

2021-08

Determinants of Insurance Companies Profitability: The Case of Ethiopian Insurance Company

Tihetna Kelemu

<http://ir.bdu.edu.et/handle/123456789/12521>

Downloaded from DSpace Repository, DSpace Institution's institutional repository



BAHIR DAR UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE
POST GRADUATE REGULAR PROGRAM

**DETERMINANTES OF INSURANCE COMPANIES PROFITABILITY:
THE CASE OF ETHIOPIAN INSURANCE COMPANY**

BY

TIHETNA KELEMU ANTENEH

ADVISOR: ELEFACHEW MOSISA (PhD)

JUNE, 2021

BAHIR DAR, ETHIOPIA

BAHIR DAR UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE
POST GRADUATE REGULAR PROGRAM

**DETERMINANTS OF INSURANCE COMPANIES PROFITABILITY:
THE CASE OF ETHIOPIAN INSURANCE COMPANY**

**THESIS SUBMITTED TO DEPARTMENT OF ACCOUNTING AND FINANCE
COLLEGE OF BUSINESS AND ECONOMICS IN PARTIAL FULFILMENT OF
REQUIREMENTS FOR DEGREE OF (MSc) IN ACCOUNTING AND FINANCE.**

BY

TIHETNA KELEMU ANTENEH

ADVISOR: ELEFACHEW MOSISA (PhD)

**JUNE, 2021
BAHIR DAR, ETHIOPIA**

Declaration Statement

This study is certify that the thesis entitled determinants of profitability of insurance company empirical evidence submitted in partial fulfillment of the requirements of the degree of masters of science in accounting and finance in Bahir Dar University. I announce that this thesis is my original work and has not been presented any degree and that all sources of material for the study has been duly acknowledge.

Name _____

Signature _____

Date _____

BAHIR DAR UNIVERSITY
COLLEGE OF BUSINES AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE
POST GRADUATE PROGRAM

Approval of Thesis for Defense

I have certify that I have guide, supervised, read and evaluated this thesis on the titled determinants of profitability of insurance company in Ethiopia which is prepaid by Tihetna Kelemu Anteneh & recommend all the necessary things for the defense.

Advisor name

Signature

date

Department head

Signature

date

BAHIR DAR UNIVERSTIY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE
POST GRADUATE PROGRAM

Approval of thesis defense result

As board of member of an examiner, we examined this thesis entitled determinates of insurance company in Ethiopia which is prepared by Tihetna Kelemu Anteneh. We hereby confirm that the thesis is accepted for fulfilling the requirements for the award of the degree of masters of Science in accounting and finance.

Board of the examiner

External Examiner

Signature

Date

Internal Examiner

Signature

Date

Chair person's Name

Signature

Date

Dedication

To my mother, Tena Gebyehu & my father Kesis kelemu Anteneh for their unweaving support, encouragement, love and commitment to my life and education pursuits. They modeled and shaped me with patience, acceptance, pragmatism, faith, and love for change knowledge.

Acknowledgements

First of all my deepest thanks goes to the son of merry almighty of God for let me to stay in life to this day and enables me to complete my academic life. I also would like to express my deepest gratitude to my advisor Dr. Elefachew for his enthusiastic support from the preparation until the final discussion of this paper with frequent follow up with receiving in detail, main body of the paper and forwarding constructive suggestion.

I would like to acknowledge all individuals that have helped me materially and morally during the preparation of this paper & for the success of my work and next the special thanks gone to national bank of Ethiopia (NBE) for their collaboration in providing the necessary information's.

I would also like to thank everyone to give any comments for me. I am grateful for their time reading through the thesis carefully and for their constructive and valuable comments.

Finally i would like to thanks my family for their moral and lovely support from the beginning of my life up to now. They had been assisted my school life and to give advice how can I went with my planning activity to finish my academic school life in this university.

Abstract

Insurance is a way of transferring risk from insured to the insurer by considering premium payments. Insurance plays a great role in a country's economic growth and offers financial protection to an individual or firm against monetary and non-monetary losses suffered from unforeseen circumstances. Ethiopian insurance companies are remained undeveloped and As a result, the insurance industry in Ethiopia's economy is not growing as predicted, it is less profitable, and it is unable to compete on a global scale As a result, this study investigated the determinants of insurance companies' profitability in Ethiopia, such as size, liquidity, leverage, inflation, market share, age, capital adequacy, and premium growth, and assessed their effects on Ethiopian insurance profitability using descriptive statistics, correlation analysis, and the linear regression method on the given panel data. The researchers conducted the analysis using secondary data obtained from audited annual reports (balance sheets, income statements) of Ethiopian insurance companies. The study included 9 insurance companies in Ethiopia from 2011 to 2020. To indicate an insurance company's financial performance and profitability, ROA is used as a dependent variable & liquidity, premium growth, age, inflation, size, adequacy of capital, market share & leverage as independent variables. Liquidity, premium growth, age, inflation, size and capital adequacy all have a significant impact on Ethiopian insurers' profitability during the study period. Leverage and market share had an insignificant impact on Ethiopian insurers' profitability during the study period. Therefore, the study recommends that Ethiopian insurance companies should give due consideration to these factors to address profitability issues.

Key words: *Return on Asset, Determinants, profitability, Insurance Company, Ethiopia,*

Table of contents

Contents	page
Declaration Statement.....	I
Dedication.....	IV
Acknowledgements.....	V
Abstract.....	VI
Table of contents.....	VII
List of Tables.....	X
List of figures.....	XI
List of Acronym & Abbreviations.....	XII
CHAPTER ONE	1
1. Introduction.....	1
1.1. Background of the Study.....	1
1.2. Statement of the problem.....	3
1.3. Research Question.....	4
1.4. Objectives of the Study.....	5
1.4.1. General objective of the Study.....	5
1.4.2. Specific Objectives.....	5
1.5. Significant of the Study.....	5
1.6. Scope of the Study.....	5
1.7. Limitation of the Study.....	6
1.8. Organization of the Study.....	6
CHAPTER TWO	7
2. Review of Related Literatures.....	7
2.1. Theoretical Review.....	7
2.1.1. Concepts of Insurance and It's Role in the Economy.....	7
2.1.2. History of insurance company.....	8
2.1.3. Theories of profitability.....	10
2.2. Determinates of Insurance Company Profitability: An Empirical Evidence.....	15
2.3. Determinants of Insurance Companies' Profitability.....	17
2.3.1. Company Specific Determinants (Internal factors).....	17
2.3.2. Industry Specific Determinants.....	19

2.3.3. External Factors (Macroeconomic Factors).....	19
2.4. Summary of The literature review and knowledge Gap	19
2.5. Conceptual frame work.....	20
CHAPTER THREE	22
3. Research Methodology	22
3.1. Research Approach	22
3.2. Research Design.....	22
3.3. Population and Sampling Technique	23
3.4. Data Type and Source.....	24
3.5. Method of Data Analysis	24
3.6. Model Specification.....	25
3.7. Multiple Linear Regression Analysis.....	25
3.8. Operational Definition of Dependent and In Dependent Variables	27
3.8.1. Dependent Variable.....	27
3.8.1.1. Return of Asset (ROA)	27
3.8.2. Explanatory Variables.....	28
3.8.2.1 Premium growth.....	28
3.8.2.2 Liquidity.....	28
3.8.2.3 Market share.....	29
3.8.2.4 Leverage.....	29
3.8.2.5 Size of the company	30
3.8.2.6 Inflation rate.....	30
3.8.2.7 Capital adequacy	30
3.8.2.8 Company age	31
3.9. Ethical Issues	32
CHAPTER FOUR.....	33
4. Data Analysis and Discussion.....	33
4.1. Model Specification Test	33
4.2. Descriptive statistics	34
4.3. Correlation Analysis	37
4.4. Tests for the Classical Linear Regression Model (CLRM) Assumptions	39
4.5. Model Reliability Test	44

4.6. Unit Root Test.....	44
4.7. Regression Results and Discussion.....	45
4.8. Impact of Independent Variables on Profitability of Insurance Company and Test for Hypothesis.	47
4.8.1. Impact of Premium Growth (PG) on Return on Asset (ROA).....	48
4.8.2. Impact of Liquidity (LIQ) on Return on Asset (ROA)	49
4.8.3. Impact of Market Share (MRS) on Return on Asset (ROA).....	50
4.8.4. Impact of Leverage (LEV) on Return on Asset (ROA)	51
4.8.5. Impact of Inflation (INF) on Return on Asset (ROA).....	52
4.8.6. Impact of size of the company (SIZ) on Return on Asset (ROA).....	52
4.8.7. Impact of Capital adequacy (CA) on Return on Asset (ROA).....	53
4.8.8. Impact of Company Age on Return on Asset (ROA)	54
CHAPTER FIVE	57
5. Conclusions and Recommendation.....	57
5.1. Conclusions.....	57
5.2. Recommendations.....	58
5.3 Direction for Other Researchers	59
REFERNCES.....	60
APPENDIX.....	65

List of Tables

Table 1 List of insurance company in Ethiopia with in the establishment date.....	2
Table 2 List of sampled insurance companies for the study	23
Table 3 Description of variables and their expected relationship.	31
Table 4 Model Specification Test	34
Table 5 descriptive statistics	34
Table 6 correlation analysis	38
Table 7 Heteroskedasticity test	40
Table 8 multicollinearty Test.....	41
Table 9 Autocorrelation Test	42
Table 10 Ramsey test.....	44
Table 11 Unit Root Test.....	45
Table 12 regression test	46
Table 13 summary of expected and actual result relation sheep between independent variables.....	55

List of figures

Figure 1 conceptual frame work	21
Figure 2 Normality test	41

List of Acronym & Abbreviations

Gov't	government
GDP.....	Growth domestic product
GWP.....	Gross written premiums
EIC.....	Ethiopian Insurance Corporation
LEV.....	Leverage
LIQ.....	liquidity
INF.....	Inflation
PMG.....	Premium growth
MRS.....	Market share
OLS.....	Ordinary least square
NBE.....	National bank of Ethiopia
SIZ.....	Size of the company
ROE.....	Return on equity
ROI.....	Return on investment
ROA.....	Return on asset
VOC.....	volume of capital
CA.....	capital adequacy
T.....	current year

T-1.....The last year

ISD..... Insurance specific determinants

MED.....Macroeconomic determinant

IED.....Industry specific factor

APT.....Arbitrage pricing theory

CAMP.....Capital Asset pricing model

CLRM..... Classical Lear Regression Model

CHAPTER ONE

1. Introduction

1.1. Background of the Study

The financial system consists of financial institutions, instruments, and markets that enable the economy to provide credit, payments, and risk transfer systems. In modern society, the financial industry is rapidly developing and places a high value on global financial development Suheyli (2015). Financial institutions such as banks, insurance and micro finance institutions are used as channels for funds, intermediaries for buyers and sellers, and for the transfer of risk from one economic unit to another in order to facilitate trade and create wise resource management in the economy. Ayele (2012) verified that particularly insurance is a way of transferring risk from insured to the insurer by considering premium payments. Insurance serves has a lot of valuable different economic functions from other financial institutions by focusing worth service providers than contractual saving features (NBE; 2012, P: 20-21).

Profitability is a very important measure of performance. It is collected of two words namely, profit and ability, Profit has an absolute connotation, whereas ability is concerned with the increasing ability to earn a return from a business. Hifza (2011), stated that Profitability is the primary focus of every business. It indicates how well management of enterprises generates earnings by using the resources at disposal. It is the ultimate goal of any business entity to make a profit in order to ensure the sustainability of the business in prevailing market conditions and possible course evaluation of business efficiency input and output analysis results from the same industry attained in different operation periods. Profit in insurance companies is making more proceeds than being disbursed as an expense Suheyli (2015).

The realized revenue gain from business activity exceeds the expenses, costs and taxes needed to sustain and enhance financial strength. Though there are many methods, generally, insurance companies' profitability is generated from premiums, investment income and under-writing results. It is preferable to identify the determinants of insurance company profitability in order to maintain the financial soundness and reliability of insurance companies Gonfa (2020). Profitability ratio is an indicators of firms overall efficiency. It is a degree of earning generated by the company from

sales, assets, capitals employed, net worth and earning per share (Kabajeh, Al Nu'aimat, & Dahmash, 2012).

Profitability is measured in different ways, such as return on asset (ROA), a ratio that is used to measure profitability and is calculated as net income after tax is divided by the total asset. The ratio calculates the company's operating efficiency based on the profit generated from its own total assets. The second method is return on equity (ROE): It is calculated by dividing the net profit after taxes by the total shareholders' equity. It is used to measure shareholders' rate of return from an investment. And the other method is ROI: a ratio is calculated as profit after tax divided by the total paid in capital (IBD). However, the most common ones used for profitability ratio analysis are ROA and ROE Al-Shami (2008). But other most scholar used on the study related to profitability of insurance company such as Malik (2011), are the better measurement of profitability is ROA. Gemachis.D (2017) stated that it is impossible for a firm to be sustainable in today's business climate without the effectiveness of financial institutions such as an insurer. The reason for this is that some businesses are cost-effective and successful, while others are struggling to stay afloat. Insurance firms by nature, they are risky companies and they haven't been able to sustain their operations. If they fail in their insurance protections, they will enter an era of enormously unreliable environment and are not profitable enough. In the meantime, less attention to insurance sector, especially in under developed nations like Ethiopia. Ethiopian insurance corporations established on August 22, 2012, proclamation number 746/2012 directive SIB/34/2013, the minimum requirements of paid up capital are 60 million birr for non-life insurers, 15 million birr for life insurers, and 2 billion birr for local insurers. According to the national bank of Ethiopia report (NBE) 2016/2017 the insurance company is reached 17 in number and which is composed in 16 private and 1 public insurance company in Ethiopia. The aim of this paper is identifying the profitability of insurance companies' profitability in Ethiopia.

Table 1 List of insurance company in Ethiopia with in the establishment date

No	Insurance name	Date of establishment
1	Ethiopian insurance corporation	1/1/1976
2	Africa insurance company s.c	1/12/1994
3	Awash insurance company s.c	1/10/1994
4	National insurance company of Ethiopia s.c	23/09/1994
5	Niyala insurance company	6/1/1995

6	Nile insurance company	11/4/1995
7	United insurance company	1/4/1997
8	Global insurance company s.c	11/1/1997
9	Nib insurance company	1/5/2002
10	Lion insurance company	1/7/2007
11	Ethio life & general insurance company s.c	23/10/2008
12	Oromiya insurance company s.c	26/01/2009
13	Abay insurance company	26/07/2010
14	Berhan insurance company	24/05/2011
15	Bunna insurance s.c	23/8/2011
16	Teshay insurance s.c	28/03/2012
17	Lucy insurance s.c	15/11/2012

Source: national bank of Ethiopia report (NBE)

1.2. Statement of the problem

The insurance sector has a great role in the financial service industry for both developing and developed countries' economic growth, the spread of losses and also efficient resource allocation, and cost reductions in transactions Meher & Zewudu (2020). Insurance companies are a way of providing security against the risks and doubts in the risk characterization world Suheyli (2015). Any industry, in general, and any firm in particular, play a role in increasing market value and contributing to the overall growth of the industry, which leads to the overall success of the economy. Insurance, in particular, is a component of an economy's immune, repair, and support systems. Gebremariyam (2014), stated that because the successful operation of the insurance industry is a synergy and the foundation of all other industry development, the insurance industry has become financially solvent and strong enough to operate profitably. The financial sector is not that much developed in Ethiopia. Particularly insurance companies are remained undeveloped and As a result, the insurance industry in Ethiopia's economy is not growing as predicted, it is less profitable, and it is unable to compete on a global scale Gemachis.D (2017). Not only measuring the profit of insurance companies but also solving the problem and investigating determinant factors of insurance firms' profitability piques the interest of managers, practitioners, consultants, and institutional supervisors & among others. But Factors influencing insurance company profitability are understudied in developing countries Malik (2011). It has motivated the researcher to contribute

to the development of the Ethiopian insurance industry. According to the researchers' knowledge, previous studies on the profitability of insurance companies in Ethiopia did not take into account all firm and external (macroeconomic, industry specific factors) at the same time. For instance (Gashaw (2012); Suheyli (2015); Melkamu(2017); Meaza (2014) study not included industry specific factors. In addition to above literatures gap the finding conducted in the same title in the previous period has high variation across time, highly contradicting results and also in consistency.

From the researchers that have been used the same variable on the same title for example Gashaw (2012) finding indicates that company size has positive effect on the profitability of insurance company. But on the side of Gagni (2018), finding proves that size of the company has negative effect on the profitability of insurance company. Kebede (2016), finding shows that leverage has negative and significant, Gagni, H. B. Abera & Yirsaw(2018) said that leverage has insignificant impact on the profitability of insurance companies. on the other hand Liquidity has negative and significant impact on Ethiopians insurance companies profitability Biru (2017). But Behayilu 2017; & Suheyli 2015), study displays that liquidity has positive impacts . These types of controversies are holds true in other factors that determine insurance companies in Ethiopia.

Therefore, the researchers want to use the other gaps and try to investigate the existing study by proving which variables are affected significantly, insignificantly, negatively and positively by using external, internal and industry-specific factors like market share that determine insurance firm profitability by examining the above controversial variables and others which are mostly untouched variables. In addition to this, the study provides current and timely information for insurance companies about the major determinants of their profitability.

1.3. Research Question.

From the statement of research problem the following research question are derived.

1. What are the significant internal factors of insurance profitability in Ethiopia?
 2. What are the significant external factors of insurance profitability in Ethiopia?
 3. What are the significant industry specific factors of insurance profitability in Ethiopia?
-

1.4. Objectives of the Study

1.4.1. General objective of the Study

The general objective of this study was to investigate determinants of insurance company profitability in Ethiopia.

