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The Determinants of Financial Performance of Insurance Companies in Ethiopia

By Feisel Redi GSE/9764/10

A Thesis Submitted to the Department of Accounting and Finance, College of
Business and Economics, Addis Ababa University

In Partial Fulfillment of the Requirements for Degree of Master of Science
Accounting and Finance

Addis Ababa University
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Addis Ababa University
Addis Ababa, Ethiopia

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Student Declaration

I declare that the thesis for the M.Sc. degree in accounting and finance at the University of Addis Ababa, hereby submitted by me, is my original work and have not previously been submitted for a degree at this or any other University, and that all references materials contained therein have been duly acknowledged.

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Date -----

Certification Addis Ababa University

This is to certify that the thesis prepared by Feisel Redi Lalo, entitled: The Determinants of financial performance of Insurance Companies in Ethiopia and submitted in partial fulfillment of the requirements for the degree of Masters of Science in Accounting and Finance complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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ABSTRACT

In modern economy, Insurance serves as major risks mitigating mechanism. The existence and survival of financially strong Insurance Companies plays crucial role in development of financial and social stability, expansion of trade and production and economic development. For Insurers to be more reliable and financially sound, knowing what factors makes them strong in financial performance is very crucial objective. To achieve this objective, This study specified to examine the determinants of financial performance of insurance companies in Ethiopia as measured by ROA. Explanatory method of research design and quantitative research approach was used to identify the relationship between independent variables leverage, liquidity, management competency index, investment ratio company size market share, inflation and GDP growth and dependent variable ROA. The study used secondary panel data during the period 2014-2018 and includes all insurance companies operates in Ethiopia. Descriptive statistics, correlation analysis and OLS regression analysis were performed to analyze the financial performance of insurance companies. The regression result shows financial performance proxy by ROA is positively and significantly influenced by management competency index, investment ratio, GDP growth and market share at 5% significance level. Company size has negative and significant effect on ROA at 5% significant level. Liquidity and inflation has positive and leverage has negative effect on the performance of the insurance company but the effect not significant at 5% significant level. Finally, the study suggests the managers of Ethiopian insurance companies should ready themselves for economic changes in country by preparing financial plans which consider the effect of change in GDP, manager when decide to expand the company asset they need to consider its effect on the financial performance and managers should give focus to maximizes their market by providing new product lines, interring in to new market area and making advertisement about their services and facilities.

Key Terms: *Financial Performance, Insurance Companies in Ethiopia, Return On Asset*

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Abbreviations and Acronyms

CLRM :	classical linear regression model
FEM:	Fixed Effect Model
GDP:	Gross Domestic Product
HO:	Null Hypothesis
INFR:	Inflation Rate
LIQ:	Liquidity
LVR:	leverage
MCI:	Management competency index
MOF:	Ministry of Finance
MRS:	Market share
NBE:	National Bank of Ethiopia
OLS:	Ordinary Least Square
PG:	Premium Growth
REM:	Random Effect Model
ROA:	Return on Assets
ROE:	Return on Equity
SZC:	company Size

Chapter one

1. Introduction

This chapter has eight parts; it starts from the background of the study and then continues to discuss history of insurance companies in Ethiopia from the time 1905 to current period. In part three problems statements addressed and then research questions. The main and specific objectives and hypothesis of this study is included in part five and six consecutively. Then after this the significance and the scope of the study are discussed. Finally organization of the paper is presented.

1.1. Background of the study

The financial system is system which composed of financial institutions, financial instruments and financial markets. This system has vital role in economic development and stability of a country by inspiring saving and investment, creating links between savers and investors and also facilitating the expansion and also improvement of financial markets. Financial institutions channel funds and transfers risks from one economic unit to another economic unit so as to facilitate trade, production and resources arrangement. According to Naveed et.al. (2011), the performance of financial intermediation like insurance companies can affect economic growth of country by diversifying the risk and mobilization of large amount of fund, which in turn affects the production of goods and services and also business profits companies. Indeed, a well-functioning financial markets and institutions like insurance companies are one of the most important key factors in generating higher economic growth and stability of financial system. In reverse, poorly performing financial markets and institutions are one of the reasons that many countries in the world remain in poor economic performance (Mishkin and Stanley 2009).

