negative but statistically insignificant relationship between ROA and total debt to total asset ratio. This indicates that, holding other things constant, a 1 birr increase in total debt will result to 1.8 birr decreases in ROA. The sign of this hypothesis is as

expected. This negative relationship between total debt and performance (ROA) is also supported by pecking order theory. As a result, the null hypothesis which states that Total debt to total asset has negative and insignificance impact on performance Ethiopian Airlines was failed to reject.

H4*there is positive relationship between firm size and performance of Ethiopian airlines*.

From the above table 4.7 the firm size which measures log of total asset had negative and insignificantly impact on the performance of Ethiopian airlines with p-value of 0.106 at 5% significant level. The sign of the hypothesis had not as expected. This indicates, holding other things constant, a 1% increase in size will result to 0.0182429 decreases on the ROA. Hence, the null hypothesis which states Asset size has positive impacts on performance of Ethiopian airlines had reject. This indicates that, bigger size firms have less return on asset compared to small size firms. Thus result contradict to the arguments of *Ebaid (2009)*& Penrose (1959) *they* argue that larger firms benefit from economies of scale, which can also have a Positive impact on performance.

H5*there is positive relationship between asset tangibility and performance of Ethiopian airlines*.

As presented in the above table 4.7 regression result reveled that, there is a significant negative relationship between asset tangibility and performance of Ethiopian airlines with p-value 0.001 at 1% significance level and the result was not consistent with the expected sign and its coefficient is -0.3405788. This means, holding other things constant at their average value, when tangibility ratio increased by one unit, performance (ROA) would be decreased by 0.3405788 units. Therefore, the null hypothesis which states that Asset tangibility has positive and significance effect on performance Ethiopian airlines had reject. Thus result contradict to the arguments of Mackie- Mason (1990) & Akintoye (2008) which stated in chapter one.

Table 4.8: summery of Comparison of expected and actual result of hypothesis

Types of variables	Name of variables	Formula	Expected sign	Actual result sign
Dependent Variable	Return on Asset	ROA=Net profit / Total asset		
Independent Variables	Short term debt to total asset ratio (Stdtar)	Stdtar=short term debt / Total asset	positive	positive
	long term debt to total asset ratio (ltdtar)	Ltdtar=long term debt / Total asset	negative	positive
	Total debt to total asset ratio (tdtta)	Tdtta= total debt / Total asset	negative	negative
Control variables	Asset tangibility	Asset tangibility=fixed asset / Total asset	positive	Negative
	Firm-size	Firm-size=log(total asset)	positive	Negative

CHAPTER FIVE

SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATION

5.1 Summary of finding

In this study, the empirical analysis of investigating the impact of capital structure on performance of EAL was conducted using a time series data which consists of audited financial data for the period of 1994 to 2018.

The overall result obtained from the regression model indicates that capital structure has an impact on performance of EAL. in order to achieve the stated objective, the researcher use variable short term debt to asset ratio , long term debt to asset ratio, total debt to total asset ratio, firm size and asset tangibility as independent variable and the dependent variable return on asset were used as to measure performance of Ethiopian airlines.

The results of regression analysis revealed that short term debt had positive and statistically insignificant impact on performance of Ethiopian airlines. The reason for this are, short term debt tend to be less expensive compare to long term debt because of interest; therefore increasing short debt with a relatively low cost will lead to an increase in return of the company. Similarly, long term debt had positive and statistically insignificant impact on performance of EAL which implies EAL increase level long term debt ,its return on asset is expect to increase. These results also contradict the pecking order theory and support the trade-off theory. The sign of the result also has not as expected. On the other hand, debt ratio (total debt to total asset) had negative and statistically insignificant impact on performance of Ethiopian airlines. The sign of the result was as expected.

Furthermore, firm size had negative and statistically insignificant impact on performance of EAL Thus result the regression had contradict to the arguments of *Ebaid (2009)&* Penrose (1959) which stated on chapter one.

Lastly, asset tangibility had a negative and statistically significant impact on performance of Ethiopian airlines. The possible cause of the result is firms with more tangible assets would have not current asset in order to facilitate day to day activities.