1.4.2 Specific Objectives

1. To find out internal factors that determines the insurance company's profitability in Ethiopia.
2. To investigate external or macroeconomic factors that affects insurance companies in Ethiopia.
3. To identify the impact of internal, external and industry specific factors on Ethiopian insurance company and put rankly according to their degree Influence.

1.5. Significant of the Study

Previous studies on the determinants of insurance company profitability in Ethiopia have been insufficient and they are limited in numbers. In addition to this limitation, the scholars are still debating the variables that influence the profitability of insurance companies in Ethiopia. As a result, the researcher sheds light on the scarcity of this type of research and examines the debate variables by incorporating common consent into the study's analysis. Furthermore, the study attempted to provide evidence of what types of micro, macro, and firm (insurance specific) factors affect insurance companies' profitability in Ethiopia for interested parties such as regulatory authorities, insurance companies, customers, employees, investors, policymakers, scholars, researchers, and others. Finally, the study was used as a foundation for additional research into the researchers working in this field.

1.6. Scope of the Study

The scope of the study was blocked based on the aims of the study, which are stated in the above and focus on analyzing, identifying and investigating the determinants of insurance profitability in Ethiopia. The study includes 9 (one public and 8 private insurance company). The researchers used secondary annual data from those insurance companies for 10 years (from 2011-2020) in the study. This period was chosen because it is recommended by most finance literature, and it also provided an accurate picture of insurance profitability determinants between 10 years, the study focuses on three main determinant factors of profitability.

1.7. Limitation of the Study

There is no manner the study could be done with out any constraintes. In this study primary datas are not included such as interviwing of insurers, employes, and managers knowledge, experience, and opinions regard with insurance companies profitability. The study would have been much beter if it includes. Further more this limation the study includes only ten years data and 9 insurance companies Because of lack of funds and time, it does not include all of the variables listed in each individual firm's specific micro and macro factors.

But if the study includes above 10 years data & all insurance companies in ethiopa was gone to beterr measurment for the profiabilty ness of the company.

1.8. Organization of the Study

The research paper is divided into five chapters, the first of which contains an overview of the insurance companies' historical background, a statement of the research problem, research questions, objectives, significance, scope, and limitations of the study, and the study's organization. In chapter two, different review literature in which theories and empirical evidence work of the scholars are identified and chapter three includes the way the study is conducted, such as research methodology of the study, such as research approach, research design, sampling technique, data source and data collection, validity and reliability of the model, data analysis method, ethical consideration. Chapter 4 holds the results and discussion of the research analysis and chapter 5 also includes the conclusion and recommendation part of the study.

CHAPTER TWO

2. Review of Related Literatures

It deals with theoretical and empirical literature reviews. The first section covers the definition and concepts of insurance and the importance of insurance in the economy, historical highlights of insurance in Ethiopia, theories of profitability and factors affecting the profitability of insurance companies. And the second section holds an empirical literature review on the insurance profitability section and the third section includes a summary of the review, the knowledge gap and the conceptual frame work.

2.1. Theoretical Review

2.1.1. Concepts of Insurance and It's Role in the Economy

It has no single definition of insurance, but according to the commission of terminology of American risk and insurance associations, defined insurance is a convention in which the insured is transferred risks and loses to the insurer who compensates the insured and the insured pays some amount of premium for the cover of the granted policy Lashetew (2020). In addition to the above definitions, "the term insurance has two schools of thoughts. The first thought, called transfer tool, states that insurance is a reduction of uncertainty and risk of the insured through the transfer of risks and particular risks to other party called insurer"IBD .

The second thought about term insurance is a pooling tool, which means that the spread of sufferers incurred by the entire group average is replaced by actual, fortuitous accidental, and also means of risk transfer. The first is pure risk moved from the insured to the insurer who mainly has a strong financial position to pay the loss of the insured and indemnification for loss which is the insured returned to his or her estimated financial position before the occurrence of the loss Kebede (2016). Insurance has 3 major classifications: I, life insurance: It includes a pension, saving, permanent health and term assurance policies. Nonlife insurance is also known as property and casualty insurance or general insurance. Customers who purchase this type of insurance have no investment or profit expectation, but are exposed, for example, to the risk of industrial injury or other events. This insurance policy is only valid for one year. III, Reinsurance is given to insurers as reinsurance

to protect them from the volatility of underwriting results and to provide underwriting capacity for the primary market. It has 4 types of categories, those are proportional, non-proportional, facultative and financial re insurance for the insured Kebede (2016).

Insurance company is financial system which holds financial institutions, financial instruments and financial markets provide credit system, risk transfer, effective payments and also facilitating channeling of funds from savers to investors Gebremariyam (2014). Insurance is one types of financial sector and mechanism for the transferring of risk from insured to insurer by considering the payment of the premium Berhan (2020).

Insurance has a great role in financial stability, mobilization of saving, facilitation of trade and commerce, managing different risks when they occur and mitigation of losses and leads to efficient capital allocation and also government security programs Hadush (2015). Insurance companies, like other financial institutions, have grown in economic importance in Ethiopia in recent decades, performing various activities such as marketing and selling, preparing, designing a policy, writing, reinsurance, and services. These types of activities must earn and grow in profitability in order to function (Tegegn, Sera, & Merra, 2020).

2.1.2. History of insurance company

Insurance emerged as a business following steady growth in commerce and labor specialization. It started in marine commerce in Europe, a specialized and well-structured way of protecting oneself from risks and uncertainties. During this time, an insurer called insurance for insurance companies covered shipments from Genoa to Lewes and Caiz to Lewes, referred to as insurance for insurance companies in a dangerous segment of the journey Leichtling & Paredes (2005).

According to Gantenbein & Mata (2008) Old humans generated insurance ideas as they progressed through the stages of development, beginning with helping one family, clan, guild, community, and society. By nature, insurance undertakes risks in the economy, financial institutions, corporations, and households. The production cycle of insurance is that a premium is collected during the contract and claims arise only if specified events occur (Pavic Kramaric, Miletic, & Pavic).

Insurance is, in some ways, as old as history, So-called Bottomry agreements were known to the merchants of Babylon as early as 4000–3000 BCE. Bottomry was also experienced by the Hindus in 600 BCE and was implicit in ancient Greece's first 4th century BCE. Credits were granted to traders

under a base contract with the promise that if the freight was lost at sea, the loan would not have to be repaid. The renaissance and development of convention law was a part of the economic, political and intellectual renaissance of Western Europe, England and on the Continent for the purpose of fire insurance. Benjamin Franklin founded life insurance in the United States in 1752 as the Philadelphia influence ship. Insurance in Russia remained state-owned after the Russian Revolution of 1917, in Eastern Europe. After the fragmentation of the Soviet Union, (<https://www.britannica.com>), The African Insurance Company was established in 1810 as a for-profit business constructed on the model of the Permitted African Society (<https://www.blackpast.org>).

However, In Ethiopia, the first insurance industry was established in 1900 and has continued to the present day. According to (<http://www.gov.et/aboutus/index.html>), the historic development of insurance in Ethiopia is categorized into 4 periods. The first is the period of agents (from 1900 to 1950): this is when the modern insurance industry began. Ethiopian insurance service history related to modern banking service in Ethiopia, which was announced in 1905 by II. During this time, modern insurance service was started by foreigners related to the organs of Abyssinia bank began to transact fire & marine insurance as an agent of foreign insurance company. Swiss insurer Balolies established a branch in Addis Ababa in 1923, followed by foreign companies acting as agents. From 1936 to 1931, Italian insurance companies operated in Ethiopia. After the Italians left, other Europeans ran insurance companies in the country Yirdaw (2019).

The second period is the middle period (from 1950 to 1974):- During this time, the life assurance business began, and the insurance business is classified as trade, which is governed by the commercial code. In 1954, excluding the imperial insurance company that was recognized in 1951, 18 insurance companies were subdivisions or agents of foreign insurance companies. Insurance markets are governed by the commercial goods and services civil code of 1960, except for marine insurance by the marine code of Ethiopia. Insurance was classified as a trade business in 1960, when the number of insurance companies reached 33 Lemma (2020). Until 1960, insurance markets in Ethiopia were not structured, but in 1970, the first proclamation was adapted. During this time, foreign insurance companies are prohibited from the insurance business and some companies are converted to domestic companies based on the requirements of the law Yirdaw (2019).

The third period is the period of monopoly (1975-1994): - The military government came to power in 1974 and nationalized all private insurance companies by introducing a new proclamation, NO.261/1974. Consequently, the military government came to power, forced to end all private insurance enterprises in Ethiopia. Following that, on January 1, 1975, all insurance companies were nationalized and merged into a single unit known as the Ethiopian insurance company (EIC), which became the sole operator of an insurance company (Bishaw, Lemie, & Tulu, 2019).

The fourth and most recent period is the current period (1994 onwards): - Changes in the political environment and various proclamations were made in 1991, and private insurance companies began to expand and grow. In 1994, new legislation was enacted as a result of the communist government's overthrow. This legislation allows for the formation of private insurance companies in the country and creates competition between them and Ethiopia's state-owned insurance companies. But the local industries were weakened and needed time in order to build up their own reserve capital and potential because of the barrier to entry of the foreign insurance industry Yirdaw (2019). During this period, a free market path was opened in the economy, supervision of insurance and the national bank of Ethiopia remained the sole regulator of insurance supervision in Ethiopia. According to the most recent proclamation concerning Ethiopian insurance corporations established on August 22, 2012, proclamation number 746/2012 directive SIB/34/2013, the minimum requirements of paid up capital are 60 million birr for non-life insurers, 15 million birr for life insurers, and 2 billion birr for local insurers Lemma (2020). According to the national bank of Ethiopia report (NBE) 2016/2017 the insurance company is reached 17 in number and which is composed in 16 private and 1 public insurance company in Ethiopia.

2.1.3. Theories of profitability

Profit is an income distributed to the owners in a market production processes and also used to measure owners major interest in income process of business production, Biru, 2017; Hadush .G (2015). However, the theory of profit defines profitability in different ways. Even if there is no constant theory for the profitability of insurance firms, researcher should consider the theories discussed in various finance literature and relate those theories to their operational study.

A. Modern portfolio theory (MPT) Approach

The Modern portfolio theory Approach is the most relevant approach and it plays a very important role in financial institutions, particularly in insurance and banks or nonbank financial institutions

Atemnkeng & Nzongang (2006). Modern portfolio theory's main ideas are to maximize expected portfolio returns for a given amount of minimum portfolio risk at a certain level of return by carefully selecting the magnitudes of various assets. Modern portfolio theory dictates that investors should choose a portfolio with the highest possible return for a given level of risk or with the lowest probable hazard or risks for a given level of return. There is a direct relation between risk and the expected return of financial investments in a given financial asset Sadiye (2014) .

This theory considers two types of risks when determining the rates of return on asset portfolios held by insurance companies. The first is about unsystematic risks, which can be mitigated by diversifying the risks in the portfolio. It is related to the firm's unique factors for each individual firm. In other cases, systematic risks are influenced by macroeconomic factors and cannot be eliminated through portfolio diversification. (C. Erdoğan; S. Erdoğan, 2017), verified that the risk and return on firm's diversified portfolio is depending on domestic and foreign Economic and financial variables for financial industry which are based on choices taken by the financial manager. These are also real in practical for the insurance companies in elsewhere. Since insurance Firms are investments by themselves its standard practice for them to invest in a diversified Portfolio to minimize risk and increase the returns through various investment options on offer. Thus, when choosing a portfolio, insurance firms should maximize the discounted (or capitalized) value of future earnings Suheyli (2015).

B. The Pecking Order Theory:

Firms follow a particular sequence of financing. they use internally generated cash flow as principal source of long-term financing. If the firm has inadequate cash flow from internal sources, it resorts to debt financing and as a last decision a firm will use externally generated funds, i.e. equity funds as a form of debit to the company Sánchez-vidal and Martín-ugedo (2005).

The other researcher Zurigat (2009) are modified pecking order theory and shows that companies prioritize sources of financing from internal financing to debt and equity and chose to raise equity fund as a last resort of financing. The pecking order theory which is the modified one was based on information asymmetry and recognized the costs of financial suffering of the company.

The theory has also been used to explain why a firm goes into financial loss. This theory states that firm first exhausts the internal source of funds before going to the outdoor source of fund (debt and

equity in a bid to reserve the stability and worth of the firm. The inference of this concept agreeing to Ikpesu (2019), that improved use of outside source of funds may distress the firm negatively this may increase probability of financial distress in firm.

The Pecking Order Theory contends that firms that are highly profitable and having good cash flows may have low debt ratios because they do not need external financing as they have sufficient retained earnings to fall back upon to finance their investments these will reduce the level of financial distress on firms. Firms with growth opportunities (future investments) may issue equity suggesting negative relationship between growth and leverage. When the firm's earnings are volatile, firms may have less leverage.

C. Arbitrage Pricing theory (APT)

Aychew (2011), verified that the APT theories are based on two fundamental assumptions: capital markets are perfectly competitive, and investors always prefer more wealth to less wealth with certainty. They also agree that the existence of numerous specific forces influences the return obtained by any individual firm. The Arbitrage pricing theory assumes a positive link between risk and the expected return of the firm. The APT model is an expansion of the CAPM and describes returns as a linear function of several rather than of a single variable. The APT theory is less restrictive in comparison to the capital asset pricing model (CAMP). The principle of diversification states that the effect of specific factors may be taken into account, and the principle of the principle has had a significant impact on the activities undertaken in the field of insurance Suyehli (2015). Regardless of this, the APT also uses multiple variables and is a multi-beta model by its nature. The other researcher Sadiye (2014), noted that the sensitivity of movements in each variable is represented by a beta coefficient for each variable.

The Arbitrage Pricing Theory links several types of risk associated with firm security, such as changes in inflation and productivity, to the predictable profit of the same securities used by the entities by combining both systematic and unsystematic risk, which attributes the expected return of a capital asset to multiple risk factors. They were insured because the first was intended. But the other two are unidentified and unexpected risks. An entrepreneur receives a bear risk profit. No enterpriser is going to undertake risks if he gets only a normal return. Therefore, the reward for risk taking must be higher than the actual value of the risk. If the entrepreneur does not receive the

reward and is prepared to undertake the given risk, the higher the risk of the investment, the higher the rate of return and a greater profit is expected.

Profit is paid to entrepreneurs as a result of taking such risk. No entrepreneur will be willing to undertake risks if he gets only a normal return. Therefore, the reward for risk-taking must be higher than the actual value of the risk. If the entrepreneur does not receive the reward, he will not be prepared to undertake the risk. Because the greater the risk, the greater the possibility of profit. The insurance company has no way of knowing whether or not a specific individual will become unkind or be involved in a risk. This shows that an insurance company is not entirely free of risk, since insurers shelter a large number of individuals Aychew (2011). Risks can be between insurable and non-insurable risks. Certain risks are measurable; the probability of their occurrence can be statistically calculated. The risks of fire, theft, flood and death by accident are insurable. These risks are stood by the insurance firm and the premium paid for insurance is included in the charge of production. In addition non-insurable risk or unexpected risk, some of the non- insurable risks which stand up in modern business are as follows:

Competitive risk: Some fresh firms come in to the market suddenly; the existing firms may have to face serious competition from them. This will inevitably lower down the profit of the firms.

Technical risk: This risk gets up from the prospect of machinery becoming obsolete due to the finding of new processes. The existing firm may not be in a situation to adopt these changes into its organization, and hence suffer losses.

Risk of government intervention: The government, in development period, restricts into the affairs of the industry such as price mechanism, tax strategy, import and export constraints, etc, which might shrink the profits of the firm.

Cyclical risk: This risk surfaces from business sets. Due to business collapse or depression, consumer's obtaining power is reduced; therefore demand for the product of the firm also drops.

Risk of demand: This is created by a transference demand in the market. Prof. Knight demands these risks as 'uncertainties' and 'it is uncertainties in this sense which expounds profit in the proper use of the term. These risks cannot be predicted and measured, they become non- insurable and the uncertainties have to be allowed by the entrepreneur. Based to this theory there is a positive

relationship between profit and uncertainty manner. Profit is the reward for uncertainty bearing. But challenges point out that sometimes an entrepreneur be profitable in spite of uncertainty bearing. Those attitudes are one of the factors of profit and it is not the single determinant. Profit is also a reward for many other activities accomplished by entrepreneur like originating, organizing and bargaining.

With reference to the APT Model, insurance firm's performance is also affected by several macro-economic factors such as Inflation, and firm specific factor such as leverage, liquidity like other firms. In context to this, even if there is lack of the capital market in Ethiopia; some of the assumption of APT which Discussed above is related to profitability insurance industry in Ethiopia.

D. Dynamic theory

Dynamic theory of profit was developed by J.B clarik, this theory states that the concept of profitability is related with the dynamic society in nature. Dynamic society in a sense change of the population, life trends, capital, and supply of entrepreneur e.t.c makes future uncertainties like the occurrence of risk. Due to this profit price of risk taking and risk bearing arises from the dynamic society which is does not static by nature. According to him profit is the result of amendment. Which means that the new comer entrepreneur takes the profitability advantage of the old entrepreneur because of this dynamic profitability theory is criticized by uncertainty of future events.

F. Schumpeter's Innovation Theory

This theory was proved by Schumpeter. Schumpeter explains the changes caused by inventions in the production procedure. Accordingly, this theory profit is the reward for innovations. Innovation refers to all those changes in the creation process with the objective of reducing the cost of commodities so as to create a gap between the existing price of the commodity and its new cost. Innovation can take many forms, such as the introduction of a new method or plan, a change in the firm's internal structure or organizational set-up, or a change in the value of raw materials, a new form of energy, a better method of salesmanship, and so on.