According to Augustine & Nwanneka, (2011) Insurance business is considered as the backbone of any country's risk management system, because they serves financial intermediation chain to ensures financial security and provide fund for long term investment. Insurance companies provide unique and specialized financial services range from underwriting of risk to mobilization of large fund though premiums for long term investments. The risk absorption role of insurers

promotes financial stability in the financial markets and provides a sense of peace to economic entities. The business world without insurance is unsustainable since risky business may not have the capacity to retain all kinds of risks in this ever changing and uncertain economy (Ahmed et.al. 2010).

Insurance sector play important role in creation of liquidity, reduction of transaction costs, facilitation of economics of scale in investment and spread of financial losses. According to Kazeem (2015) the importance of insurance companies becomes more obvious for businesses and individuals as they indemnify business losses, thereby safeguarding economic activities in the society from collapse. Insurers provide economic and social benefits in the society not only by prevention of losses but through reduction in anxiety and fear, increase employment and also through accumulated premium generated for long term investment. Thus, like any other industry, insurance companies are expected to continue improving their performance so as to sustain their role in the society.

According to Tarawneh (2006), financial performance of an organization subject to measure how well the firm can use its asset and it plays the role to raise the market value of that particular organization which leads also lead the development of the financial sector and the overall success of the economy. According to Malik (2011), profitability is very important determinant of financial performance. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. This higher profitability leads the companies to become good in their financial performance. Hence, the ultimate goal of a business entity is to earn profit in order to make sure the sustainability of the business in prevailing market conditions (Mirie and Jane, 2015).

In insurance, performance is normally expressed in: net premium earned, profit from underwriting activities, return on asset, annual turnover, returns on investment and return on equity. According to Walker (2001), performance of insurance is divided in to two categories. The first category is financial performance and the second is non-financial performance. The financial characteristics of performance are variables which can be derived from the financial statement, profit and loss of insurance companies. Such as leverage, company size, premium growth, tangibility, market share, loss ratio or underwriting of risk, liquidity, leverage and so on.

On the other hand, non-financial characteristics are those variables which cannot be obtained from the financial statement and profit and loss of insurance companies. They comprise of age of the firm, facilities siting, product and service generation and scope of operation (Simon-Oke and Olayemi, 2012).

The performance of insurance companies could be affected by both internal and external factors. The internal factors are inner strength and weaknesses that management controllable factors which account for the inter-firm differences in profitability. On the other hand, external factors are elements that influence a business' result and performance from outside and this factors are uncontrollable factors which affect firms decision and which management have no control over. However, factors such as growth in money supply, interest rate, industry growth, inflation rate, industry concentration and growth in gross domestic product are macroeconomic or market-specific factors which are out of control of management. Generally, a firm performance can be estimated using firm attributes as a major determinants of insurance profitability. These attributes may include: firm size, underwriting risk, leverage, age, growth rate of written insurance premium as well as institution and political environment etc.

There has been a growing number of studies that test for measures and determinants of firm performance. Insurance companies' performance has attracted scholarly attention in recent years due to its importance in development and stabilizing of countries economy. Return on Assets (ROA) as the most commonly used measure of for profitability and financial performance. Based on literature review in developing countries like Ethiopia the topic insurance company financial performance has received little attention. Therefore, this study focused on identifying determinants of financial performance of insurance companies' in Ethiopia.

1.3 Statement of the problem

Abate (2011) the best performance of any industry in general and any firm in particular plays the vital role to increasing the market value of that specific firm coupled with the role leading towards the growth of the whole industry which ultimately leads to the overall success of the economy. It has also been the primary concern of business practitioners in all types of business organizations since financial performance has implications to organization's financial health and

long term sustainability. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the industry and country's economy at large (Naser, and Mokhtar, 2004).

The main aim of insurance companies' managements is to enhance the financial performance of the company (Hifza, 2011). The increased competitiveness and uncertainty brought about by advancement in technology and globalization call for organizations to be constant check of their performance (Kimani & Njugunt, 2016). In addition, financial performance attracts investors and improves the level of soundness, and thus, strengthens consumers' confidence. The financial performance of insurance companies is also relevant within the macroeconomic context since the insurance industry is one of the financial systems' components, fostering economic growth and stability. Therefore, the key indicators of insurers' financial performance attracted the interest of academicians, practitioners and institutional supervisors, as they highlighted that financial performance does not only improve the capability of the insurers, but also plays an important role in persuading the policyholders and shareholders, to supply funds to insurance firms.