5.2 Conclusion

Many researchers who tested the relationship between capital structure and firm performance came up with controversial results; some discovered the negative relationship between the variables, some discovered positive relationship while others revealed no relationship between capital structure and performance. These contradictory findings reveal that there is inconsistency among research findings on the impact of capital structure on firm's performance. In Ethiopia, as far as the knowledge of the researcher is concerned, there is no empirical research done concerning the effect of capital structure on performance of Ethiopian airlines, which motivates the researcher to do this research. The objective of this study was to examine the effect of capital structure on performance of EAL. To achieve the objectives, the study used quantitative approaches and time series data analysis methodology. The study used time series data for the period of 25 years (1994 to 2018) of Ethiopian airlines. The study used fixed effect regression model to estimate the relationship between the capital structure and firm performance measured by ROA.

The research used balance sheet and profit and loss statement which was obtained from Ethiopian airlines financial audited statement. For the data analysis, STATA econometric software was used to analyze the collected data. the results of the fixed effect estimation model showed the existence of the following relationship between dependent variable and independent variables.

In relation to ROA, there was insignificant positive impact of short term debt to asset ratio on performance on Ethiopian airline performance in agreement with a priori expectation. Similarly, the long term debt had insignificant positive impact on financial performance and also contradicted with a prior expectation. Besides, total debt ratio of the firm had insignificant negative impact on performance of Ethiopian airlines, which was as expected.

On the other hand a control variable firm-size has negative impact on performance of Ethiopian airlines for the studying period and contradicted prior expectation. Similarly, asset tangibility showed negative and significance impact with performance of Ethiopian airlines which contradict with a prior expectation.

5.3 Recommendations

Based on the above findings obtained from the result of the study, the researcher set the following recommendations.

Among the factors that affect performance of EAL is its capital structure decision. Finding reveled that debt had negatively correlated with performance of EAL which indicates higher debt decline performance of Ethiopian Airlines. The negative impact of debt on capital structure will came from improper utilization of debt and it needs a systematic consideration to what extent debt should be taken because excessive utilization of debt exposed to bankruptcy risk. Thus, the researcher recommends that the higher level management should determine the optimal capital structure by understanding the negative impact of debt.

Finding of the research also showed that except short term and long term debt all capital structure variables had negative and insignificant impact on performance of Ethiopian Airlines. Therefore the study recommends that the higher level management of the EAL should minimize fixed asset in addition to total debt in order to increase performance of the airline. Thus the company should avoid invest in tangible asset to increase performance of the airlines and the researcher also recommend that EAL should exert an effort to access short term debt by using every possible means to facilitate day to day operation.

.

For Future Researchers

This paper had put some ground work to explore the impact of capital structure on airlines performance by using short term debt to asset ratio, long term debt to asset ratio, total debt to total debt ratio, firm size and tangibility to measure the impact on firm's performance. The study mainly focuses on the relation between capital structure and EALs performance measured by ROA. There are also other measures of performance like ROE that will consider for further study. In addition to this, future researchers who want to conduct research on the same issue will do by including variables which weren't included in this study like debt equity ratio, growth, interest coverage ratio.

The other important issue which was not found exactly in this study is the question of availability short term debt to adjust capital structure of the company. This also requires an investigation.

Finally what proportion capital structure is good and what proportion of capital structure is bad had not included in these research. Thus further researcher who want to study in the same title recommend to included best and bad proportion of capital structure.

References

- Abnet melese (2013) the effect of capital structure on financial performance: Ethiopia's metal and engineering industry. Addis Ababa University
- African Airlines Association (2017) annual report, Nairobi: camerapix magazines Ltd.
- Michael c. Ehrhardt &Eugene f. brigham (2010) University of Tennessee &Florida Financial Management: Theory and Practice 13th Edition
- Eugene F. Brigham&Joel F. Houston (2008) Fundamentals of financial management 12th edition University of Florida
- Abor, j. (2005) The effect of capital structure on profitability: an empirical analysis of listed firms in ghana. the journal of risk finance, vol. 6 (5) pp 438-445.
- Abor, j. (2007). Debt policy and performance of smes: evidence from ghanaian andsouth africa firms. *journal of risk finance , 8,* 364-79.
- Adesina, J.Nwidobie, b.m & Adesina o.o. (2015) capital structure and financial performance in Nigeria international jornal of bussines and social research ,5(2) 21-31
- Altman, e. (2002). Bankruptcy, credit risk, and high yield junk bonds.
- Alvarez, S. A. & Barney, J. B. (2001). How can entrepreneurial firms really benefit from alliances with large firms, academy of management executive, 15,139-48
- Aragaw Hailu (2015) *The impact of capital structure on profitability of commercial banks in Ethiopia*
- Arbabiyan, Ali-akbar, Safari, & Mehdi. (2009). The effects of capital structure and profitability in the listed firms in tehran stock exchange. *journal of management perspective , 33,* 159-175
- Arulvel, k & Ajanthan. a (2013) Capital structure and financial performance: a case study of listed trading company in Srilanka academician: an international an international multidisciplinary research jornal, 3(6) 1-13
- Baxter, n. (1967). Leverage, risk of ruin and the cost of capital. *the journal offinance , 22* (3), 395-403.
- Boyd, j.h. &runkle, d.e. (1993). Size and performance of banking firms: testing the predictions of theory, journal of monetary economics, 31, 47-67.