Profits are influenced by innovation and dissolved by simulations. Profit is never stable, in the view of Schumpeter. Hence, it is unlike other incomes, like fees, salaries and interest. These are consistent and stable earnings that can be found in any environment. Profit, on the other hand, is a temporary addition resulting from innovation. This theory attributes profit only to innovation, ignoring other functions of the entrepreneur, and it leads to criticism.

2.2. Determinates of Insurance Company Profitability: An Empirical Evidence

In this section different reviews on determinates of insurance profitability effect of those determinates towards profitability of insurance company in on the previous empirical finding related to the topic. For instance Pavic Kramaric (2014). For firm-specific factors, such as real GDP growth, the age of the company has a significant and positive impact among selected eastern Europeans, which also has a significant and positive impact on the performance of the Polish insurance company.

Derbali & Jamel (2018), In Tunisia, the three variables size, age and premium are the key determinants of the performance of the company insurance from those variables Age and premium growth have a positive effect on performance, while company size has a negative influence on the level of performance. Furthermore, the last two variables, Leverage, Tangibility, and Liquidity Risk, have insignificant effects on the profitability of insurance firms.

(Pervan, Ćurak, & Poposki, 2014), study on the insurance industry in Macedonia found that expense ratio, size of the insurer claim ratio and GDP are statically significant determinates of insurance profitability from those significant factors; GDP and size positive effect, inflation and also expense ratio negative impact on profitability of insurance. This implies that a higher inflation rate leads to higher interest rates, which leads to drop in bond prices due to decrease in the return on the given portfolio. Furthermore, in this case, the presence of higher GDP demands for insurers is increasing, resulting in higher returns or income indicators of impending inflation. Malik (2011), study on the determinants of profitability in the insurance sector of Pakistan from 2005-2009 proved that size, volume of capital and leverage ratio have a significant impact on the profitability of insurance companies. Age has an insignificant effect on the efficiency of insurance.

The researchers used only secondary data from 35 life and non-life insurance companies during the study to reach the above conclusion about the determinants of insurance companies' profitability. Aychew (2011), Study on factors of insurance company profitability for ten years (2008-2017) for nine insurance companies in Ethiopia, including firm-specific factors such as firm growth, size of company, leverage, liquidity, efficiency, tangibility of assets and investment, and industry-specific factors market share and concentration, as well as macroeconomic factors such as tax, competition, and interest profitability measurability. Among those factors, liquidity, market share are identified as significant determinants of profitability. Hence, firm size, firm growth and efficiency have a positive impact. In contrast, leverage, liquidity, tangibility & market share have a positive, significant impact on the profitability of companies.

Gashaw (2012), study showed that volume of capital, size, and growth rate are positively and significantly while liquidity and leverage are negatively but significantly associated with insurance company profitability in Ethiopia. Company size, GDP, technical provision, liquidity, solvency ratio, underwriting risk, and premium growth all have a significant impact on Ethiopian insurance companies' financial performance, whereas reinsurance dependence and inflation have a negligible impact Suheyli (2015). According to Kebede (2016), size of a company, loss ratio, and leverage are significant, whereas motor insurance, re-insurance dependency, market share, GDP, and inflation are insignificant to insurance company profitability. On the other hand, company size, motor insurance, market share, positive and leverage loss ratios all have a negative impact on the industry's profitability.

Lashetew (2020), study on factors that affect insurance companies' profitability in Ethiopia, Market share is positively and significantly, managerial efficiency rate is positively and insignificantly, while the size of the company, volume of capital, inflation and GDP rate are negatively and significantly, liquidity, leverage and growth rate negatively and insignificantly impact the profitability of insurance companies in Ethiopia Tegegn, Sera (2020). The most important determinant factors affecting insurance profitability are company size, premium growth, and liquidity affected at various levels; thus, premium growth rate and size are positively related. Contrast, liquidity and the age of the company have negative and significant effects on profitability.

2.3. Determinants of Insurance Companies' Profitability

Internal and external factors can have an impact on insurance companies. While internal factors emphasize an insurer's character; external factors concern both industry type and macroeconomics that affect insurance profitability.

2.3.1. Company Specific Determinants (Internal factors)

Internal factors are factors within an organization that can be controlled by the management of the insurance company.

Company Age (AGE): This is a key factor in organizational research. Recently established insurance is not primarily profitable in the early years of the process, and they place a higher priority on increasing market share than on refining profitability Ayele (2012). Similarly, Belete (2017), indicates that older insurance companies are expected to earn more profit than newly established insurance companies due to their long history and the ability to build a good reputation. a company is measured by the number of years a company has been operating in the market since it originated, and it is an important determinant of financial performance.

Liquidity: Getting our money whenever we need it is a simple definition of liquidity, but in this study, it refers to the point at which debt obligations due in the next twelve months can be funded by cash or assets that will be converted to cash. Insurance liquidity is the capability of the insurer to accomplish their instant obligations to policyholders without having to increase profits from underwriting and investment activities or liquidate financial assets. Hailegebreal (2016), investigates how liquidity is a significant determinant of insurance companies' financial health, with a negative relationship. Studies conducted by (Tekletsadik, 2020; Mehari and Aemiro, 2013), found that liquidity is positively and strongly related to financial enactment of insurance companies. Also, (Gashaw 2012; Abate 2012 and Sambasivam and Ayele 2013), found a negative significant linkage between liquidity and the performance of insurance companies.

Leverage is a term used to describe the use of borrowed capital or financial instruments to increase their potential return on an investment over time. Insurance leverage means that reserves are a surplus or debt to equity. The risk of an insurer may increase when it increases its leverage. According to capital structure literature, as leverage increases, a 'value will increase up to an

optimal point and then decline if leverage is increased beyond that optimal level. In 2008, Chen stated that leverage beyond the optimum level could result in higher risk and low value for the firm. Empirical evidence concerning leverage revealed a statistically significant, but negative, relationship. The relationship between leverage and profitability has been studied comprehensively and discussed. That is, an insurance company with a lower leverage ratio is going to report a higher ROA.

Capital adequacy: Capital adequacy is important determinants of insurance companies' financial performance. Since it indicates the financial strength of the firm Ayele (2012). Capital adequacy has a positive and significant consequence on the profitability of insurance companies (Wolde, Kolech, & Dadi, 2020). This implies that the Ethiopian insurance firm with adequate volume of capital can have a great number of investment alternatives and thereby higher Tendency of collecting profit. Conversely, insurance companies which are unwell capitalized can have less investment opportunities and therefore, their profitability might be highly prejudiced. Higher capital level breeds greater profitability level since having more capital (Malik, 2011; Hailegebreal, 2016; Ahamed 2008 & Ayele 2012)).

Premium growth: Premium revenue is the primary source of revenue for most insurers and it is generally more determined than other income sources. Therefore, premium growth should help predict future revenue and earnings growth. Premium growth also measures the rate of market penetration Jimma (2018) . Different findings indicates that premium growth has positive and significant impact on the performance of insurance firms (Tekletsadik, 2020; Hailegebreal, 2016; Ayele & Yuvaraj 2013).

Firm Size: firm size include the measurement of total sales , total Assets, market capitalization; total revenue, sum of debt book value and equity market value and number of employees and measured by natural logarithm of the total asset of the insurance company. Size is used to internment the fact that larger firms are better sited than small size firms in connecting economies of scale in transactions and getting a higher level of profits Kebede (2016). Subsequently, a positive relationship is expected between size of the company and profitability based on many insurance

area findings. The main reasons behind this is large insurance companies have large economies of scale in terms of the labor cost, which is the most significant production factor for delivering insurance services and larger firms have more resources for better risk diversification.

2.3.2. Industry Specific Determinants

Market share: It is the ratio share of an industry has or markets total sales that are received by a particular company over a specified period. Market share is calculated by taking a company's sales over the period and dividing it by the total sales of the industry over the equivalent period. Investors look at market share increase or decrease prudently because they can be suggest the relative competitiveness of the company's product or services. As the total market for a product service grows, a company that maintains its market share is growing revenues at the same rate as that total market. A company that is growing its market Share will be raising its revenue quicker than its competitors will. Market share increase can let a company to achieve greater scale in operations and improve profitability. Companies are always viewing to expand their share of market, in addition to annoying to grow the size of the market by appealing to larger demographics & lowering prices.

2.3.3. External Factors (Macroeconomic Factors).

The external determinants are variables that are not associated to insurance management but mirror the economic and legal environment that affects the operation and performance of financial institutions. **Inflation:** Inflation is defined as growing general level of prices for goods and services. It is measured as an annual percentage increase. L.Pierre (1989), inflation itself is unlikely to seriously effect on the performance of insurance companies. Yet if inflation is significantly greater than expected, it could cause insurance companies financial difficulty. For instance, unexpected inflation makes real returns on fixed-rate bonds lower than expected.

2.4. Summary of The literature review and knowledge Gap

Review literatures regarding with determinants of insurance companies profitability have been conducted in Pakistan, Ghana, macidonia. But in the side of Ethiopia most of the researchers focused on banking industry rather than insurance company Sambasivam & Ayele (2013). Scholars end up with conclusion, there is no single theory of profit which gives a common explanation of the

nature and theory of profit however empirically different researchers have been proved and acknowledged that the major determinants of profitability of insurance companies in their study.

In general in the area of insurance sector most studies are conducted on firm specific factors, (Gashaw, 2012; Berhe & Kaur, 2017; Sambasivam & Ayele, 2013) and both macroeconomic & firm specific factors Lashetew (2020) on the determinants of insurance profitability of the insurance companies by using common independent variables. But their outcomes were different among each study. As the researcher try to show on the above empirical studies different scholars reached different conclusion on the determinants of profitability of insurance industry in our country Ethiopia.

From the researchers that have been used the same variable on the same tittle. For example Gashaw(2012), finding indicates that the size of the company has positive impact on the profitability of insurance company but Gagni (2018), finding proves that size of the company has negative impact on the profitability of insurance company. (Gashaw, 2012; Kbede 2016)) finding shows that leverage has negative and significant, (Lashetew, 2020; Gagni, 2018) said that leverage has insignificant impact on the profitability of insurance companies. There for the researcher wants to find out uniform and consistent explanation of the same dependent and independent variable including industry specific factors like market share on the profitability of insurance company in Ethiopia.

2.5. Conceptual frame work

The researchers used internal factors such as company size, leverage, liquidity, age, capital adequacy, and premium growth in this study, as well as external factors such as inflation and industry such as market share. The study would determine how the variables listed above influence the profitability of insurance companies in Ethiopia.

In dependent variables

Dependent Variables

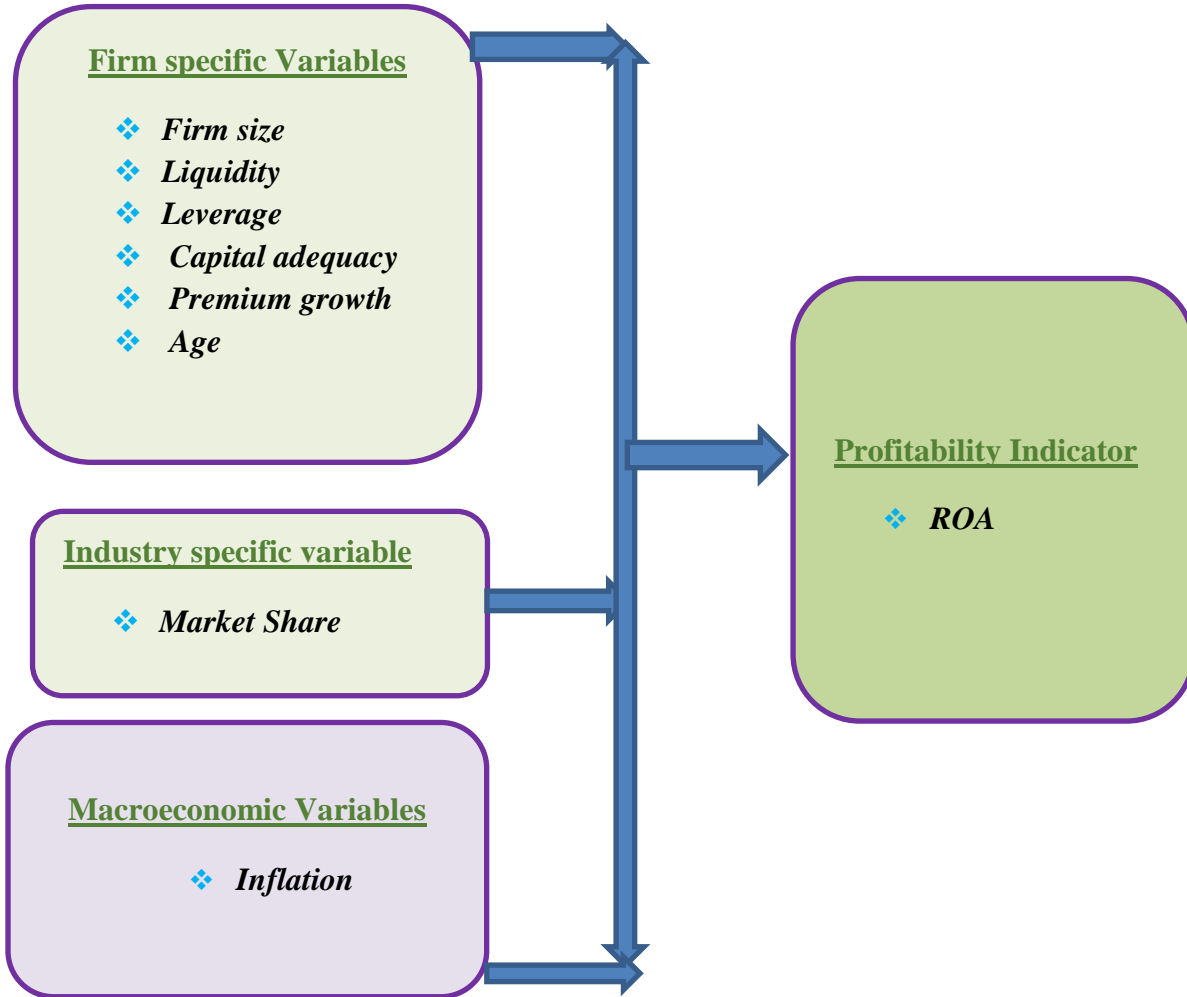


Figure 1 conceptual frame work

Source: Researchers owns development

CHAPTER THREE

3. Research Methodology

This chapter discuss about the researcher methodology was going to gathering, analyzing, processing, interpreting and translating to meaning full information. In general this chapter includes data type, method of data collection, target population, research approaches, designs, sample size, sampling technics, variable's, model specifications, data analysis technics and also definition for the term related to the topic are exploring.

3.1. Research Approach

Creswell (2003) stated that in business and social since there are three types of research approaches that are quantitative, qualitative and mixed methods approach. Quantitative research is based on the numerical measurement of quantity.

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity Kelil (2018). Quantitative research is a means for testing objective theories by examining the relationship among variables Creswell (2003). According to Jonker & Pennink (2010), Quantitative research is often regarded as being purely scientific, justifiable, and precise and based on facts often reflected in exact figures. This approach often appears when the audience or the reader of the study consists of individuals, or other readers with quantitative information. In order to explore the relationship with the profitability of all insurance company with firm specific, industry and macroeconomics factors, the researcher have been used quantitative research approach.

3.2. Research Design

Research design is a master plan that specifies the methods & procedures for collecting and analyzing of the needed information (Zikmund, Carr, & Griffin 2013). On the other hand research design is expressed which types of data are required, methods of collection and way of analysis (Saunders, Lewis, & Thornhill, 2009) . According to Lewis there are three types of designing research study those are descriptive, exploratory & explanatory research design. The main objective

of exploratory research is to identify the limits of the environment in which the issues, interest are likely to reside and to identify the silent factors or variables that might be found there and be of the relevance to the research. On the other hand, explanatory research design is used to identify any causal link between the factors or variables that concern the research problem. Hence, it examines the cause and effect relationship between the determinants of profitability (size of company, age, liquidity, leverage, premium growth, market share, adequacy of capital and inflation) and insurance companies' profitability, explanatory research design was employed for this study.

3.3. Population and Sampling Technique

The main ways to take a sample are grouped into two categories: probability and nonprobability sampling techniques Zekarias (2017). Probability sampling is a procedure that gives each member of the population a non-zero probability of selection, which means that each element in the population has an equal chance. On the other hand, non-probability sampling selection of the sample is based on personal judgments or convenience.

Because the study did not include all of Ethiopia's insurance companies, the study used the Judgmental or Purposive /Nonprobability/ sampling technique, as explained above. The study was limited to those who had a business prior to 2011. According to the national bank of Ethiopia (NBE), there are 17 listed insurance companies in Ethiopia and 9 companies have been taken as a sample since they fulfilled their financial statements from the period 2011 to 2020. The Ethiopian insurance corporation, Africa insurance company s.c, Awash insurance company s.c, National insurance company of Ethiopia s.c, Niyala insurance company, Nile insurance company, United insurance company, Global insurance company s.c & Nib insurance company were taken as a sample of Ethiopian insurance companies.

Table 2 List of sampled insurance companies for the study

NO	Name of insurance company	Establishment date	Ownership
1	Ethiopian insurance corporation	1/14/1976	Gov.t
2	Africa insurance company s.c	1/12/1994	Private
3	Awash insurance company s.c,	1/10/1994	Private
4	National insurance company of Ethiopia s.c	23/9/1994	Private
5	Niyala insurance company	6/1/1995	Private
6	Nile insurance company	11/4/1995	Private
7	United insurance company	1/4/1997	Private
8	Global insurance company s.c	11/1/1997	Private
9	Nib insurance company	1/5/2002	Private

3.4. Data Type and Source

Consistent and reliable research indicates that research conducted by using appropriate data collection instruments increases the credibility and value of the research finding Kebede (2016). Secondary source are the most reliable one because financial statements are audited by independent auditors and openly accepted by the users of that information. Accordingly addressing the objective of the study the required data collects from secondary sources of insurance company.