However, in the case Ethiopia that most of the studies conducted on the banking sectors, when we compare to insurance sector. In Addis Ababa University alone until end of year 2019 there are around 464 studies conducted in bank and insurance sectors, from which only 127 are on insurance company and the rest 337 are on banks sectors. And also, from this 127 studies conducted on insurance sector only nine are examined determinants of financial performance or profitability of insurance companies (Addis Ababa University electronics library, 2020). Amongst the researcher some of them are, Suheyli (2015) conducted study on determinant of insurance companies' profitability. The result of his study showed liquidity, company size and premium growth have positive significant relationship with profitability and underwriting risk, technical provision and solvency ratio have significant negative relationship with profitability. Meaza M. (2014), the findings of the result shows that; firm size, tangibility of asset and firm growth are positively and significantly related with profitability. In contrast, leverage and loss ratio/ risk are negatively but significantly related with profitability. Liquidity, inflation, and economic growth are not significant determinants of profitability. Gmechis D. (2016) analyzed the factors affecting insurance companies' profitability; the findings indicate that leverage,

market share and diversification have positive significant effect while reinsurance and underwriting risk have negative significant effect on profitability. Finally, Hana (2015) also conducted a study in this area the results show liquidity, leverage, and tangibility of asset economic growth have negative significant relation with profitability on the other hand company size, age, firm growth and economic growth has significantly and positively related with profitability and liquidity and market concentration insignificant effect on profitability.

The result of studies in most of Ethiopian literature Even if they focused on both firm specific factor and external factors that affect insurers' performance/profitability in Ethiopia they did not consider basic firm specific factors like management competency index which used by Wanjugu (2014), in Kenya and investment ratio which used by Burca and Batrinca (2014) in Romania which have significant and positive relationship with financial performance of insurance companies in both studies. In addition to the above literature gap, there is inconsistency on the findings of the previous studies conducted in this research title. Findings from previous research tend to vary across time periods and they are highly contradicting result for instance, according to Abate (2012) and Hana (2015) liquidity has negative and significant effect on profitability but on the other hand, Tariku (2019) conclude that liquidity insignificant relation with profitability and also Behaylu (2017) and Suheyli (2015) concluded liquidity has positive and significant effect on profitability. This inconsistency holds true for other variables such as; market share, leverage, size of a company, market share, GDP and inflation.

In other case, almost all studies which were conducted on the determinants of financial performance or profitability of insurance companies in Ethiopia, they all were conducted by selecting sample from existing insurance companies. They did not able to include all insurance companies in their studies, since some of insurance companies are established recent years and it was difficult to get panel data more than four year which is recommended by most of financial literatures. Using sample in their studies may cause sampling error and conclusion about population may mislead especially when population size is small. These shows as the result of most of researchers which were conducted in Ethiopia are may exposed such kind sampling error and which also has its own effect on the result of these studies.

Therefore, this study contributes to the existing study by proven which variables positively affect and which variables negatively affect financial performance and fill the above explained knowledge gap by providing information about the firm specific, industry specific and macro-economic factors that affects financial performance by examining the untouched ones, replicating the existing and utilization of the model by using ROA as a measure for insurers' financial performance. This study will also include all insurance companies operating in the country and five year panel data will be used. In addition, the study will provide insights into the recent financial performance determinants of insurance companies in Ethiopia.

1.4 Research Questions

In order to address the problem of the study, the following research questions were raised:

- How does leverage ratio affect the financial performance of insurance companies Ethiopian?
- How does liquidity ratio affect the financial performance of insurance companies in Ethiopia?
- How does company size affect the financial performance of insurance companies in Ethiopia?
- How does management competence affect financial performance of insurance companies in Ethiopia?
- How does investment ratio affect the financial performance of insurance companies in Ethiopia?
- How does market share affect the financial performance of insurance companies in Ethiopia?
- How does inflation rate affect the financial performance of insurance companies in Ethiopia?
- How does economic growth affect the financial performance of insurance companies in Ethiopia?