- Bradley m., Jarrell g., Kim e. h. 1984. on the existence of an optimal capital structure: theory and evidence. *journal of finance* 39(3), 857-878
- Brooks, C. (2008).Introductory Econometrics for Finance (2nd Ed.).New York, USA: Cambridge University Press
- Capon, n., farley, j., &hoenig, s. (1990). determinants of financial performance: ameta-analysis. *management science , 36* (10), 1143-1159.
- Chakraborty, i. (2010). capital structure in an emerging stock market: the case ofindia. *research in international business and finance , 24*, 295-314.
- D.k.y. Abeywardhana (2017) examine the impact of debt capital and financial performance: a comparative analysis of south african and sri lankan listed companies.asian journal of finance & accountingissn 1946-052x2017, vol. 9, no. 2
- Deesomsak, r., Paudyal, k., &Pescetto, g. (2004). the determinants of capitalstructure: evidence from the asia pacific region. *journal of multinational financialmanagement , 14*, 387-405.
- Dessi, r., & Robertson, d. (2003). debt, incentives and performance: evidence fromuk panel data. *economic journal* .
- Ebaid, I. (2009). the impact of capital-structure choice on firm performance:empirical evidence from Egypt. *the journal of risk finance , 10*, 477-487.
- Ellilin.d. and farouk s. (2011) examining the capital structure determinants empirical analysis of companies traded on Abu Dhabi stock exchange. international research journal of finance and economics(67) pp 82-96.
- Gujarati, D. N. (2003). Basic Econometrics. 4th Edition, Boston: McGraw-Hill.
- Hatfield, G., Cheng, l., & Davidson, w. (1994). the determination of optimal capital structure: the effect of firm and industry debt ratios on market value. *journal of financial and strategic decisions , 7* (3).
- Ionela Claudia Tomoiaga (2014): - The effect of capital structure on world airlines‟ value
- Jensen m. c., Meckling w. h. (1976). theory of the firm: managerialbehavior, agency costs and ownership structure. *journal of financial economics 11,* 305-360.
- Juliana Bonomi Santos&Luiz Artur Ledur Brito (2012)Toward a Subjective Measurement Model for Firm Performance, Lancaster University Management School.

- Karadeniz, e., Kandir, s., Balcilar, m., & Onal, y. (2009). determinants of capital structure: evidence from Turkish lodging companies. *international journal of contemporary hospitatlity management , 21*, 594-609.
- Kasim Kiraci & Nurhan Aydin (2018) factor that determine the capital structure . an empirical study on low-cost airlines.
- Karadeniz, e., Kandir, s., Balcilar, m.,& Onal, y. (2009). determinants of capitalstructure: evidence from Turkish lodging companies. *international journal ofcontemporary hospitality management , 21*, 594-609
- Kibrom Mehari (2010)the determinants of capital structure Evidence from Commercial Banks in Ethiopia.Mekelle University
- Kodongo o., Mokoalelit.,Maina, l.n (2015) capital structure, profitability and firm value panel evidence of listed firmes in Kenya African finance jornal 17(1) 1-20
- Kamau Julienne Njeri (2018) the relationship between capital structure and profitability amongst airlines firm in Africa, university of Nairobi
- Mainelli, m. &Giffords, b. (2010). size matters: risk and scale, the journal of risk finance, 11, 344-348.
- Majumbar, s., &Chibber, p. (1997). capital structure and performance: evidencefrom a transition economy on an aspect of corporate governance. *public choice ,98*, 287-305.
- Majumdar, s. k., &Chhibber, p. (1999). capital structure and performance: evidence from a
- Manawaduge, a., Zoysa de, a., Chowdhury, k., &Chandarakumara, a. (2011).capital structure and firm performance in emerging economies: an empirical analysis of Sri Lankan firms. *corporate ownership & control*
- Marutelila (2018) the effect of capital structure on financial performance of construction companies in Addis Ababa
- Marutelila (2018) The effectof capital structure on financial performance of construction companies in Addis Ababa.
- Mathewos Woldemariam (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)
- Miller, m. (1977). debt and taxes. *journal of finance , 32*, 261-275.