The main secondary source of this paper includes each individual insurance company's annual report from 2011 up to 2020 that contains consolidated balance sheet, income statement and revenue account from national bank of Ethiopia. The researcher used panel data. According to Kassie (2017), panel data is favored over pure time series or cross sectional data. It can control for individual heterogeneity and there is less degree of multi –linearity between variable.

3.5. Method of Data Analysis

After the required data was collected, the next step was to analyze the data in accordance with the stated objective of the study. In order to analyze the given data, the researcher used STATA 16 and

Views 10. After this the panel data was collected regressed by data ordinary least square (OLS) regression method and the data was interpretably using statistical description including standard deviation, mean, minimum and maximum by using descriptive statistics. It is used to check whether there is any substantial variation between dependent & independent variables. The researchers also used correlation coefficient analysis to determine the direction and magnitude of the association between different variables. But it does not give assurance about the independent and dependent variables. The model's validity test was included. And inferential statistics were also included in the study to check the proposed hypotheses and make a general conclusion. In addition, various assumption tests were performed. The errors have zero mean ($e(u_t) = 0$), no autocorrelation between the errors, no perfect multicollinearity between independent variables, no heteroskedasticity problem and a normal distribution of the variables.

3.6. Model Specification

Building of a model involves specifying of relation sheep between two or more variables by increasing descriptive or predictive equations (Tegegn et al., 2020), for the achievement of the researcher's objective panel data linear regression model is used to identify the relationship between the profitability of insurance companies and explanatory variables. Panel data are longitudinal data which involves both time and space data Kebede (2016). According to Reshid (2015), panel data is favored over pure time series or cross sectional data. It can control for individual heterogeneity and there is less degree of multi-linearity between variable. The researcher also determines whether the random effect or fixed effect approach is appropriate by running Hausman model specification test.

3.7. Multiple Linear Regression Analysis

The OLS multiple linear regression models are used when independent variables are correlated with one on other and with the dependent variables. The result of the regression analysis is representing the best prediction of dependent variables from several other independent variables Birhan (2017). The researcher was examining the relationship between Ethiopian insurance company profitability and independent variables such as size of firm, liquidity, leverage, Capital adequacy, market share, age, premium growth and inflation by using multiple linear regression method was conducting in statistical manner in order to determine the most significant and influential variables that affect

insurance companies profitability in Ethiopia. Operational model used to find the statistical factor which affects the profitability of insurance company is;

$$ROA_{it} = \beta_0 + \beta_1 (ISD)_{xt} + \beta_2 (IED)_{xt} + \beta_3 (med)_{xt} + e_i \text{---(1)}$$

Which is ROA is a dependent variable for insurance I at time t and $\beta_0, \beta_1, \beta_2$, represents estimated coefficients including the intercept and also (ISD) $_{xt}$ indicates the x-th insurance specific determinants at time t (med) $_{xt}$ represent macroeconomic determinant at time t, (IED) $_{xt}$ is industry specific factor and also e_i represents that error term.

ROA= Return on asset

I= 1.....4.....6..... 9 (Insurance companies in Ethiopia)

T=1....2....10years (2010/11-219/2020years)

β_0 = coefficient of intercept (constant term)

β_1 =coefficient of size of company

β_2 = coefficient of liquidity

β_3 = coefficient of leverage

β_4 =coefficient of capital adequacy

β_5 = coefficient of premium growth

β_6 = coefficient of market share

β_7 =coefficient of inflation

β_8 = coefficient of age

The equations to account individual explanatory variables specified for this particular study is as follow as;

$$ROA_{it} = \beta_0 + \beta_1(SIZ)_{it} + \beta_2(LIQ)_{it} + \beta_3(LEV)_{it} + \beta_4(CA)_{it} + \beta_5(PMG)_{it} + \beta_6(AGE)_{it} + \beta_7(MRS)_{it} + \beta_8(INF)_{it} + \beta_9 K_{it} + \epsilon_{it} \quad (2)$$

Where: ROA.....	Return on asset
SIZ.....	Size of the company
LIQ.....	Liquidity
LEV.....	Leverage
CA.....	Capital adequacy
PMG.....	Premium growth
MRS.....	Market share
INF.....	inflation
AGE.....	Age of the company

3.8. Operational Definition of Dependent and Independent Variables

3.8.1. Dependent Variable

Profitability of insurance company is a dependent variables measured by through profit ratio from financial report of the company. In this study the researcher uses ROA as measure of profitability.

3.8.1.1. Return of Asset (ROA)

Return on assets is defined as insurance companies' after-interest and tax profit divided by total assets, allowing us to assess their financial performance. The concept of ROA has been used in several studies to reflect the financial performance of the company. Return on assets (ROA) is calculated by dividing the net profits of the period by the total assets of the company. H. G. Abera (2015). On the other hand ROA is a measure how effectively assets used to make a profit. The higher earning from the investment has highest ROA. Measurement of financial performance by using ROA is the more favorable (Macfubara, Dumbor & Gberesuu, 2018). And also Berhe & Kaur

(2017) indicates that ROA is calculated annual net income over the total asset of the insurance company.

3.8.2. Explanatory Variables

In this study the independent variables classified as firm specific variables which are under the control of the firm, industry specific variables and macroeconomic variables which are uncontrollable & external variables.

3.8.2.1 Premium growth

Premium growth is the percentage increase in gross written premiums (GWP). It can be calculated by using the formula which is $PG = \frac{GWP_t - GWP_{t-1}}{GWP_{t-1}}$. Premium is the main and primary source of most insurance companies and it is the most influential revenue sources for the insurance industry. If the premium revenue is stable through a period of time the biases is offset by the omission of interest expenses on the loss reserves. Premium growth has a positive effect on the profitability of insurance company in Ethiopia Suheyali (2015).

$$PG = \frac{GWP (t) - GWP (t-1)}{GWP (t-1)}$$

H1: Premium growth has a positive and significant effect on profitability of Ethiopian insurance companies.

3.8.2.2 Liquidity

Liquidity means the ability of an asset convert to cash quickly and reflects the ability to manage the firms at the normal level. It refers to the ability of payment of debt obligation within 12 months or an asset converted in to cash with 12 months (Isayas & Yitayaw, 2020; Mehari & Aemiro, 2013) companies with more liquid asset are less likely to fail because they realize cash even in very difficult situation. It is there for expected that insurance companies with more asset will outperform those less liquid asset. Generally liquidity indicates the firm ability to use its nearby cash or quick assets to retire its liabilities. Liquidity has a negative influence on the profitability of insurance company in Ethiopia (Isayas & Yitayaw, 2020; Mehari & Aemiro, 2013).

And computed by the formula Liquidity ratio = $\frac{\text{Current asset}}{\text{Current liability}}$

H2: Liquidity ratio has a negative and significant impact on profitability of insurance companies in Ethiopia.

3.8.2.3 Market share

Market share is the percentage share of an industry has or market total sale earned by particular company over specific period of time. Total market for product grows a company maintains revenue growth at the same rate as the total market increasing rate. Companies has higher market share allow accompany to achieve greater scale in the operation and improve profitability. There are a lot of advantages such as increasing market share & bargain power. Top companies with largest market share leads to get special deals on the product as their buying power is likely greater than smaller company's Competitive advantage. when companies market share increases the ability of innovation in the industry is increasing, as a result strengthening customer relationship, receives better price from supplier leads to take competitive advantage of the industry Lashetew (2020). In this study market share is calculated by dividing each insurance company's gross premium with the total gross premium of the industry because, market share is best explained by the percentage of sales that is shared by the entity from the industry (Wolde et al., 2020).

$$\text{Market share} = \frac{\text{Gross premium of each firm}}{\text{Gross premium of industry}}$$

H3: Market share has a positive and significant effect on profitability of Ethiopian insurance companies.

3.8.2.4 Leverage

Leverage also called solvency considers capital structure of the firm and evaluation of the relative risk and return associated with liabilities especially long term debt and equity. Debit to equity is one of the most fundamental measures in corporate finance Behailu.K (2016). More profitable firms should prefer debt financing to get benefit from tax protection. Insurance leverage could be defined as reserve to surplus or debt to equity. The risk of the insurer is increasing as a result of leverage increase (Lashetew (2020). Leverage has statically negative relationship with insurance industries profitability (Gebremariyam, 2014; Gashaw, 2012; Malik, 2011).

Leverage is calculated by using the formula which is $\text{Leverage ratio} = \frac{\text{Total debt}}{\text{Shareholder's equity}}$.

H4: Leverage has a negative and statistically significant effect on profitability of insurance in Ethiopia.

3.8.2.5 Size of the company

This is measured by natural logarithm of the total asset of the insurance company. It is the total market value of the securities in the mutual funds portfolio of the industry. Total asset represents the combined value of all things owned by the Companies. Gagni (2018) finding proves that size of the company has negative impact on profit of insurance company. However Most studies such as (Gashaw, 2012; Derbali,2014) Finding indicates that size of the company has positive impact on the profitability of insurance company.

H5: Size of the company has positive and statically significant effect on Performance of insurance companies in Ethiopia.

3.8.2.6 Inflation rate

Inflation happened when the price of goods and services increase over a period of time in general. Inflation is general increasing of overall price level of goods and services in the economy Hadush (2015). Inflation has a negative relationship between Ethiopian insurance company and profitability (Suheyli,2015; Gebremariyam, 2014;Pervan et al., 2014).

$$\text{Inflation rate} = \frac{I(t) - I(t-1)}{I(t-1)}$$

H6: Inflation has negative and significant impact on profitability of insurance companies in Ethiopia.

3.8.2.7 Capital adequacy

The adequacy of capital measures an insurance company's financial strength and soundness. It also indicates the stability and efficiency of the financial system in the industry. Essentially, the volume of capital is measured using the capital to total asset ratio and the premium to total asset ratio, but the growth of net premium is considered risky unless supported by optimal balanced capital to mitigate shocks. As a result, empirically, the majority of authors have used natural logs of equity Hadush (2015). Therefor in order to examine the relation sheep between volume of capital and profitability the researcher uses natural log of equity. Previous study on the capital adequacy has

positive relation sheep with the profitability of insurance industry in Ethiopia Gashaw, 2012; Malik, 2011).

H7: Capital adequacy has a positively and statistically significant effect on profitability of insurance companies in Ethiopia.

3.8.2.8 Company age

Age of company is measured as the number of years a company is operating in the market since it was established. The age of the company is one of the greatest influential characteristics in industrial studies. Newly established insurance company's gives better emphasis on increasing their market share rather than cultivating profit. Because of this newly established companies are not particularly profitable in their beginning operational period Hailegebreal (2016). Companies have a long period in the operation expected more profitable due to their extended culture and experienced. Because of this age of the company is an important determinant of profitability of the company Ayele (2012). Different studies have been showed to examine the effect of age on profitability of Ethiopian insurance company. (Sambasivam & Ayele, 2013; Al-Shami, 2008 ;Hifza, 2011) showed that positive relation between company age & profitability.

H8: Company Age has a positive and significant impact on profitability of insurance companies in Ethiopia.

Table 3 Description of variables and their expected relationship.

Variables	Measurement	Expected sign	
Dependent	Profitability(ROA)	Net profit After tax/total asset	+
Independent	Size of company	Natural logarithm of total asset	+
	Liquidity	Current asset /current liability	-
	Leverage	Total debt / shareholder's equity	-
	Capital Adequacy	Natural logarithm of equity	+
	Premium growth	$PG = \frac{GW_{Pt} - GW_{Pt-1}}{GW_{Pt-1}}$	+
	Market share	$MRS = \frac{\text{Gross premium of each firm}}{\text{Gross premium of industry}}$	+

Inflation	$INF=(inf_t-inf_{t-1})/ Inf_{t-1}$	-
Company Age	Number of years in the operation	+

Source; compiled by the researcher based on the previous study

3.9. Ethical Issues

Ethics refers to norms and standards of the behavior that guide our moralities and related choices about our behavior and our relation sheep with others. The researcher's exercised utmost attentive while collecting of the data in order to ensure the privacy of insurance companies in Ethiopia before starting data collection. The researchers explain for the insurance personals why the study was conducted and got the consent of before receiving of any documents before the receiving of any documents about the companies were in confidence and no disclosures would be made on the identity of the study which was related to the profitability ness of insurance companies in Ethiopia in the given period of time.

CHAPTER FOUR

4. Data Analysis and Discussion

This chapter analyzes a set of panel data and interprets the meaning of the full data set by observing the cross section and time period variables. Study covered the time period 2011 up to 2020 and 9 insurance companies that are found in Ethiopia. This chapter includes model specification and tests for the classical linear regression model assumption, descriptive statistics and correlation analysis. The results of the discussion are also presented and a summary of the main outcome is concluded.

4.1. Model Specification Test

In statistics, model specification is part of the process of building a statistical model. Model specifications include the selection of an appropriate functional form for the model as well as the variables to be included in the regression model. In financial research, there are two broad classes of panel estimator approaches that can be employed. There are fixed effects models (FEM) and random effect models (REM). According to Brooks (2008), panel estimator approaches can be applied to research, such as fixed effects models and random effects models. The random effect model always allows for heterogeneity or individuality among the selected companies by allowing its own intercept value. It is time invariant in nature but shows different value from one company to another company. Whereas the fixed effect model has a common mean value for the intercept, which is a time variant. In order to make a choice among random and fixed effect models, the researcher takes the decision value which is provided, and if the statistically significant P-value from the Hausman test is more significant only at the 5% significance level, the fixed effect model is preferred instead of a random effect, or else the random effect model is preferable. The rationale behind this is that the p-value for the Hausman test is greater than 5%, indicating that the random effects model is appropriate and that the random effects specification is preferred in this particular study.

Table 4 Model Specification Test

Test:	Ho:	difference in	coefficients not systematic
	chi2(8)	= (b-B)'[(V_b-V_B)^(-1)](b-B)	
		= 0.79	
	Prob>chi2	= 0.9992	

Source: Results were generated from STATA VERSSION 16

4.2. Descriptive statistics

This part of the paper presents descriptive statistics of major variables. It is used to describe the basic features of the data in the study. Descriptive statistics summarizes the information in a data set by revealing the average indicators of the variables used in the study and presents that information in a convenient way. Each of variables is examined based on the mean, standard deviation, minimum and maximum values. The table below indicates descriptive statistics of the dependent and independent variables of the study. It shows the mean and standard deviation of the variables used in the study in order to indicate how wide ranging each respective variable.

Table 5 descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	90	.4000429	.252686	.0796315	.9568813
LEV	90	.3093778	.2290011	-.485	1.223
LIQ	90	4.165567	6.530148	.226473	19.04827
MRS	90	.4633667	.2670469	.075	2.625
PMG	90	.5991859	.1055453	.318526	.8233
INF	90	.0937127	.0550645	.0473373	.1972798
SIZE	90	7.496358	2.407624	.569768	9.651444
CA	90	6.554961	1.263029	5.01408	8.628505
AGE	90	26.45556	9.794703	11	47

Source: Results were generated from STATA VERSSION 16

The above descriptive table shows that the descriptive statistics of the study during 2011-2020 and nine insurance companies in Ethiopia context which includes the mean, maximum, minimum, and

the standard deviations. The study has used ten variables for the analysis purpose including 8 explanatory variables and one dependent variable. Those are return on asset (ROA) as a dependent variable and Size (SIZ), liquidity (LIQ), leverage (LEV), Capital Adequacy (CA), Premium growth, Market share (MKS), Inflation (INF) and Age used as an independent variables. The Above Descriptive statistics in table has the following variables discussion in details.

Return on Asset (ROA) According to table 5 all variables comprised 90 observations and the profitability measure used in this study namely; ROA indicates that the Ethiopian Insurance companies attained profit after interest and tax over the last ten years. From the total sample, the average of ROA was 0.40 with a minimum of 0.079 and a maximum of 0.95 that means, the most profitable insurance among the sampled insurances earned 95% of profit after interest and tax for a single birr invested in the assets of the firm. On the other hand, the least profitable of the sampled insurance companies in Ethiopia earns 7.9 % of profit after interest and tax for each birr invested in the assets of the firm. The standard deviation statistics for ROA was 0.25 over the last ten years, which indicates that the profitability variation between the selected insurance was significant.

Size of the company (SIZ): Other determinant of profitability Ethiopian insurance industry is the firm size. The researcher also includes the natural logarithm of total assets; hence the size of total assets should be sensitive to the profitability of insurance company. With regard to total asset (size) as shown in the above table, the average size is 7.49 and the maximum and minimum values of size were 9.65 and 0.56 respectively. The standard deviation statistics for ROA was 2.4 over the last ten years hence; the varieties of size across the sample insurance companies might have significant impact on profitability of insurance companies.

Leverage: leverage shows the long term solvency position of a company. Insurance companies in Ethiopia has maximum leverage ratio is 1.223 means 1.223 of the total shareholders' equity of the insurance company are financed through liability or by creditors. On average, insurance companies have leverage ratio of 0.30 which means 30 % total shareholders' equity are financed through liability. Leverage standard deviation is 0.22. This implies that there were differences among leveraged level as measured by debt to equity ratio across the sample insurance companies under this study and it also indicates those insurance companies are highly leveraged because they used optimum level debt than equity for financing purpose.

Liquidity: Liquidity has been defined in the model as the ratio of current assets to current liabilities. According to the above table, descriptive statistics of an insurance firm's current assets could pay for their current liabilities at least 0.22 times and at most 19.04 times. Furthermore, the mean value of the liquidity ratio is 4.16, with a standard deviation of 6.53. This implies that there were significant differences in liquidity ratios among the insurance companies in the sample. But the difference in liquidity was highly significant for the sampled insurance companies during the study period.