1.5 Objective of the Study

1.5.1 General objective

The main objective to conduct this study is to examine and compare the determinant of financial performance in the insurance sector of Ethiopia over the period from 2014 to 2018.

1.5.2 Specific objectives

The specific objectives of the study are:

- To examine leverage ratio has a negative and significant effect on financial performance of Ethiopian insurance companies.
- To examine liquidity ratio has a negative and significant effect on financial performance of insurance companies in Ethiopia.
- To examine company size has a positive and significant effect on financial performance of insurance companies in Ethiopia.
- To examine management competence has positive and significant effect on financial performance of insurance companies in Ethiopia.
- To examine investment ratio has a positive and significant effect on profitability of insurance companies in Ethiopia.
- To examine market share has a positive and significant impact on financial performance of insurance companies in Ethiopia.
- To examine inflation has negative and significant effect on financial performance of insurance companies in Ethiopia.
- To examine economic growth has positive and significant effect on financial performance of insurance companies in Ethiopia.

1.6 Research Hypothesis

Hypotheses are predictions about the outcome of the results that has capable of being tested by scientific methods that relates independent variables to some dependent variable. Therefore, in

order to achieve the objective of the study, the hypotheses were developed regarding the determinants of the financial performance of insurance companies in Ethiopia based on different empirical research and theoretical reviewed made. The hypothesis developed by the study was based on empirical evidence and theory of different researchers. This empirical evidence and theoretical bases used to develop the hypothesis and how this hypothesis are developed discussed in chapter three of this study paper in variable definition parts. Since the bases for hypothesis are presented in chapter three the following part only present the hypothesis of the study.

- H1** Leverage ratio has a negative and significant effect on financial performance of Ethiopian insurance companies.
- H2** Liquidity ratio has a negative and significant effect on financial performance of insurance companies in Ethiopia.
- H3** Company Size has a positive and significant effect on financial performance of insurance companies in Ethiopia.
- H4** Management competence has positive and significant effect on financial performance of insurance companies in Ethiopia.
- H5** Investment ratio has a positive and significant effect t on profitability of insurance companies in Ethiopia.
- H6** Market share has a positive and significant effect on financial performance of insurance companies in Ethiopia.
- H7** inflation has negative and significant effect on financial performance of insurance companies in Ethiopia.
- H8** Economic growth has positive and significant effect on financial performance of insurance companies in Ethiopia.

1.7 Significance of the study

In Ethiopia, a few researches have been investigated factors affecting Ethiopian insurance companies' financial performance. Most of the studies previously focused on banks not on insurance companies. Amongst the research conducted in insurance sectors only few are focused on factors affecting financial performance, most are focused on analysis of financial performance and profitability of insurance company. Since, there are some studies that examine determinants of financial performance this study will drops light on the scarcity of these types of study in Ethiopia.

This study is important for shareholders to know what factors could affect the performance of their insurance company. These would allow them to make the appropriate decisions about their insurance at the right time and minimize their losses. The study would help to managers in order to identify the indicators of good financial performance so as to take necessary procedures to increase the performance of insurance firms and make better decision that will help the organization to achieve the financial objective of company.

The study provides the local libraries with scientific material dealing with variables that affect financial performance on Ethiopian insurance companies. Regulatory authorities, business Managers policy makers and others interested in the area would gate information about the relationship of internal and external factors with insurance companies' financial performance from this result study. This in turn will help them knowing factors affecting performance and thereby takes appropriate decisions concerning insurance industry. This study adds on to the literature on factors that determine the financial performance of insurance companies and hence might provide an insight to other researchers in future.

1.8 Scope and limitation of the study

The study was limited to examination of the internal and external factors affecting financial performance of all insurance companies registered by the NBE and by using five years panel data from 2014 to 2018. The main reason for selecting study period from 2014 to 2018 is to

enable the researcher to include all insurance company in study. According to NBE currently there are seventeen active insurance companies in Ethiopia, from them the most recent was established in 2013. To include all insurance company in study, the researcher was limited to start gather data from the year 2014 which is the first year in which the financial statement of all insurance company obtained. So, the researcher limited to use five years data from year 2014 to 2018, since the last insurance company established in 2013. This five years data is assumed to be relevant because five years and above is the recommended length of data used by most finance literatures.