- Modigliani, f., & Miller, m. (1958). the cost of capital, corporation finance and thetheory of investment. *American economic review , 48*, 261-97.
- Mohammed Getahun(2014) determinants of capital structure and its impact on the performance of Ethiopian insurance industry. Jimma University
- Muritala, t. (2012). an empirical analysis of capital structure on firms performance in Nigeria. *international journal of advances in management and economics* , 115-124.
- Mwangi & Birundu, (2015) the effect of capital structure on the financial performance of small and medium enterprise in thinka sub country, Kenya, international journal of humanity and social science, 5(1)
- Myers, s. (1984). the capital structure puzzle. *journal of finance , 39*, 575-92.
- Myers & Majluf (1984). corporate financing and investment decisions when firms have information that investors do not have. *journal of financial economics ,13*, 31-49.
- Nassar, j Bus (2016) the impact of capital structure on financial performance of the firms: evidence from Borsa Istanbul. journal of business & financial affairs
- Negussie Mulugeta(2019) the effect of capital structure on financial performance of insurance companies: empirical evidence from private insurance companies in Ethiopia. Addis Ababa University
- Onaolapo, a. (2010). capital structure and corporate performance: evidence from Jordan. *Australian accounting, business & finance journal , 1* (4), 40-61.
- Pais, & Stork. (2011). bank size and systemic risk, European financial management, 1-22
- Raghuram Zingales (1995). what do we know about capital structure? some evidence from international data. *the journal of finance50(5)*, 1421-1460
- Roanne n. Martis (2013) capital structure and firm's financial performance an empirical analysis of the s&p500
- Roden ,& Lewellen, (1995). corporate capital structure decisions: evidence from leveraged buyouts. *financial management , 24*, 76-87.
- Salteh, Ghanavati, & Khosroshahi, m. (2009). capital structure and firm performance: evidence from Tehran stock exchange

- Schmalensee, R. (2001). intra-industry profitability differences in us manufacturing: 1953-1983, journal of industrial economics, 37, 337-357.
- Shyam-sunder, L., & Myers, s. (1999). testing static tradeoff against pecking order models of capital structure. *journal of financial economics , 51*, 219-244.
- Sohail Aziz & Ulfat Abbas (2019) assess effect of debt financing on firm performance on non-financial sector of Pakistan. open journal of economics and commerce volume 2, issue 1, 2019, pp 8-15 issn:2638-549x
- Soumadi, M.& Hayajneh, o. (2012). capital structure and corporate performance:empirical study on the public Jordanian shareholdings firms listed in the Amman stock market. *European scientific journal*
- Stephen A. & Ross, R. W. (2008). Corporate Finance (8th ed.). New York, USA: McGraw-Hill Inc .
- Stiglitz (1974). on irrelevance of corporate financial policy. *American economicreview , 64* (6), 851-66.
- Titman & Wessels (1988). the determinants of capital structure choice.
- Fama & Fench (2002). testing trade-off theory and pecking order predictions about dividends and debt. *review of financial studies.*

transition economy on an aspect of corporate governance. *public choice, 98*(3-4), 287-305.

- Umar and Sylvanus (2015) the relationship between firm age and financial performance in nigeria: a panel analysis. journal of sustainable development in Africa (volume 17, no.3, 2015) issn: 1520-5509
- Umar, & Sajid, m. (2012). impact of capital structure on firms' financial performance: evidence from Pakistan. *research journal of finance and accounting* .
- Vatavu (2015) the impact of financial performance on Romanian listed company, procedia economics and finance, 32 1314-1322
- Wessel & Titman(1988). the determinants of capital structure choice. *journal of finance 43(1),* 1-19
- Will Kanton (2019) corporate finance and accounting.

- Wippern (1996). financial structure and the value of the firm. *the journal offinance , 21* (4), 615-633.
- Yared Solomon (2019) determinants of capital structure in the airlines industry: an empirical study on major airlines in Africa. Addis Ababa university
- Zeitun & Tian (2007). capital structure and corporate performance:evidence from jordan. *the australian accounting business & finance journal , 1*,40-61.