Premium growth: The mean value of premium growth is 0.59 and the value of standard deviation for the same variable is 0.10, which shows that there were significant variations in the value of growth as measured by the change in total premiums over the last ten years across the sample insurance companies. The maximum and minimum rates are 0.82 and .31, respectively. The average value of growth rate was 0.59 this implies that, on average, the total premium growth of Ethiopian insurance companies increased by 59 % over the study period. The maximum value of growth achieved by the Ethiopian insurance corporation company in 2018 was approximately 82%, while the minimum value of premium growth rate achieved by the national insurance corporation in 2015 was approximately 31%. High increase and decrease in premium growth for a company in a particular year indicates the unstable premium growth of Ethiopian insurance companies starting from 2011 up to 2020.

Company Age (AGE): One of the most important company-specific determinants of profitability, age is a proxy for the number of years the company has been in operation. The maximum and minimum operation years of Ethiopian insurance companies in Ethiopia were recorded by the Ethiopian Insurance Corporation at 47 years and the Nib insurance company at 11 years, respectively. Furthermore, the average age of the company is 26 years and 5 months; with a standard deviation of 9.79. The variation in insurance start-up date has a significant impact on profitability across all of the insurances sampled in this study.

Capital Adequacy (CA): The average value for Capital Adequacy has become 6.55 with a standard deviation of 1.26 implies the presence of significant variation among the values of volume of capital across the sample insurance companies in Ethiopia which are included in this study.

The maximum value of capital adequacy was 8.62 in Ethiopian insurance corporations and the minimum was 5.01 in nib insurance company of Ethiopia.

Market Share (MRS): The only industry specific factor in this study has the lowest value of 0.075 recorded by United Company in 2011 and with the maximum value of 2.625 by Nib insurance company in 2014. This means that in the study period, NIB has generated 2.625 birr of gross premiums from every 100 birr generated by the Ethiopian insurance industry in general. The standard deviation from an insurance company's market share is equal to 0.26 & the mean value is 0.46. This implies that the market share of Ethiopian insurance companies has significant deviates from period to period among Ethiopian insurance corporations.

Inflation: The country's average inflation rate over the last ten years has been 9%. The maximum inflation was recorded in the year 2011, which was 19% and the minimum in the year 2014 was about 5%. The rate of inflation was slowly dispersed over the periods under study towards its mean of 0.09, with a standard deviation of 0.05. This implies that the inflation rate in Ethiopia during the study period was somehow unstable, which may affect the insurance companies' profitability.

4.3. Correlation Analysis

Correlation analysis indicates the relation between explanatory variables themselves and companies' profitability, which is measured by ROA. During correlation analysis, the correlation coefficient shows the magnitude and the direction of the relationship, whether they have strong, weak, positive or negative relationship with the independent variables and dependent variables.

The value of the coefficient in correlation is high & small, which indicates strong & weak relationship respectively. Plus, the sign of the coefficients shows the direction of the relationship in the given variables Gujarati (2004). In correlation analysis, the correlation coefficient always has a value between positive one (1) and negative one (-1). It means that the correlation coefficient is one, and a negative one indicates that the independent and dependent variables have a perfect positive and negative relationship. On the other hand, the correlation coefficient is zero, indicating that there is no direct linear relationship between the given variables.

On the other hand if y and x are correlated, it means that y and x are being treated in a totally symmetrical way. Thus, it is not implied that changes in x cause changes in y or indeed that changes in y cause changes in x rather, it is simply stated that there is evidence for a direct relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient Brooks (2008). Most of the econometrics study suggests that all variables free from Collinearity coefficient should be below 0.70 or 70%. Any correlation coefficient above 0.7 could cause a serious multicollinearity problem leading to in efficient estimation and less reliable results Kennedy (2008). In the following correlation analysis correlation matrix shows that there is no any correlation coefficient which exceeds 0.7. Thus indicates that there was no serious correlation problem. It shows correlation problem was not occurred among explanatory variables, and between independent and dependent variables which was included in the study.

Table 6 correlation analysis

. correlate ROA LEV LIQ MRS PMG INF SIZE CA AGE
(obs=90)

	ROA	LEV	LIQ	MRS	PMG	INF	SIZE	CA	AGE
ROA	1.0000								
LEV	-0.2607	1.0000							
LIQ	-0.4890	0.3715	1.0000						
MRS	-0.0482	-0.1051	-0.0948	1.0000					
PMG	0.1624	0.0378	0.1006	-0.1162	1.0000				
INF	0.1619	-0.1036	0.0882	-0.0434	0.0210	1.0000			
SIZE	0.6072	-0.0473	-0.2637	0.0383	-0.0948	-0.0587	1.0000		
CA	0.3994	-0.3133	-0.3588	0.1427	-0.0441	0.3005	0.0552	1.0000	
AGE	0.3020	0.2180	0.2017	-0.0895	0.2021	-0.0515	0.1318	-0.1631	1.0000

Source: Results were generated from STATA VERSSION 16

leverage, market share and liquidity are negatively correlated with ROA on the other hand premium growth, size, capital adequacy, inflation & age of the company are positively correlated with profitability of Ethiopian insurance company with in the sampled period.

Leverage is negatively related with profitability insurance companies of Ethiopia. It indicates that ROA and leverage ratio of the company have in direct relationship. When companies use a higher

leverage ratio they tended to more debit for business area and become less profitable. Liquidity has a negative relationship between the profitability of insurance companies in Ethiopia. Market share (mrs) has negative relationship with ROA of Ethiopian insurance company. Market share has an adverse impact on the newly emerged companies relative to the older one. Premium growth (PG) is Market penetration power depend on the amount of premium growth of the insurance companies in Ethiopia. In this study premium growth and profitability of Ethiopian insurance company has positive relationship. Capital adequacy and Insurance Company's profitability has positive relationship between them. High availability of volume of capital in the insurance company, the profitability of this company is also high due to profitable business operation. In this study age of the company indicates the number of years which was started insurance industry operation up to the date of the observation in Ethiopia. It has positive relationship with insurance companies' profitability. And also Inflation rate has positive impact on profitability of insurance company in Ethiopia during this study. Size of the company which is measured by natural logarithm of total asset of the given insurance company has positive relation sheep with (ROA) profitability of the company. It indicates that the profitability of large size insurance companies is high relative to small size insurance companies in Ethiopia.

4.4. Tests for the Classical Linear Regression Model (CLRM) Assumptions

This section deals with analysis of data and interpretation of analytical findings. Initially, it is better to see the overall specification test of the model. Diagnostic tests are robust statistical tests carried out to verify if the data used have met the assumptions underlying the ordinal logistic regression and where possible to remove problems associated with the data. Before estimating the linear regression model, it is necessary to check for different method of test such as errors have zero mean multicollinearity, heteroskedasticity, normality, autocorrelation. According to H. G. Abera, (2015) there are five assumptions made in relation to the classical linear regression model (CLRM). The researcher was test the model if there are violations of those assumptions or not. The method that used to test these assumptions, the researcher is labeled and shown as follows as:-

The errors have zero mean ($E(u_t) = 0$): In the regression equation if the constant term is included this assumption is not violated. The regression model used in this study included a constant term, this assumption was not violated.

Assumption of homoscedasticity (variance of the errors is constant ($\text{Var}(u_t) = \sigma^2 < \infty$): The variance of the errors should be constant, this assumption known that homoscedasticity assumption. If the errors do not have a constant variance, they are said to be Heteroskedasticity. Heteroskedastic assumption shows that the disturbances u_i appearing in the population regression function are homoscedasticity; that is, they all have the same variance. The variance of each disturbance term u_i , uncertain on the chosen values of the explanatory variables, is some constant number equal to σ^2 . This is the assumption of Heteroskedasticity, or equal (homo) spread (scedasticity), that is, equal variance Mekcha (2018). It would be concluded that there is no significant evidence of heteroscedasticity. So that it would not be probable to that the variance of the errors is constant. This assumption is to become true requires that the variance of the errors to be constant. If the errors do not have a constant variance, it is assumed that the hypothesis of homoscedasticity has been violated. This violation is termed as heteroscedasticity (IBD). In this study the researchers used breusch pagan test in order to cheek the homoscedasticity test. .

Table 7 Heteroskedasticity test

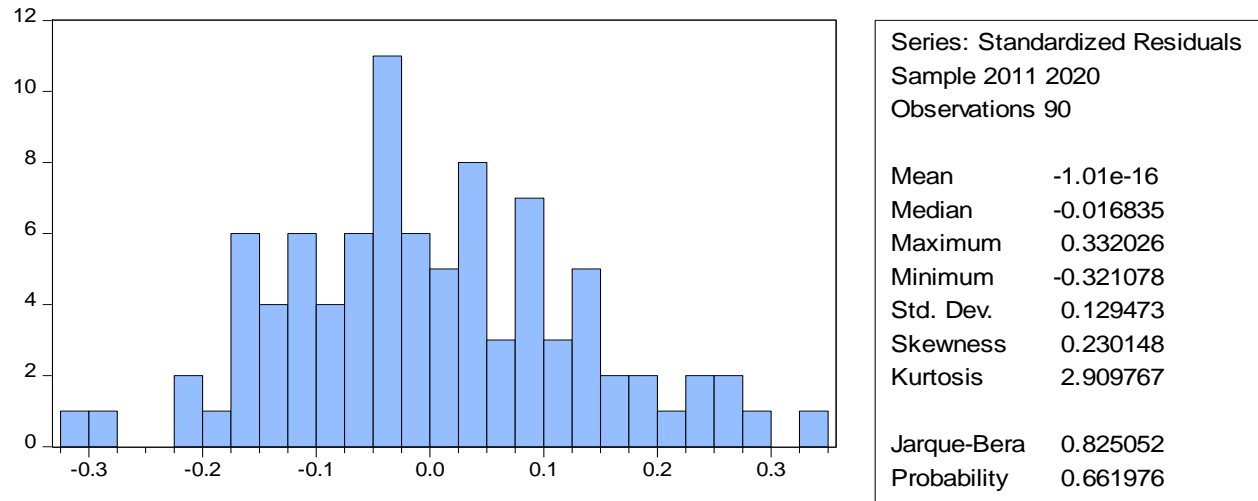
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
chi2(1) = 2.13
Prob > chi2 = 0.1448

Source: Results were generated from STATA VERSSION 16

From the above out put the researchers concluded that there is no heteroskedasticity problem in both models because the p value is greater than the significant level of 5 %.

The Assumption of Normality: If the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. According to Brooks (2008), if normality tests to be valid the value of skiwness should be close to 0 and the value of kurtosis should equal to three. This means that the p-value given at the foot of the normality test screen should be greater than 0.05 to confirm with the null hypothesis of the existence of normal distribution at 5%.

Figure 2 Normality test



Source: Results were generated from EVIEWS 10

The above diagram witnesses that normality assumption holds, i.e the coefficient of kurtosis was close to 3 and the Bera-Jarque statistic has a P-value of more than 5% implying that the data were consistent with a normal distribution assumption.

Multicollinearity Test: The assumption is made when using ordinary least square estimation method is that the explanatory variables are not correlated with one another Brooks (2008). However explanatory variables are highly correlated with each other causes to multicollinearity problem. In order to check the presence of multicollinearity, variance inflation factor (VIF) test was employed in the study.

Table 8 multicollinearty Test

Variable	VIF	1/VIF
LIQ	1.46	0.686703
CA	1.38	0.724768
LEV	1.25	0.800655
INF	1.17	0.852309
AGE	1.17	0.857881
SIZE	1.13	0.882263
PMG	1.07	0.933911
MRS	1.05	0.954431
Mean VIF	1.21	

Source: Results were generated from STATA VERSSION 16

Most scholars states that, the value of VIF is less than ten is good value to minimize multicollinearity problem. But others tolerate that value of VIF is less than four Myers(1990). Based on this multicollinearty problem was not exist in the study. Because the VIF value is less than cut off point four. In addition, the above table shows that the predictor has strong linear relation sheep with other predictors.

Test for Autocorrelation (Covariance between the error terms over time is zero (cov (ui,uj) = 0): This is an assumption that the errors are linearly independent of one another (uncorrelated with one another). If the errors are correlated with one another, it stated that they are auto correlated. The problem of multicollinearity usually arises when certain explanatory variables are highly correlated. Brooks (2008) noted that the test for the existence of autocorrelation is made using the Durbin-Watson (DW) test and Breusch-Godfrey test.

Table 9 Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.012073	Prob. F(2,79)	0.3681
Obs*R-squared	2.248381	Prob. Chi-Square(2)	0.3249

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 06/05/21 Time: 16:40

Sample: 1 90

Included observations: 90

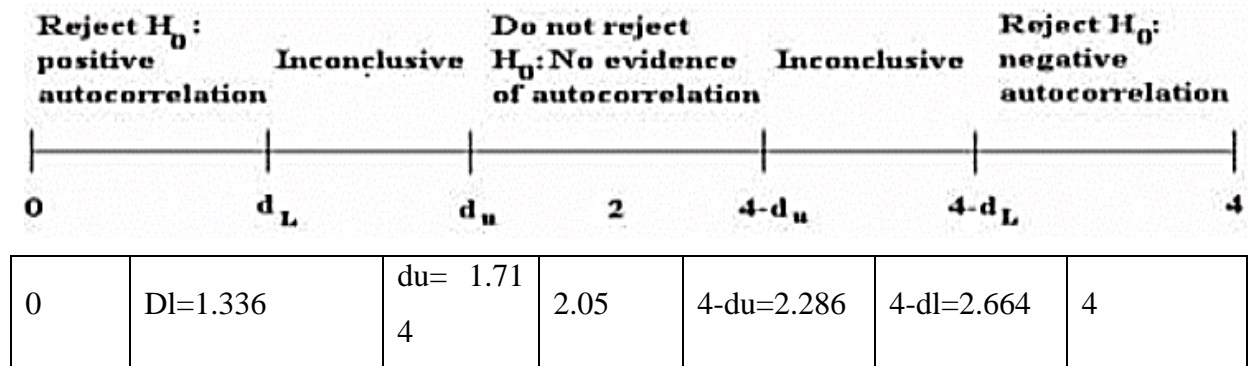
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	-0.489960	2.074322	-0.236202	0.8139
PMG	-0.000693	0.395441	-0.001751	0.9986
MRS	-0.004907	0.029497	-0.166352	0.8683

LIQ	-0.000193	0.496750	-0.000388	0.9997
LEV	0.005228	0.697855	0.007492	0.9940
INF	-0.018464	1.074770	-0.017180	0.9863
CA	0.000120	0.060425	0.001987	0.9984
AGE	0.009349	0.101296	0.092291	0.9267
C	0.013694	1.070562	0.012791	0.9898
RESID(-1)	0.160849	0.139778	1.150743	0.2533
RESID(-2)	-0.066680	0.155479	-0.428870	0.6692

R-squared	0.024982	Mean dependent var	-1.29E-13
Adjusted R-squared	-0.098438	S.D. dependent var	0.916360
S.E. of regression	0.960404	Akaike info criterion	2.871157
Sum squared resid	72.86770	Schwarz criterion	3.176690
Log likelihood	-118.2021	Hannan-Quinn criter.	2.994366
F-statistic	0.202415	Durbin-Watson stat	2.052279

Source: Results were generated from EVIEWS 10



Source: EVIEWS 10 output and Durbin Watson table

The Durbin-Watson test statistic value in the regression result was 2.05. To identify determinants of Ethiopian insurance companies profitability, 90 (9*10) observations were used in the model. Therefore, to test for autocorrelation, the DW test critical values were used. Then relevant critical lower and upper values for the test are $d_L = 1.3336$ and $d_U = 1.741$ respectively. The values of $4 - d_U = 4 - 1.714 = 2.286$; $4 - d_L = 4 - 1.336 = 2.664$. The Durbin-Watson test statistic of 2.05 is clearly

between the upper limit (dU) which is 1.714 and the critical value of 4- dU which is 2.286 and thus, the null hypothesis of no autocorrelation is within the non- rejection region of the number line and thus there is no evidence for the presence of autocorrelation.

4.5. Model Reliability Test

The implicit assumption of the classical linear regression model is that the appropriate is linear functional form. Model specification error occurs when omitting of the relevant variable and including unnecessary variables or wrong functional form.

When the omitted variable is correlated with the variable and unnecessary variables are included the estimators will be biased and inconsistent and the model specification error will tend to occur. If the omitted variables are not correlated with the included variable, the estimators are unbiased and consistent and model specification error does not occur. There for in order to select a correct estimated model the researcher had conducted the Ramsey test in the study.

Table 10 Ramsey test

Ramsey	RESET test	using powers of the fitted	Values	Of	ROA
Ho: model	has no omitted variables				
	F(3, 78) = 2.53				
	Prob > F = 0.0629				

Source: Results were generated from STATA VERSSION 16

As it can be seen from the above test, there is limited evidence for non-linearity in the regression equation Since 0.0629 is greater than 0.05, which states the model specification is correct.

4.6. Unit Root Test

To avoid working with nonstationary data, which yields spurious results, unit root tests using Levin-Lin-Chu test was undertaken. If the variables in the regression model are not stationary, then the standard assumptions for asymptotic analysis will not be valid. The hypotheses of these tests are also stated as.

H0: Unit root in variables

Decision criteria

H1: No Unit root in variables

Reject HO if PV < 0.05

Table 11 Unit Root Test

Levin-Lin-Chu Test			
Variables	t-statistic	p-value	Order of integration
ROA	-10.4335	0.0000**	I (0)
Leverage	-3.57113	0.0002*	I (0)
Liquidity	-7.89146	0.000**	I (0)
Market share	-5.82155	0.000**	I (0)
PMG	-7.53035	0.000**	I(0)
Inflation	-3.95889	0.000**	I (0)
Size	-7.49857	0.000**	I (0)
Capital adequacy	-7.35877	0.000**	I (0)
Age	-8.82702	0.000**	I(0)

Source: Results were generated from EVIEWS 10

Note: * * represent significance at 1% significance levels respectively I (0) indicate at stationary level.