The income statement of life insurance business is not prepared at the end of each year. It may be prepared in three years or five years due to difficulty to prepare income statement and it needs an actuary which creates high cost. Due to the unique accounting system used by life assurance business and all insurance company in Ethiopia dose not gives life assurance services, the secondary data collection from income statement and balance sheet limited to general insurance business.

1.9 Organization of the Study

The study will be organized in five chapters. Chapter one deals with back ground of the study, statement of problem, research questions, objective of the study, and significance of the study and limitation of the study the second chapter is a review of literature that will discuss some empirical literatures related the determinants of financial performance of insurance companies. Chapter three will contained description of the study area, types and source of data, target population and procedures, data collection and methods of data analysis. The fourth chapter will provides the result and associate discussions obtained from the secondary data on study area. The last chapter will provide findings, conclusions and recommendations of the study.

Chapter two

2. Literature review

This chapter presents the concept of insurance companies, financial performance, performance related theories and conceptual framework of dependent and independent variables. To do so, this chapter is divided into three parts. The first part discusses about theoretical reviews, within it Concept of insurance companies and financial performance and performance related theories are presented. In the second part empirical literature review of different researchers from abroad and in Ethiopia are presented. Finally, in the third part conclusion, knowledge gap and conceptual framework are presented.

2.1. Theoretical and conceptual literature Review

In this section concept of insurance companies, definition and measurement of performance and performance related theories are presented.

2.1.1. Concept of insurance companies

Scholars all over the world have attempted to define insurance based on their opinion. Kunreuther (2010), described insurance as it is an economic institution that allows the transfer of financial risk from an individual or firms to a pooled group of risks by means of a two party agreement. The insured party obtains a specified amount of coverage against damage which is an uncertain future event for a smaller but certain payment. Similarly Igbojekwe (2006) defined Insurance as it is a contract in which the insured financial transfers risk of potential loss to the insurer who promises to compensate the former upon suffering loss. The insured then pays an agreed fee called a premium in consideration for this promise. The promisor is called the insurer and the promisee is called the insured. It is often represented by an insurance policy, wherein the insured gets financial protection from the insurer against losses due to the occurrence of any future events which is not under the control of the insured.

The importance of Insurance companies is undisputable since, they serve a number of valuable economic and social functions that are similar and mostly distinct from other types of financial

institutions. According to Chand (2018) he enlightened the importance of insurance companies for individuals, firms and economy of the country. In his explanation, insurance provides financial support and protection and reduce uncertainties in business. There is always a fear of sudden loss so; the Insurance companies' provides a cover against any such loss. Insurance companies also generate funds by collecting premium from vast policy buyers and invested in governmental securities, stock, bonds and other investment areas. These funds are gainfully employed in industrial development of country. Employment opportunities are increased by big investment leading to capital formation.

According to Malik (2011), insurance plays a crucial role in development of commercial and infrastructural businesses. Insurance company promotes financial and social stability, mobilizes and channels savings, supports trade, commerce and entrepreneurial activity and improves the quality of the lives of individuals and the overall welfare in a country. Abate (2012), this implies that insurance companies are helping the economy of a country one way by transferring and sharing of risk which can create confidence over the occurrences of uncertain event and in another way insurance companies like other financial institutions plays the role of financial intermediation so as to channel financial resources from one to the other.

Insurance business has many categories but usually divided into two main classes namely General insurance business and Life assurance business. Life insurers are said to function as financial intermediaries while general insurers function as risk takers (Chen and Wong 2004). General insurance business can be subdivided into: motor, fire, accident, oil and gas, contractors' all risks and engineering risks, marine, credit insurance, bond and surety ship etc. This is a contract between the assurer and the assured whereby the assurer undertakes to pay benefits to the policy holder on the attainment of a specified event. Life assurance business comprises individual life business, group life insurance, pension business, health insurance business and annuities (Suheyli, 2015).