Appendix

---

name: <Temesgen Demessie>

log: C:\Users\hp\Desktop\Temesgen Demessie.log

log type: text

opened on: 17 Jun 2020, 09:26:05

STATA result of descriptive statistics of dependent and independent variables.

sum roa tdtta stdtar ltdtar assettangiblityration firmsize

Variable	Obs	Mean	Std. Dev.	Min	Max
roa	25	.0548	.0403237	.01	.17
tdtta	25	.8696	.1160632	.64	1.06
stdtar	25	.3476	.0950561	.21	.55
ltdtar	25	.5228	.1071805	.2	.68
assettangi~n	25	.8856	.1148216	.71	1.05
firmsize	25	9.9104	.6848629	9.14	11.24

STATA result of correlation matrix

```
. corr roa tdtta stdtar ltdtar assettangiblityration firmsize
(obs=25)
             |   roa    tdtta    stdtar    ltdtar    assett~n  firmsize
-------------+------------------------------------------------------
         roa |  1.0000
       tdtta | -0.2889   1.0000
      stdtar |  0.3608   0.4913   1.0000
      ltdtar | -0.6280   0.6318  -0.3641   1.0000
assettangi~n |-0.6684   0.6849   0.0482   0.6958   1.0000
    firmsize |  0.0627  -0.4835  -0.4049  -0.1645  -0.5752   1.0000
```

STATA result for normality test

```
. predict r,resid
. histogram r,normal
(bin=5, start=-.03372988, width=.01960943)
. graph save Graph "C:\Users\hp\Desktop\Graph.gph"
(file C:\Users\hp\Desktop\Graph.gph saved)
. sktest r
                    Skewness/Kurtosis tests for Normality
                                                    ------- joint ------
    Variable |    Obs   Pr(Skewness)   Pr(Kurtosis)  adj chi2(2)    Prob>chi2
-------------+-------------------------------------------------------------
           r |         25      0.0591          0.1434            5.46        0.0652
```

STATA result for homoskedasticity test

```
. pnorm r
. estat imtest,white
White's test for Ho: homoskedasticity
        against Ha: unrestricted heteroskedasticity
        chi2(18)     =     17.10
        Prob > chi2  =    0.5163
Cameron & Trivedi's decomposition of IM-test
---------------------------------------------------
           Source |       chi2      df      p
------------------+--------------------------------
  Heteroskedasticity |      17.10   18    0.5163
          Skewness |       6.04      5    0.3024
          Kurtosis |       0.68      1    0.4110
------------------+--------------------------------
             Total |      23.81     24    0.4723
---------------------------------------------------
```

STATA result of regression

```
. gen time=_n
. tsset time
        time variable:  time, 1 to 25
                delta:  1 unit
. reg roa tdtta stdtar ltdtar assettangiblityration firmsize

      Source |       SS       df       MS              Number of obs =      25
-------------+------------------------------           F(  5,    19) =    8.25
       Model |  .026718328     5  .005343666           Prob > F      =  0.0003
    Residual |  .012305673    19  .000647667           R-squared     =  0.6847
-------------+------------------------------           Adj R-squared =  0.6017
       Total |  .039024001    24     .001626           Root MSE      =  .02545

------------------------------------------------------------------------------
         roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       tdtta |  -1.803306   1.476881    -1.22   0.237    -4.894454    1.287842
      stdtar |   1.968175   1.512373     1.30   0.209    -1.197258    5.133609
      ltdtar |   1.867781   1.512347     1.24   0.232    -1.297598     5.03316
assettangi~n |  -.3405788    .085516    -3.98   0.001    -.5195658   -.1615918
    firmsize |  -.0182429   .0107552    -1.70   0.106    -.0407538     .004268
       _cons |   .4447523   .1556651     2.86   0.010     .1189415    .7705631
------------------------------------------------------------------------------
```

. estat bgodfrey,lag(25)

lags(25) is too large for the number of observations in the sample

r(198);

. ovtest

Ramsey RESET test using powers of the fitted values of roa

Ho: model has no omitted variables

F(3, 16) = 5.19

Prob > F = 0.0108

. histogram r,normal

(bin=5, start=-.03372988, width=.01960943)

STATA result for autocorrelation

. gen time

=exp required

r(100);

. gen time=_n

. tsset time

time variable: time, 1 to 25

delta: 1 unit

. estat bgodfrey

Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	3.002	1	0.0832

H0: no serial correlation

. exit, clear