The stationary properties of the variables were first observed as a preliminary test the determinants of Ethiopian insurance company profitability. As shown in the above table the results of Levin-Lin Chu unit root test shows that all variables became stationary at level i.e. I (0). Hence, all of the variables has a value less than 5% the null hypothesis of the existence of unit root test is rejected hence return on assets is not affected by time.

4.7. Regression Results and Discussion

This section presents the empirical findings from the econometric results this study covers the Empirical regression model used in this study and the results of the regression analysis. As presented in the third chapter the linear regression model used in the study in order to identify the factors that can affect profitability and how much percent influence independent variables contribute to the given regression model as follows. The good fitness of the model is measured by

adjusted R- squared which is how much percent of dependent variable was explained by the given explanatory variable of insurance companies profitability which is measured by ROA.

Table 12 regression test

<i>Random-effects GLS regression</i>		<i>Number of obs</i> = 90	
<i>Group variable: ID</i>		<i>Number of groups</i> = 9	
<i>R-sq:</i>		<i>Obs per group:</i>	
<i>within</i> = 0.7126		<i>min</i> = 10	
<i>between</i> = 0.7811		<i>avg</i> = 10.0	
<i>overall</i> = 0.7402		<i>max</i> = 10	
<i>corr(u_i, X) = 0 (assumed)</i>		<i>Wald chi2(8)</i> = 204.46	
		<i>Prob > chi2</i> = 0.0000	

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LEV	-.1120913	.0615889	-1.82	0.069	-.2328032	.0086207
LIQ	-.0136631	.0023953	-5.70	0.000	-.0183578	-.0089685
MRS	-.0474239	.045563	-1.04	0.298	-.1367258	.0418779
PMG	.4009021	.1331499	3.01	0.003	.139933	.6618712
INF	.6955173	.2225135	3.13	0.002	.2593989	1.131636
SIZE	.0462289	.0095646	4.83	0.000	.0274827	.0649752
CA	.0439346	.0116152	3.78	0.000	.0211692	.0667
AGE	.0074382	.0034136	2.18	0.029	.0007476	.0141289
_cons	-.6231039	.1641217	-3.80	0.000	-.9447765	-.3014314
<i>sigma_u</i>	.11261661					
<i>sigma_e</i>	.10801747					
<i>rho</i>	.52083605	<i>(fraction of variance due to u_i)</i>				

Source: Results were generated from STATA VERSION 16

The above Table 12 showed that impact of independent variables on the profitability of insurance companies in Ethiopia. Among the significant variables, liquidity, age, company size, capital adequacy, inflation and premium growth were significant less than 5% significance level. On the other hand, market share, and leverage has in significant impact on the insurance company's profitability. The results of the tests for the classical linear regression model showed that the data fits the basic assumptions. P-value indicates at what percentage or precession level of each explanatory variable is significant. R-squared value indicate that the explanatory power of the

model. Adjusted R-squared value shows the explanatory power of the model with the loss of degrees of freedom associated with adding extra variables. It is helpful to indirectly see the explanatory powers of the models. Therefore, the estimation results determined based on OLS from the panel multiple linear regression model used in this study is presented in the above table 12. As shown in table 12 the R-squared statistics and the adjusted-R squared statistics of the model were 74.02 % and 71.26% respectively. The R-squared of this study indicates that 74.02 % of the variation of the dependent variable (Return on asset) was explained by the changes in the independent variables (premium growth, leverage, liquidity, inflation, size of the company, age of the company, market share and capital adequacy. Thus, it can be concluded that all the independent variables used in this study collectively, were good explanatory variables of return on asset of Ethiopian insurance company or R-squared of 74.02 % is an indication that the model is a good fit. However, the remaining 25.98% difference in Ethiopian insurance profitability was caused by other factors that were not included in the model. Hence, the p-value of F-statistics is zero, shows that the independent variables were jointly significant or insignificant causing variation in insurance companies profitability. Thus, based on the above regression output, the Panel linear regression model for this study could be written as follows:

$$\text{ROA} = 0.623 + 0.43(\text{SIZ}) - 0.013(\text{LIQ}) - 0.112(\text{LEV}) + 0.43(\text{CA}) + 0.4(\text{PMG}) \\ + 0.47(\text{MRS}) + 0.69(\text{INF}) + 0.0074(\text{AGE}) + u_i$$

The remaining results of the analysis were used to assess the link to hypothesis that exists between factors affecting profitability of insurance company of Ethiopia from 2011 up to 2020 on the following way.

4.8. Impact of Independent Variables on Profitability of Insurance Company and Test for Hypothesis.

This part is shows that the hypothesized and the actual relationship of the independent variables with profitability (ROA) of Ethiopian insurance company during the study period of 2011-2020 G.C.

4.8.1. Impact of Premium Growth (PG) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Premium growth	0.4002021	0.003

From the regression result proven that premium growth has positive and significant effects on the profitability of the insurance company and also it is confirmed with the hypothesis of the study. Therefore, H1 is accepted. Premium Growth as measured by percentage change in premiums of insurance companies is expected to positively relate with profitability of insurance companies in Ethiopia. In this study premium growth and profitability of Ethiopian insurance company has positive relationship. Means that insurance companies under wrote a lot of premiums over given period of time have a better chance of being profitable because of the collected premium (Suheyli, 2015; Tegegn & et al., 2020). Premium revenue is the source of revenue for most insurers and it persistent than other revenue sources. Therefore, premium growth should help to forecast future revenue and incomes development. Premium growth also measures the rate of market penetration. Premium growth as measured by percentage change in total assets or sometimes as percentage change in premium of insurance companies Abate (2012). As presented in table the coefficient of Premium growth is 0.4002021 with the p-value of 0.003 which is lower than at 5% significance level. The results of the regression model show that there is a positive and statistically significant relationship between premium growth and financial performance (ROA) of Ethiopian insurance company. The positive estimators of growth premium indicate a direct relationship between growth premium and ROA. It suggests that Insurance companies underwrite more premium over the years have better chance of being profitable for the reason that they increase return from premium collected when the excessive attention on marketing to grow premiums with a proportionate allocation of resources towards the management of their investment portfolios is given. In previous Studies conducted by Opeyemi (2020) reveled that a positive and significant relationship between premium growth and financial performance of insurance companies.

4.8.2. Impact of Liquidity (LIQ) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Liquidity	-0.136611	0.000

The regression analysis confirmed the hypothesis of this study. There is a statistically perfectly significant and negative relation between the profitability of insurance and their liquidity. Therefore, H2 is accepted

Based on the finding Liquidity has a negative relationship between the profitability of insurance companies in Ethiopia. Liquidity of insurance industry is measured by the ratio of current asset to current liability. This ratio indicates that capacity of the insurance company to meet the payment of its underwriters and other fund supplier to the company. According to APT high liquidity asset of the company is most conducive condition for managers in order to take the advantage of the benefits from liquid assets of the company there for it could increases agency cost for owners of the company (Adams & Buckle,2000; Mehari & Aemiro, 2013). Plus to this the most liquid asset would have reinvestment risk. So the presence of high liquidity in the company is an indicator of low return on the assets of the Ethiopian insurance industry. The finding consistent with Suheyli (2015).

Liquidity from the context of insurance companies is the probability of an insurer to pay liabilities which include operating expenses and payments for losses or benefits under insurance policies, when due then shows us that more current assets are held and idle if the ratio becomes more which could be invested in profitable investments Chen &Wong (2004). Companies with more liquid assets are less likely to fail because they can realize cash even in very difficult situations. It is there for expected that insurance companies with more liquid asset will outperform those with less liquid asset Daneiel and Tilahun (2013). But according to the theory of agency costs, high liquidity of assets could increase agency costs for owners because managers might take advantage of the benefits of liquid assets Adams and Buckle (2000). Plus to this liquid asset infer high reinvestment risk since the earnings from liquid assets would have to be reinvested after a relatively short period

of time. Unquestionably, reinvestment risk would put injure on the profitability of a company. In this study liquidity has negative and statically significant influence on profitability of Ethiopian insurance company. The result is maintained by Abate and et al (2012).

4.8.3. Impact of Market Share (MRS) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Mrs	-0.0474239	0.298

Form the table above, It was found that there is negative and in significant relationship between Market share and profitability as measured by ROA.

Therefore, H3 not accepted.

Market share is the percentage share of an industry has or markets total sales that are earned by particular company over a specified time. Market share (mrs) has negative relation sheep with ROA of Ethiopian insurance company. Market share has an adverse impact on the newly emerged companies relative to the older one. In order to penetrate the current market the younger firms incurred different expenses rather than getting income till probably take over the opportunity of the market share of the industry. Because young and un developed insurance companies can be exit before penetration of the market for the reasons of old age and developed industries survivalist.

Investors look at market share increase or decrease prudently because they can be a sign the relative competitiveness of the company's product or services. As the total market for a product for services grows, a company that maintains its market share is growing revenues at the same rate as that total market.

A company that is increasing its market is going to be increasing revenue faster than its compotators will be in the coming future. But this condition is satisfactory for most developed industries to winning on the advantage of market share. Developing insurance industries like Ethiopia are always observing to expand their share of market and to trying to raise the size of the market by appealing to larger demographics, lowering prices, or through advertising and introducing new innovation. Innovation is one method by which a company may increase market share. When a firm brings new technology to a market its competitors have yet to offer, but during innovation devotes a lot of times

and economic resources for the creation of the new technology. At this time the newly made technology is not easily adapted by the current customer of the company and it leads to the release of the customer and causes to large amount of expenses for advertising, decreasing of price for the adaptation costs are decreasing the profitability of Ethiopian insurance company during the study period. So market share has indirect & insignificant relationship of Ethiopian insurance company starting from the researchers sampling date which is 2011 up to 2020.

4.8.4. Impact of Leverage (LEV) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Lever	-0.1120913	0.069

The found result showed was negative and insignificant effect of insurance profitability insurance industry. Therefore, H4 is rejected.

This is also called as leverage, states to the use of debt to obtain additional assets. The use of financial leverage control a greater amount of asset of assets (by borrowing money) may causes the returns on the owner's cash investment to be improved. It confirms firms with higher financial leverage are more exposed to worsen the under investment problem, the risk of insolvency, and bankruptcy costs. This is measured by ratio of total debt to equity. This ratio shows the degree to which the insurance business is using borrowed money. It shows insurance companies' capability to manage their economic coverage to unexpected losses Adam & Buckle (2000). Leverage considers the capital structure of the firm and the evaluation of the relative risk and return associated with liabilities especially (long term debt) and equity or ownership Kebede (2016). The coefficient of leverage which is -0.1120913 & p-value of 0.069 the regression results of the study show that there is a negative relationship between leverage ratio of insurance companies and their profitability. Previous studies with regard to leverage have negatively influence on insurance company (Kebede, 2016; Abate 2012 ; Daniel and Tilahun,2012). Plus to those finding Tesfaye Tekletsadik (2020) proven that leverage has negative and insignificant effects on the profitability of Ethiopian insurance company's profitability.

4.8.5. Impact of Inflation (INF) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Inflation	0.6955173	0.002

Expected result on the methodology development shows that a negative relationship and significance on growth insurance industry profitability. But the evidence from this study result suggests that inflation has positive and significant influence on profitability of the company. Therefore, H5 is rejected. Inflation rate has positive impact on profitability of insurance company in Ethiopia during this study. Inflation is a rate at which the price of goods and services are rising. It is measured by the annual percentage of reported price index (CPI). During inflation insurance companies spending is decreasing and looks to increase the income of the industry. Because In addition to this the industry can pay easily the debits which are borrowed before the inflation period H. G. Abera (2015).

Inflation has favorable impacts of profitability of Ethiopian insurance company. During inflation underwriters pay high price and made revenues to the industry plus to this an investors and entrepreneurs obtain incentives form investing activities. Therefore, they receive better returns. Once the investors receive the factual investment, they create and delivered more services to their customers . Hence, inflation leads to increase services, usually, Benefits the insurers of services & sells their services at higher prices and harvesting better profit in the company. Inflation also creates an opportunity for cheaper debit in order to finance the company. Inflation has a direct relation sheep profitability of insurance industry in Ethiopia. The findings of this study is supported by the study that based on overall regression results, macroeconomic environment, which is inflation have a positive and significant impact on profitability of insurance companies in Pakistan Daare (2016).

4.8.6. Impact of size of the company (SIZ) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Size	0.0462289	0.000

The result shows that positive relationship between size and profitability of insurance industry with strong statistical significance. Therefore, H₆ is accepted. Size of the company which is measured by natural logarithm of total asset of the given insurance company has positive relationship with (ROA) profitability of the company. It indicates that the profitability of large size insurance companies is high relative to small size insurance companies in Ethiopia. There for the total asset of the insurance companies is growing up the profitability of the company also goes up with the same direction. This result is consistent with the study of (Hifza, 2011; Derbali, 2014).

Increasing firm's size allows for incremental advantages in profits as the size of the firm enables it to raise the barriers of entry to potential entrants described by Economic theory. At the same time bigger firms gain leverage on the economies of scale to achieve higher profitability. Profitability of large insurance companies is better than small size companies (Gashaw, 2012 ; Al-Shami, 2008; Mehari & Aemiro, 2013). The above researchers concluded that large size firm enables to effectively diversify their risks & increase in total assets pulled to more investment areas and new branches as well as the adoption of new technologies enables an insurer to underwrite more policies which may increase the underwriting profit and the total net profit. Hence that this study supports the hypothesis that firm size has a significant & positive determinant of insurer's profitability in Ethiopia.

4.8.7. Impact of Capital adequacy (CA) on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Capital adequacy (CA):	0.0439346	0.000

From hypothesis, the CA on the methodology was positively and highly significantly affects profitability. In this study the result of the regression shows that the actual output of the capital adequacy is the same with hypothesis. Therefore, H₇ is accepted. Capital adequacy (CA) is the

owners of insurance paid up capital contributed to the company in order to get the return from the investments. It is measured by the natural log of equity. Capital adequacy means availability of capital funded by the owner of insurance called owner's fund to generate future income in the industry. The amount of volume of capital is high in the given company. The industry has a great capability to participate more profitable Business areas Gashaw (2012).

In this study proved that capital adequacy and Insurance Company's profitability has positive relationship between them. High availability of volume of capital in the insurance company, the profitability of this company is also high due to profitable business operation. Insurance companies equity amount contributed by the owners of an insurance (paid-up share capital) that gives them the right to enjoy all the future earnings. This helps that the Ethiopian insurance companies with adequate amount of capital can have a great number of investment alternatives and there by higher tendency of harvesting great amount of profit from the investment area. This Finding proved that positive and significant relationship between capital adequacy and profitability of Ethiopian insurance company supported by the study of (Hifza.M, 2011;Al-Shami 2008).

4.8.8. Impact of Company Age on Return on Asset (ROA)

	Correlation coefficient (r)	P -value
Age	0.0074382	0.029

Form the table above, it was found that there is positive and significant relationship between Age and profitability as measured by ROA. Therefore, H8 is accepted. Older insurance companies tend to become reliable for the sake of long term experience through in the operation. Older companies are more likely to profitable and less likely to call in shock and also do not switch jobs as often as their younger companies because of resistance ability as like as the past gone way. As indicated in the above table the coefficient of company age is 0.0074382 with p-value 0.029 which is below at 5% significance level. The results of the model revealed that there is a positive and statistically significant relationship between age of company and profitability of Ethiopian insurance company. This means when company age is increased by one year, return on asset (ROA) of sampled

Ethiopian private insurance companies would increase by 0.0074 times. The relationship is statistically significant at 1% of significance level. This revealed that the older firms are found to grow faster than smaller and younger firms. The positive relationship between company age and profitability are results of older firms are more experienced than newly firms. Therefore most of the studies by (Kripa & Ajasllari, 2016; Hifza, 2011) Showed to examine the effect of age on company's profitability and it has been suggested that company age has positive impact on the return on asset of insurance company.

Table 13 summary of expected and actual result relation sheep between independent variables

Dependent variable	ROA				
Explanatory variables	Expected relationship (Ho)	Significant level	Actual relationship	Significant level	Hypothesis status
Premium growth	Positive	Significant	Positive	Significant	Accepted
Liquidity	Negative	Significant	Negative	Significant	Accepted
Market share	Positive	Significant	Negative	Insignificant	Rejected
Leverage	Negative	Significant	Negative	Insignificant	Rejected
Inflation	Negative	Significant	Positive	Significant	Rejected
Firm size	Positive	Significant	Positive	Significant	Accepted
Capital adequacy	Positive	Significant	Positive	Significant	Accepted
Age	Positive	Significant	Positive	Significant	Accepted

Source: owns comparison of regression output and stated hypothesis

Generally, this chapter presented the results of the structured record reviews and detailed discussion of the analysis of this study on the determinants of Ethiopian insurance profitability from 2011 - 2020. Ethiopian insurers' profitability is heavily influenced by liquidity, premium growth, age, inflation, size, capital adequacy, and during the study period, market share and leverage had an insignificant impact on the Ethiopian insurance company's profitability. The following summaries present empirical findings on the determinants of insurance profitability in Ethiopia. The size of a

company has a positive impact on profitability with a strong coefficient. This indicates that larger insurance companies in the country have experienced more significant growth in profitability due to economies of scale. Because the larger the firm, the better the firm's profitability.

Regarding premium growth, the results show that premium growth has a positive and significant effect on profitability. This suggests that insurance companies that underwrite additional premiums over time have a better chance of making a profit. When underwriters are both cost-conscious and profit-driven, Increases in capital adequacy (volume of capital) in the firm result in a higher rate of return on investment assets. Regression analysis results also showed a statistically significant but negative correlation between the profitability of insurance and its liquidity. Based on this low liquidity, a firm can be protected from losses, thefts & others to ensure higher profitability.