2.1.2. Financial performance

Performance is the accomplishment of a given task measured against a certain standards and considered as a fulfillment of an obligation. Performance also used to indicate the hard work to

and effort used to attain a particular goal. The attainments of goal include combination of human, fiscal and company resources. According to Nirmal (2004) Performance not only indicates demonstration of something but it also indicates the quality and effectiveness of result achieved by the management of enterprise. Almajali (2012) explained performance as an outcome achieved by an individual or a group in an organization related to the authority and responsibility given to achieve the goal legally, it is the ability of firm to gain and manage the resources of company in several ways to develop competitive advantage and achieve organizations objectives.

Performance measures how well a firm can use its resource to generate revenue, in other words it measures the overall financial results over a given period of time and can be used to compare the result of similar firms in the same industry. The level of performance of a business over a given period of time is to be measured to identify the level of the accomplished result, evaluating the performance of a business allows decision makers to judge the result of the activities accomplished. Firm's performance can be measured against the plan and objective of the organization angle, bench mark or against the industry average.

The financial performance measures the financial strength and health of the organization in monetary terms and can be used to compare the profitability of different firms within any particular industry or between the industries. The financial performance of the insurance firms plays a pivotal role in the growth of the industry as a whole, which ultimately contributes to the success of an economy (Iswatia, & Anshoria, 2007). Good performance indicates the firm's ability to get sufficient return and achieved its objectives by the resource used in the operation of a business.

According to Chen and Wong (2004) performance of insurance companies normally expressed in terms of net premium earned profitability from underwriting activities, return on asset, annual turnover, returns on investment and return on equity. Indranarain (2009) these measures can be classified two categories as profit performance measures and investment performance measures. Profit performance includes the profits measured expressed as difference between the revenues and expenses. The profit performance of insurance companies' influenced by firm specific, industry specific and macroeconomic variables. Investment performance can take two different

forms. One the return on assets employed in the business other than cash and two the return on the investment operations of the surplus of cash at various levels earned on operations.

Malik (2011) the firm's financial performance can be estimated by measuring the firm's profitability. Unless insurers' is profitable, can't attract external investors' capital to meet its set goals in this ever changing and competitive globalized environment. Profit improves upon insurers' solvency state and also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms (Harrington and Wilson, 1989). Thus, one of the objectives of management of insurance companies is to increase the financial performance of firm to attain profit as an underlying requirement for conducting any insurance business.

Financial statements point out different indication of financial performance by financial ratios. Return on assets (ROA), return on equity (ROE) and earning per share are some the best measure of firms financial performance. Mostly financial analyst use ROA as measure of financial performance of insurance companies. An increase in the ratio of ROA reveals the positive financial performance of relative business and vice versa (Epps & Cereola 2008).

2.2. Performance related theories

There is no universal theory on financial performance that gives as unifying framework for the study determinant of the insurance companies' financial performance. Because of this, the study tries to view some theories which are nearer to the concept of insurance companies' performance and its determinants. There are several useful conditional theories that attempt to approach the determination of performance, each from different aspect. This section discussed those theories.

2.2.1. Agency Theory

Agency theory is a contract between the owner (principal) and managers as agents and explains how to best organize relationships in which one party determines the work while another party does the work. (Jensen and Mackling, 1976). The core issue of agency theory that a proper planning contracts between owners and managers to align interests. According to the agency theory Jensen and Mackling (1976), the manager, acting as the agent for the shareholders, or principals, is supposed to make decisions that will maximize shareholder wealth even though it is

in the manager's best interest to maximize his own wealth. . But mostly there is a difference of interests between shareholders and agents; it is known that the interests of the leaders of the company's management are different from the interests of shareholders. Managers can take actions to improve the fulfillment of economic, among others, in terms of acquiring the investment and loan, rather than trying to maximize the increasing profitability which is the interest of shareholders. Potential conflicts of interest caused by the importance of a mechanism aimed at protecting the interests of shareholders.

Thus there are two different directions of interests in the company in which each party seeks to achieve the desired objective of the firm (Nugroho and Syafrudin, 2012). The agency problem arises due to an issue A lot of managers seek to increase the scale of the firm by expansion than is not favorable for the principal. These Dissimilarity goals between shareholders and agent of company often create agency problem (Arifin and Ratnawati, 2012). The existence of agency problems would cause internal costs for shareholders to overcome the problems, these costs are called agency cost.