The positive relationship between company age and ROA is due to older firms being more knowledgeable; they have enjoyed the benefits of learning, they are not prone to the liabilities of newness, and older firms may also benefit from reputation effects, allowing them to earn a higher profit margin. Evidence from this study also suggests that inflation has a positive and significant influence on the profitability of the company because inflation leads to an increase in production of products benefits the producers of products & their products at higher prices and better profit to the company. The findings of market share show a negative and insignificant relationship with insurance profitability.

According to the evidence, Ethiopian insurance companies are still in their infancy and cannot easily take comparative advantage of market share. The regression results of the study also showed that there is a statistically in significant and negative relationship between the leverage ratio and Ethiopian insurance company's profitability. This means that the debt to equity mix should be maintained at an optimal mix. If it is beyond a certain level, it contributes negatively to profit because the fixed cost of debt generates more expense and lowers profit. But leverage effect on Ethiopian insurance company is statistical in significant way.

CHAPTER FIVE

5. Conclusions and Recommendation

This chapter presents the conclusions and recommendations of the study. It has three parts; the first section presents conclusions and the last one is the recommendations of the study. Under this study The researchers investigated the factors that determine the insurance profitability of the Ethiopian insurance company, summarized, concluded, and made recommendations to the insurance company's policy holders in order to improve the insurance company's profitability in Ethiopia.

5.1. Conclusions

Still, major determinants of the profitability of insurance companies are not well known and understood in the current finance literature in Ethiopia, even in developed countries. Because the determinants factor of profitability is differ from sector to sector, region to region, from one country to another country. In some countries, industry-specific and macroeconomic factors are the most powerful determinants of profitability, whereas firm-specific factors have a significant impact on organizational profitability and are not the same in other countries. But they have common consent about the determinants & how they can invest in and measure the profitability determinants of insurance industry factors that have an impact on the profitability of a company. Based on this, the main question is about the major determinants of the insurance industry's profitability in Ethiopia. The researchers attempted to identify the major factors that affect the profitability of the insurance industry in Ethiopia based on the measurement of return on assets of the company. In side from that, the majority of research on related topics is conducted in most developed countries. However, in developed countries such as Ethiopia, the majority of research is focused on the profitability of banks rather than insurance companies. Profitability research in insurance companies is limited to the number.

When it comes to this study, the main objective was to determine the major determinants of profitability for insurance companies in Ethiopia for the last ten years of annual data up to the study period 2020. To accomplish this goal, the researcher applied linear regression model assumptions to the model validity tests of Multicoliniarity, Hetero, Normality, and Autocorrelation. It states that the

model is free of multi-correlation and heteroscedasticity issues, and that the data is normally distributed overall. In addition to this, descriptive statistics and correlation analysis are also included in the study. The random effect regression model explains that 74.02% of the variation in determining profitability is affected by the selected variables and the other 25.98% will be determined by the variables which are not included in the study.

The researchers in general conclude that age, size of the company, capital adequacy, premium growth, and inflation rate had a positive and significant effect on the profitability of insurance industry in Ethiopia, while market share & leverage were negative and not significant & liquidity had negative and significant relationships with Ethiopian insurance industry profitability.

5.2. Recommendations

Based on the study finding, the profitability of Ethiopian insurance companies measured by ROA was affected by both Firm specific, industry specific and macro-economic variables. That is premium growth, age of the company, size, and capital adequacy, liquidity and leverage, market share inflation respectively. Management of the insurance companies should identify most significant and insignificant industry, internal, and external factors in order to improve the profitability of insurance companies. Based on the fact the researcher try to made the finding of most significant and insignificant factors that determine insurance companies profitability in Ethiopia and wants to recommend managers ,shareholders, owners and other perspective bodies of insurance company in Ethiopia on the following way.

- The researcher also advises investors to invest in older insurance companies rather than younger ones, because the age of the company has a positive and significant effect on the profitability of Ethiopian insurance companies.
 - Insurance company should increase their company asset. An increase in total assets enables them expand their branches & adoption of new technologies helping to get more returns and become profitable because size has significant and positive relation with insurance companies in Ethiopia.
 - Because the sector is operating in a high liquidity position, insurers should closely review liquidity risk and implement strategies such as the liquidity management program and cash flow forecasts to reduce the company's high liquidity risk.
-

- Insurance companies should work to increase their capital by issuing more underwriting to new and existing insurers. Insurance companies underwrite more premiums over the years and have a better chance of being profitable for the reason of getting return from investment portfolio.
- Even though macroeconomic factors such as inflation have a significant impact, they are not solely under the control of internal management. All business owners and managers should prepare for changes in economic deflation and inflation by developing financial plans such as budgeting, pro-forma balance sheets, and income statements, and putting themselves in a position to easily adapt to the country's economic changes.

5.3 Direction for Other Researchers

Finally, this study attempted to look at some of the factors affecting insurance companies' profitability in Ethiopia. However, the variables used in the study did not cover all factors that could affect insurers' profitability. Future research should focus on other scopes of qualitative aspects of Ethiopian insurance company such as the effect of management quality, experience of employer, organizational culture, government regulatory policy and directives regarding with insurance companies. If sufficient time and literature are accessed, they are going to find both financial and non-financial performance of all insurance sectors. And their determinants in separation for providing better understanding of profitability and financial performance of Ethiopian insurance company.

REFERENCES

- Abera, H. B., & Yirsaw, T. D. Firm Specific Determinants of General Insurance Business Solvency Margin: Evidence from Ethiopia.
- Abera, H. G. (2015). *College of Business and Economics*. Addis Ababa University.
- Adams, M., & Buckle, M. (2000). *The Determinands of Operational Performance in the Bermuda Insurance Market*. Retrieved From
- Al-Shami, H. A. A. (2008). *Determinants Of Insurance Companies' Profitability In Uae*. Universiti Utara Malaysia.
- Atemnkeng, J., & Nzongang, J. (2006). *Market Structure And Profitability Performance In The Banking Industry Of Cfa Countries*. Retrieved From
- Aychew, G. (2011). *Determinants Of Insurance Companies' profitability In Ethiopia*.
- Ayele, A. G. (2012). Factors Affecting Profitability Of Insurance Companies In Ethiopia: Panel Evidence. *Addis Ababa University, Ethiopia*.
- Berhan, K. (2020). Determinant Of Profitability of Insurance Business In Ethiopia.
- Berhe, T. A., & Kaur, J. (2017). Determinants of insurance companies' profitability Analysis of insurance sector in Ethiopia. *International journal of research in finance and marketing (IJRFM)*, 7(4), 124-137.
- Birhan, M. (2017). Determinants of insurance company profitability in Ethiopia (case study on Nile Insurance, Dire Dawa Branch). *International Journal of Scientific and Research Publications*, 7(6), 761-767.
- Biru, G. D. (2017). *profitability determinants in the insurance sector in Ethiopia: a panel evidence on non-life insurance*. Addis Ababa University Addis Ababa, Ethiopia.
- Bishaw, M., Lemie, K., & Tulu, S. (2019). Determinants of Financial Performance of Insurance Companies in Ethiopia. *Horn of African Journal of Business and Economics (HAJBE)*, 1(2), 291-312.
- Brooks, C. (2008). *RATS Handbook to accompany introductory econometrics for finance*. Cambridge Books.
- Creswell, J. W. (2003). A framework for design. *Research design: Qualitative, quantitative, and mixed methods approaches*, 9-11.
-

- Daare, W. J. (2016). Determinants of Non-Life insurance companies profitability: an empirical study in India. *International Journal of Innovative Research and Advanced Studies*, 3(13), 6-11.
- Derbali, A. (2014). Determinants of performance of insurance companies in Tunisia: the case of life insurance. *International Journal of Innovation and Applied Studies*, 6(1), 90-96.
- Derbali, A., & Jamel, L. (2018). Determinants of performance of Tunisia insurance companies: Case of life insurance. *International Journal of Productivity and Quality Management*, 24(4), 531-542.
- Erdoğan, C. Expanding Supplementary Voluntary Private Health Insurance In Turkey: How And Why?
- Erdoğan, S. (2017). The Effects Of Financial Risk Management On Firm's Value: An Empirical Evidence From Borsa Istanbul Stock Exchange 1. *Financial Studies*, 21(4), 27-45.
- Frank, B. I., & Bassey, F. A. (2021). Systematic Analysis Of Credit Risk Management And Profitability Of Banks In Nigeria. *Hallmark University*, 92.
- GAGNI, M. (2018). *Assessment of Performance of Motor Insurance: A Case of Ethiopian Insurance Corporation*. St. Mary's University.
- Gantenbein, M., & Mata, M. A. (2008). *Swiss annuities and life insurance: secure returns, asset protection, and privacy* (Vol. 400): John Wiley & Sons.
- Gashaw, A. (2012). Factors affecting profitability of Insurance Companies in Ethiopia: Panel Evidence. *Accounting and Finance Addis Ababa Univeristy, Ethiopia*.
- Gebremariyam, M. M. (2014). Determinants of insurance companies' profitability in Ethiopia. *Unpublished MSC Thesis, Addis Ababa University, Ethiopia*.
- Gonfa, D. B. (2020). Determinants of Financial and Operational Sustainability of Microfinance Institutions in Ethiopia. *Srusti Management Review*, 13(1), 7-16.
- Hadush, G. (2015). *Determinants of Profitability of Insurance Companies in Ethiopia: An Empirical study*. Master's Thesis, AAU.
- Hailegebreal, D. (2016). Macroeconomic and Firm Specific Determinants of Profitability of Insurance Industry in Ethiopia. *Global Journal of Management and Business Research*.
- Hifza, M. (2011). Determinants of Insurance Companies' Profitability in Pakistan. *Journal of International Academic Research*, 1(3), 315-320.
-

- Isayas, Y. N., & Yitayaw, M. K. (2020). Firm Specific and Macroeconomic Determinants of Financial Institutions' Profitability: Evidence from Banks and Insurances in Ethiopia. *Journal of Economics and Business*, 3(3), 1158-1136.
- JIMMA, E. (2018). *Factors affecting profitability of insurance companies in Ethiopia: panel evidence*. Jimma University.
- Jonker, J., & Pennink, B. W. (2010). Quantitative Research *The Essence of Research Methodology* (pp. 65-75): Springer.
- Kabajeh, M. A. M., Al Nu'aimat, S., & Dahmash, F. N. (2012). The relationship between the ROA, ROE and ROI ratios with Jordanian insurance public companies market share prices. *International Journal of Humanities and Social Science*, 2(11), 115-120.
- Kassie, A. (2017). *Factors influencing profitability in the Ethiopian private insurance companies*. Addis Ababa University.
- Kebede, B. (2016). *Factors Affecting Insurance Companies Profitability In Ethiopia*. St. Mary's University.
- Kelil, R. (2018). *Determinants Of Ethiopian Insurance Companies Profitablity*. St. Mary's University.
- Kripa, D., & Ajasllari, D. (2016). Factors Affecting The Profitability Of Insurance Companies In Albania. *European Journal Of Multidisciplinary Studies*, 1(1), 352-360.
- Lashetew, T. (2020). *Factors Affecting Profitability Of Insurance Companies In Ethiopia*. St. Mary's University.
- Leichtling, A. B., & Paredes, L. M. (2005). Fundamental Concepts In Reinsurance In Latin American Countries. *The University Of Miami Inter-American Law Review*, 37(1), 1-51.
- Lemma, T. (2020). *Factors Affecting Dividend Payout Policy: In Case Of Ethiopian Insurance Companies*. St. Mary's University.
- Macfubara, M. S., Dumbor, N., & Gberesuu, B. B. (2018). Monetary Policy and Return on Equity of Quoted Insurance Firms: A Time Series Study from Nigeria. *American Finance & Banking Review*, 2(1), 64-78.
- Malik, H. (2011). Determinants of insurance companies profitability: an analysis of insurance sector of Pakistan. *Academic research international*, 1(3), 315-321.
-

- Meaza, M. (2014). Determinants of Insurance Companies' Profitability in Ethiopia". *Addis Ababa University, Ethiopia*.
- Mehari, D., & Aemiro, T. (2013). Firm Specific Factors That Determine Insurance Companies' performance In Ethiopia. *European Scientific Journal*, 9(10).
- Meher, K. C., & Zewudu, D. (2020). Determinants of Firm's Internals & Macroeconomic Factors on Financial Performance of Ethiopian Insurers. *DLSU Business & Economics Review*, 29(2), 71-80.
- Mekcha, R. (2018). *Factors Determining Profitability of Insurance Companies In Ethiopia*. St. Mary's University.
- Melkamu, K. (2017). *The Determinants Effect on Profitability of Non-Life Insurance Industry in Ethiopia*. St. Mary's University.
- Pavic Kramaric, T., Miletic, M., & Pavic, I. *Digitalization as Determinant of Insurers' Profitability*. Paper presented at the Proceedings of The 5th International Conference on Opportunities and Challenges in Management, Economics and Accounting.
- Pervan, M., Ćurak, M., & Poposki, K. (2014). Insurance industry in Macedonia: A general overview. *International Journal of Economics and Statistics*, 2, 161-169.
- Reshid, S. (2015). Determinants of Insurance Companies Profitability in Ethiopia. *Addis Ababa University Addis Ababa, Ethiopia*.
- Sadiye, Ç. (2014). The Influence of Macroeconomic Variables on Stock Performance. *Unpublished MBA Project, University of Twente*.
- Sambasivam, Y., & Ayele, A. G. (2013). A study on the performance of insurance companies in Ethiopia. *International Journal of Marketing, Financial Services & Management Research*, 2(7), 138-150.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*: Pearson education.
- Suheyli, R. (2015). *Determinants of Insurance Companies Profitability in Ethiopia*. Addis Ababa University.
- Tegegn, M., Sera, L., & Merra, T. M. (2020). Factors Affecting Profitability of Insurance Companies in Ethiopia: Panel Evidence. *International Journal of Commerce and Finance*, 6(1), 1-14.
-

- Tekletsadik, T. (2020). *Determinants of financial performance on private insurance companies in Ethiopia*. Doctoral dissertation, uog.
- Wolde, T. H., Kolech, A. G., & Dadi, M. D. (2020). Factors Affecting Profitability of Insurance Companies in Ethiopia. *Journal of International Trade, Logistics and Law*, 6(2), 106-118.
- Yirdaw, M. (2019). *Banking And Insurance Sectors Development In Ethiopia And Its Effect On Economic Growth*. St. Mary's University.
- Zekarias, H. (2017). *Factors Affecting Profitability Of Insurance Companies In Ethiopia*. st. mary's University.
- Zikmund, W. G., Carr, J. C., & Griffin, M. (2013). *Business Research Methods (Book Only)*: Cengage Learning.
- Zurigat, Z. (2009). *Pecking order theory, trade-off theory and determinants of capital structure: empirical evidence from Jordan*. Heriot-Watt University.

Websites

(<https://www.britannica.com>).

(<https://www.blackpast.org>)

(<http://www.gov.et/aboutus/index.html>)

APPENDIX

Appendix A: Model specification test

. hausman fixed

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
LEV	-.1042472	-.1120913	.0078441	.0187212
LIQ	-.0132909	-.0136631	.0003722	.0012294
MRS	-.0408805	-.0474239	.0065434	.0108291
PMG	.4013311	.4009021	.0004291	.0442373
INF	.6888693	.6955173	-.006648	.0466394
SIZE	.0438235	.0462289	-.0024054	.0061873
CA	.0394667	.0439346	-.0044679	.0062789
AGE	.0039348	.0074382	-.0035035	.0049469

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

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 0.79
 Prob>chi2 = 0.9992

Appendix B: Descriptive statistics

Random-effects GLS regression	Number of obs	=	90
Group variable: ID	Number of groups	=	9
R-sq:	Obs per group:		
within = 0.7126	min =		10
between = 0.7811	avg =		10.0
overall = 0.7402	max =		10
corr(u_i, X) = 0 (assumed)	Wald chi2(8)	=	204.46
	Prob > chi2	=	0.0000

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
LEV	-.1120913	.0615889	-1.82	0.069	-.2328032 .0086207
LIQ	-.0136631	.0023953	-5.70	0.000	-.0183578 -.0089685
MRS	-.0474239	.045563	-1.04	0.298	-.1367258 .0418779
PMG	.4009021	.1331499	3.01	0.003	.139933 .6618712
INF	.6955173	.2225135	3.13	0.002	.2593989 1.131636
SIZE	.0462289	.0095646	4.83	0.000	.0274827 .0649752
CA	.0439346	.0116152	3.78	0.000	.0211692 .0667
AGE	.0074382	.0034136	2.18	0.029	.0007476 .0141289
_cons	-.6231039	.1641217	-3.80	0.000	-.9447765 -.3014314
sigma_u	.11261661				
sigma_e	.10801747				
rho	.52083605	(fraction of variance due to u_i)			

Appendix C: Correlation analysis

```
. correlate ROA LEV LIQ MRS PMG INF SIZE CA AGE
(obs=90)
```

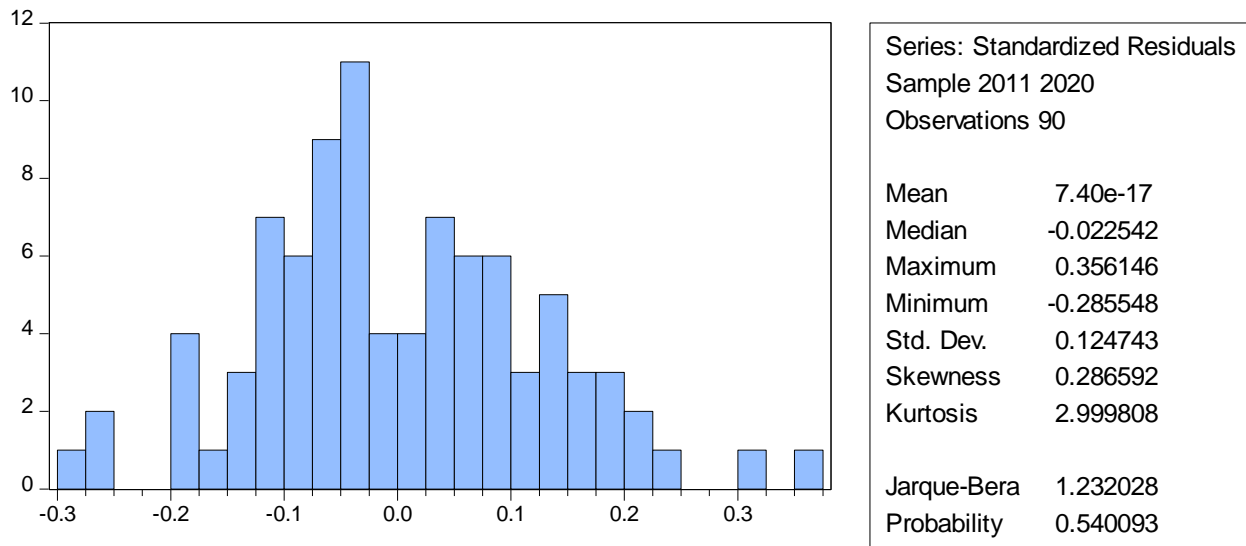
	ROA	LEV	LIQ	MRS	PMG	INF	SIZE	CA	AGE
ROA	1.0000								
LEV	-0.2607	1.0000							
LIQ	-0.4890	0.3715	1.0000						
MRS	-0.0482	-0.1051	-0.0948	1.0000					
PMG	0.1624	0.0378	0.1006	-0.1162	1.0000				
INF	0.1619	-0.1036	0.0882	-0.0434	0.0210	1.0000			
SIZE	0.6072	-0.0473	-0.2637	0.0383	-0.0948	-0.0587	1.0000		
CA	0.3994	-0.3133	-0.3588	0.1427	-0.0441	0.3005	0.0552	1.0000	
AGE	0.3020	0.2180	0.2017	-0.0895	0.2021	-0.0515	0.1318	-0.1631	1.0000

Appendix D: Test of homoscedasticity

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
```

```
chi2(1) = 2.13
Prob > chi2 = 0.1448
```

Appendix E: Test of Normality



Appendix F: Multicollinearity test

. vif

<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
<i>LIQ</i>	1.46	0.686703
<i>CA</i>	1.38	0.724768
<i>LEV</i>	1.25	0.800655
<i>INF</i>	1.17	0.852309
<i>AGE</i>	1.17	0.857881
<i>SIZE</i>	1.13	0.882263
<i>PMG</i>	1.07	0.933911
<i>MRS</i>	1.05	0.954431
<i>Mean VIF</i>	1.21	

Appendix G: Test for no autocorrelation

Durban Watson test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.012073	Prob. F(2,79)	0.3681
Obs*R-squared	2.248381	Prob. Chi-Square(2)	0.3249

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 06/05/21 Time: 16:40

Sample: 1 90

Included observations: 90

Presample missing value lagged residuals set to zero.

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
<i>SIZE</i>	-0.489960	2.074322	-0.236202	0.8139
<i>PMG</i>	-0.000693	0.395441	-0.001751	0.9986
<i>MRS</i>	-0.004907	0.029497	-0.166352	0.8683

LIQ	-0.000193	0.496750	-0.000388	0.9997
LEV	0.005228	0.697855	0.007492	0.9940
INF	-0.018464	1.074770	-0.017180	0.9863
CA	0.000120	0.060425	0.001987	0.9984
AGE	0.009349	0.101296	0.092291	0.9267
C	0.013694	1.070562	0.012791	0.9898
RESID(-1)	0.160849	0.139778	1.150743	0.2533
RESID(-2)	-0.066680	0.155479	-0.428870	0.6692

R-squared	0.024982	Mean dependent var	-1.29E-13
Adjusted R-squared	-0.098438	S.D. dependent var	0.916360
S.E. of regression	0.960404	Akaike info criterion	2.871157
Sum squared resid	72.86770	Schwarz criterion	3.176690
Log likelihood	-118.2021	Hannan-Quinn criter.	2.994366
F-statistic	0.202415	Durbin-Watson stat	2.052279

Appendix H: Regression Results

<i>Random-effects GLS regression</i>		<i>Number of obs</i>	=	90
<i>Group variable: ID</i>		<i>Number of groups</i>	=	9
<i>R-sq:</i>		<i>Obs per group:</i>		
<i>within</i>	= 0.7126	<i>min</i>	=	10
<i>between</i>	= 0.7811	<i>avg</i>	=	10.0
<i>overall</i>	= 0.7402	<i>max</i>	=	10
<i>corr(u_i, X) = 0 (assumed)</i>		<i>Wald chi2(8)</i>	=	204.46
		<i>Prob > chi2</i>	=	0.0000

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
LEV	-.1120913	.0615889	-1.82	0.069	-.2328032	.0086207
LIQ	-.0136631	.0023953	-5.70	0.000	-.0183578	-.0089685
MRS	-.0474239	.045563	-1.04	0.298	-.1367258	.0418779
PMG	.4009021	.1331499	3.01	0.003	.139933	.6618712
INF	.6955173	.2225135	3.13	0.002	.2593989	1.131636
SIZE	.0462289	.0095646	4.83	0.000	.0274827	.0649752
CA	.0439346	.0116152	3.78	0.000	.0211692	.0667
AGE	.0074382	.0034136	2.18	0.029	.0007476	.0141289
_cons	-.6231039	.1641217	-3.80	0.000	-.9447765	-.3014314
<i>sigma_u</i>	.11261661					
<i>sigma_e</i>	.10801747					
<i>rho</i>	.52083605	<i>(fraction of variance due to u_i)</i>				

Appendix I: Model fitness

Ramsey RESET test using powers of the fitted values of ROA

Ho: model has no omitted variables

F(3, 78) = 2.53

Prob > F = 0.0629

Appendix K: List of Insurance companies in Ethiopia

No	Insurance name	Date of establishment
1	Ethiopian insurance corporation	1/1/1976
2	Africa insurance company s.c	1/12/1994
3	Awash insurance company s.c	1/10/1994
4	National insurance company of Ethiopia s.c	23/09/1994
5	Niyala insurance company	6/1/1995
6	Nile insurance company	11/4/1995
7	United insurance company	1/4/1997
8	Global insurance company s.c	11/1/1997
9	Nib insurance company	1/5/2002
10	Lion insurance company	1/7/2007
11	Ethio life and general insurance company s.c	23/10/2008
12	Oromiya insurance company s.c	26/01/2009
13	Abay insurance company	26/07/2010
14	Berhan insurance company	24/05/2011
15	Bunna insurance s.c	23/8/2011
16	Teshay insurance s.c	28/03/2012
17	Lucy insurance s.c	15/11/2012

Appendix I Data used for analysis

COM P	YEAR	ROA	LEV	LIQ	MRS	PMG	INF	SIZE	CA	AGE
EIC	2011	0.86311175	0.212	0.673788	0.645	0.7559	0.19728	9.217048	8.416212	37
EIC	2012	0.95688125	0.279	0.732279	0.7125	0.7348	0.173611	9.272763	8.495593	38
EIC	2013	0.91897325	0.347	0.746796	0.73575	0.5838	0.047337	9.353143	8.557715	39
EIC	2014	0.79407925	0.381	0.718335	0.504	0.5148	0.050847	9.462475	8.628505	40
EIC	2015	0.59324175	-0.485	0.887838	0.3525	0.5379	0.053763	9.497366	6.044978	41
EIC	2016	0.58985075	0.553	0.703671	0.2625	0.4648	0.05102	8.292307	5.985141	42
EIC	2017	0.5	0.779	1.226646	0.174	0.4603	0.053398	9.615058	6.09756	43
EIC	2018	0.6504875	0.75	0.833049	0.3375	0.4583	0.101382	9.651444	6.066406	44
EIC	2019	0.195317561	1.035	18.913823	0.27	0.5187	0.146444	6.9647	6.304608	45
EIC	2020	0.203495098	1.091	19.048269	0.25575	0.6109	0.062044	7.079864	6.349423	46
AFI	2011	0.7600375	0.177	0.742548	0.3825	0.6103	0.19728	8.677151	7.883641	47
AFI	2012	0.70194075	0.207	0.787863	0.435	0.6799	0.173611	8.748257	7.978129	30
AFI	2013	0.55588125	0.229	0.930657	0.33	0.5792	0.047337	8.75403	8.037328	31
AFI	2014	0.483904	0.193	1.021932	0.405	0.6949	0.050847	8.808647	8.100079	32
AFI	2015	0.37353975	0.357	1.202811	0.4725	0.6977	0.053763	8.864234	5.411129	33
AFI	2016	0.31935875	0.304	1.31727	0.3375	0.7064	0.05102	8.884775	5.403774	34
AFI	2017	0.35505025	0.345	1.239567	0.639	0.678	0.053398	8.936355	5.418361	35
AFI	2018	0.609109	0.574	0.872997	0.642	0.6471	0.101382	8.989533	5.453424	36
AFI	2019	0.177250149	0.363	16.360272	0.48825	0.585	0.146444	5.989533	5.276851	37
AFI	2020	0.192418515	0.381	15.830552	0.58875	0.5699	0.062044	5.96039	5.398744	38
AWS	2011	0.686331	0.079	0.796014	0.48975	0.624	0.19728	8.559081	7.936721	19
AWS	2012	0.86474525	0.105	0.888345	0.42525	0.624	0.173611	8.711127	8.035798	18
AWS	2013	0.755062	0.101	0.736314	0.58875	0.6265	0.047337	8.810823	8.170539	19
AWS	2014	0.6569635	0.128	0.656904	0.639	0.6081	0.050847	8.845873	8.251142	20
AWS	2015	0.676773	0.193	0.746223	0.33825	0.5795	0.053763	8.896409	5.950675	21
AWS	2016	0.54450925	0.086	0.826935	0.74775	0.4417	0.05102	8.773972	5.936733	22
AWS	2017	0.52514625	0.064	0.809259	0.657375	0.4255	0.053398	8.856531	5.964183	23
AWS	2018	0.3022555	0.435	1.60104	0.73125	0.602	0.101382	8.298143	5.993282	24
AWS	2019	0.127679566	0.373	18.110006	0.6645	0.627	0.146444	6.347109	6.036669	25
AWS	2020	0.130555122	0.267	18.267434	0.4725	0.6341	0.062044	6.409917	6.089145	26
NIC	2011	0.9232105	0.131	0.63927	0.33975	0.7183	0.19728	7.937098	7.265662	36
NIC	2012	0.75443	0.093	0.746691	0.42075	0.6565	0.173611	8.159833	7.555853	37
NIC	2013	0.5614265	-0.114	0.924297	0.42075	0.6694	0.047337	8.293122	7.781812	38
NIC	2014	0.5614265	0.088	0.713943	0.489	0.6129	0.050847	8.405269	7.826539	39
NIC	2015	0.52590275	0.388	0.966615	0.56325	0.6074	0.053763	8.44821	5.686812	40

NIC	2016	0.64139475	0.277	0.841377	0.63975	0.6902	0.05102	8.527134	5.01408	41
NIC	2017	0.5793815	0.284	0.904287	0.399	0.6598	0.053398	8.601651	5.083624	42
NIC	2018	0.58209025	0.314	0.901344	0.50475	0.66	0.101382	8.694383	5.172153	43
NIC	2019	0.148475818	0.351	17.184745	0.50475	0.6271	0.146444	6.119619	5.21193	44
NIC	2020	0.14295919	0.228	17.340924	0.3405	0.5754	0.062044	6.148699	5.235576	45
NIYA	2011	0.095978	0.196	0.506145	0.65625	0.5005	0.19728	0.623144	7.960297	18
NIYA	2012	0.09711875	0.267	1.279107	0.4905	0.4708	0.173611	0.635257	8.095867	19
NIYA	2013	0.09659875	0.171	1.034994	0.26325	0.5203	0.047337	0.629713	8.211969	20
NIYA	2014	0.10474675	0.145	0.89415	0.26175	0.5618	0.050847	0.721132	8.33342	21
NIYA	2015	0.0932645	0.198	1.0449	0.35025	0.5319	0.053763	0.595044	5.686812	22
NIYA	2016	0.09055575	0.014	0.531474	0.343725	0.775	0.05102	0.569768	5.651061	23
NIYA	2017	0.09460975	0.7	0.781359	0.67425	0.8079	0.053398	0.608852	5.719843	24
NIYA	2018	0.09307175	0.452	1.127481	0.50325	0.8233	0.101382	0.593086	5.798563	25
NIYA	2019	0.157561732	0.263	17.39569	0.420975	0.7674	0.146444	6.230651	5.879505	26
NIYA	2020	0.145820546	1.223	17.638515	0.519	0.7875	0.062044	6.259663	5.906559	27
NILE	2011	0.4876965	0.248	1.016679	0.36225	0.6903	0.19728	8.463278	7.975332	18
NILE	2012	0.56611575	0.081	0.943053	0.357375	0.7498	0.173611	8.599023	8.115906	19
NILE	2013	0.50585375	0.188	0.992256	0.423	0.7557	0.047337	8.668824	8.170043	17
NILE	2014	0.4901485	0.228	1.01331	0.49275	0.7265	0.050847	8.738253	8.215167	18
NILE	2015	0.45259825	0.302	1.067466	0.33975	0.6815	0.053763	8.810697	5.407934	19
NILE	2016	0.5440255	0.298	0.944553	0.42225	0.5584	0.05102	8.865529	5.353227	20
NILE	2017	0.3376995	0.283	1.276161	0.48825	0.602	0.053398	9.048351	5.456513	21
NILE	2018	0.3376995	0.282	1.276161	0.42075	0.688	0.101382	8.475144	5.573878	22
NILE	2019	0.196952401	0.349	17.087826	0.435	0.6749	0.146444	6.106792	5.695942	23
NILE	2020	0.112839357	0.22	17.224199	0.36	0.7249	0.062044	6.148328	5.7414	24
UNIC	2011	0.53342875	0.115	0.95733	0.075	0.6388	0.19728	8.4699	7.954986	16
UNIC	2012	0.530583	0.204	0.960819	0.45	0.6342	0.173611	8.609087	8.101056	17
UNIC	2013	0.48230525	0.426	1.024164	0.255	0.6796	0.047337	8.691435	8.214291	18
UNIC	2014	0.4514225	0.361	1.069257	0.3825	0.6215	0.050847	8.768024	8.287628	19
UNIC	2015	0.23721425	0.378	1.539363	0.42	0.5991	0.053763	8.811363	5.710493	20
UNIC	2016	0.221079	0.265	1.592088	0.4275	0.5337	0.05102	8.892833	5.703591	21
UNIC	2017	0.278396	0.349	1.419939	0.4725	0.5455	0.053398	8.963098	5.717286	22
UNIC	2018	0.300159	0.416	1.363242	0.4875	0.5781	0.101382	9.126079	5.783529	23
UNIC	2019	0.136396771	0.375	17.350587	0.345	0.5537	0.146444	6.126078	5.728248	24
UNIC	2020	0.148475818	0.228	17.184745	0.345	0.4945	0.062044	6.119619	5.780308	25
GLOB	2011	0.6094755	0.225	0.872625	0.42	0.4373	0.19728	8.513652	7.44457	16
GLOB	2012	0.7850045	0.232	0.724635	0.435	0.3864	0.173611	8.698546	7.474402	17
GLOB	2013	0.60802625	0.152	0.874098	0.435	0.5489	0.047337	8.737259	7.641341	18
GLOB	2014	0.51610425	0.31	0.978978	0.36	0.6035	0.050847	8.835486	7.821295	19

GLOB	2015	0.47697475	0.342	1.031673	0.075	0.6175	0.053763	8.903518	5.07204	20
GLOB	2016	0.414914	0.375	1.127964	0.45	0.4491	0.05102	8.941779	5.034023	21
GLOB	2017	0.439999	0.45	1.086957	0.255	0.5903	0.053398	8.998251	5.106996	22
GLOB	2018	0.74946025	0.431	0.750405	0.3825	0.7072	0.101382	9.103363	5.168889	23
GLOB	2019	0.175927115	0.361	15.662128	0.42	0.5975	0.146444	6.158413	5.220709	24
GLOB	2020	0.162058223	0.637	15.869308	0.2625	0.7105	0.062044	6.211714	5.289769	25
NIB	2011	0.10646275	0.196	0.226473	0.4725	0.425851	0.19728	7.815313	7.899621	11
NIB	2012	0.0796315	0.251	1.296015	0.4875	0.318526	0.173611	7.971257	8.010276	12
NIB	2013	0.088133	0.438	0.981132	0.345	0.352532	0.047337	8.094143	8.14074	13
NIB	2014	0.107515	0.152	0.721725	2.625	0.43006	0.050847	8.187766	8.292191	14
NIB	2015	0.127955	0.4	0.629847	0.45	0.51182	0.053763	8.270533	5.07204	15
NIB	2016	0.1242515	0.251	0.549372	0.475	0.497006	0.05102	8.343563	5.034023	16
NIB	2017	0.1324	0.346	0.253113	0.523	0.5296	0.053398	8.378741	5.106996	17
NIB	2018	0.1216345	0.457	0.803229	0.432	0.486538	0.101382	8.481772	5.168889	18
NIB	2019	0.138439543	0.372	15.662127	0.4123	0.553758	0.146444	5.571143	5.220709	19
NIB	2020	0.134434745	0.298	15.869307	0.3945	0.537739	0.062044	5.62488	5.289769	20