Agency costs are defined as internal cost incurred due to the competing interest of agent and principal. This cost arises in the wake of core inefficiencies, dissatisfactions and disruptions, such as conflicts of interest between principal and agent. Payment of the agency cost is to the acting agent. Lower agency costs are indicators of better performances and thus higher firm values, all other things being equal. Agency theory states that management and owners have different interests (Jensen and Meckling, 1976). Companies that separate the functions and duties of management and ownership will be susceptible to agency conflicts (Lambert, 2001). They show that regardless of who makes the monitoring expenditures, the cost is borne by stake holders. Debt holders, anticipating monitoring costs, charge higher interest. The higher the probable monitoring costs, the higher the interest rate and the lower the value of the firm to its shareholders all other things being the same.

There are three types of agency costs which can help explain the relevance of capital structure. Asset substitute effect: as debt to equity increases, management has an increased incentive to undertake risky projects. This is because if the project is successful, shareholders get all the upside, where as if it is unsuccessful, debt holders get all the downside. If the projects are

undertaken, there's a chance of firm value decreasing and a wealth transfer from debt holders to shareholders. Under investment problem: if debt is risky, the gain from the project will accrue to debt holders rather than shareholders. Thus, management has an incentive to reject positive net present value projects, even though they have the potential to increase firm value. Free cash flow: unless free cash flow is given back to investors, management has an incentive to destroy firm value through empire building and perks etc. Increasing leverage imposes financial discipline on management.

The variation of profit among insurance companies over the years in a given country would result to suggest that internal factors or firm specific factors play a crucial role in influencing their profitability and also it is generally agreed the influence of macroeconomic factor on insurance companies' financial performance. It is therefore very important to identify what are these factors as it can facilitate management, government, investor and customer. To do so, it is better to see what factors were considered in previous times by different individuals.

2.2.2 Resource Based View Theory

The resource based view theory was introduced by Warnerfelt (1984) and the aims explaining the advantage of proper management of resource of the organization. According to Mahoney and Pandian (1992) a resource based view of a firm explains its ability of a firm to build sustainable competitive advantage when resources are properly managed such that their outcomes cannot be imitated by competitors, which ultimately creates a competitive barrier. The theory describe that it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity. The firm may able to attain the desired competitive advantage through proper management and utilization of the firm accessible resources.

According to Wanjugu (2014) Resource based view provides the understanding that certain unique existing strategic resources will result in superior performance and ultimately build a competitive advantage. Sustainability of such advantage will be determined by the ability of competitors by exploiting valuable, rare, inimitable and non-substitutable resources is instinctive and theoretically satisfying, it is essential to recognize that value, rare, inimitability and non-

substitutable are not completely invariables. However, the existing resources of a firm may not be adequate to facilitate the future market requirement, due to volatility of the contemporary markets. There is a vital need to modify and develop resources in order to encounter the future market competition.

According to Madbani (2010), The Resource Based View examines and understands internal resources of the organizations and stresses resources and capabilities in formulating strategy to achieve sustainable competitive advantages. Resources may be considered and used as inputs that enable firms to carry out their activities in order to achieve firm long term objectives. The organizations should have to develop the way to maintain sustainable competitive advantages for sustained superior performance, firms must be unique and core competencies and resources that are valuable, rare, imperfectly imitable and non-substitutable as well as visualize of value-creating ways to exploit them. Intangible resources such as intellectual, technological resources are more appropriate than tangible resources which are human, financial resources to generate competitive advantage. Firm's abilities also allow some firms to add value in customer value chain, develop new products or expand in new marketplace. The RBV draws upon the resources and capabilities that exist within the organization in order to develop sustainable competitive advantages.

A resource based view of a firm explains, firms ability to develop and maintain competitive advantage when resources are managed such that their outcomes cannot be imitated by its competitors, which ultimately creates a competitive barrier (Mahoney and Pandian 1992). The theory suggestion to the study is that the available resources at the insurance companies are a enormous determinant on how they perform. In fact, facing of fundamental, volatile changes in the environment, value, rare, inimitability and non-substitutability are very considerably over time. In other words, RBV state have their fall like in the valuable attribute, the need for planning and investment to develop such resources are external factors, which means the RBV may overstate the profitability of firms by exploiting these resources, because the cost of acquisition and accumulation had been avoided. As such, the managers at the insurance companies should ensure full maximization of their available resources, for them to perform financially. They should also ensure that they possess resources which are unique to them which are not easily imitated by their competitors in the insurance sector (kollie, 2017).

2.2.3 Dynamic Capability Theory

The theory was initially proposed and developed by Teece (1997). The theory insight the ability of a firm to integrate, build and reconfigure internal and external competences to address rapidly changing environments. These give the firm's to remain dominant and gaining competitive advantages to achieve the organization objective. Organizations and their employees need capability to learn quickly and to build strategic assets in this ever changing economy. New strategic assets such as capability, technology, equipment, highly qualified staff, and customer feedback have to be integrated within the company. Dynamic capability is essentially the learning of an organization, development of new assets and the transformation of existing assets.

Teece (2009) three dynamic capabilities are necessary in order to meet new challenges. Organizations and their employees need the capability to learn quickly and to build strategic assets to overcome the problem they face. New strategic assets such as capability, technology, and customer feedback have to be integrated within the company. Existing strategic assets have to be transformed or reconfigured. Over time a firm's assets may become co-specialized, meaning when the physical assets, human resources and the intellectual property of a company provide synergistic combination of complementary assets. Such co-specialized assets are more valuable in combination than in isolation. The combination different categories of asset give a firm a more sustainable competitive advantage.

Grant (1996) and Pisano (1994) while seeing dynamic capabilities are the predecessor organizational and strategic routines by which managers alter their resource base, acquire and shed resources, integrate them together and recombine them to generate new value creating strategies. They say that dynamic capabilities comprise of identifiable and specific routines with some integrating and combination of resources for example product design and development routines by which managers combine their special skills and functional backgrounds to create revenue generating products and services. Hansen (1999) also indicates the transfer processes which include routines for replication and brokering are used by managers to copy, transfer and recombine resources, especially of measures. Another potential problem with this is that measures remain loose and their relationships with each other are not understood (Malmi, 2005).

According to Kollie (2017), the theory makes the assumption that it is impossible for different organizations to have similar capabilities and this result leads to towards difference in their financial performance firms. The theory's proposition to the study is the changing external environment causes a difference in the dynamic capabilities of the organizations. Quality performance is driven by special organizational routines for gathering and processing information, linking customer experiences with business design choices and also competitive advantage also requires the integration of external activities and technologies: for example, in the form of alliances and the virtual corporation. Therefore, the companies which are advantageous in terms of their internal capabilities are more likely to perform better. This implies that the performance is determine mainly by how well the insurance companies are able to acquire, align and integrate their capabilities in gaining competitive advantage.

2.3 Determinants of Insurance Companies Financial Performance: Empirical Evidences

There have been many studies conducted in developed country on the topic, determinants of financial performance of insurance companies. When we come to in developing countries of Asia, Latin America and Africa, the topic is given little attention. In the country of ours few researches are conducted study on the issue. To do these research it good to see what factors are considered in previous studies of different individuals all over the world including Ethiopia.

Shiu (2004) conducted study on the determinants of the performance of the UK general insurance companies. Secondary data panel data over the period 1986–1999 used to determine the relationship of, by using three key factors: percentage change, investment yield and return on shareholder funds. the author empirically tested 12 explanatory variables and showed that the performance of insurers have a positive significant correlation with the interest rate, solvency margin return on equity, and liquidity, and a negative and significant correlation with inflation and reinsurance dependence.

Hifza Malik (2011) conducted a research by the title “Determinants of insurance company profitability in Pakistan”. The main aim of the researcher was to determine firm specifically on firm specific factor size, age, volume of capital, leverage and loss ratio effect on profitability. In

this study the researcher collected secondary panel data from a sample of 35 listed life and non-life insurance companies from the time period of 2005-2009. Finally, the result shows that size of the company and volume of capital have significant have positive and significant relation with profitability and loss ratio and leverage ratio have negative and a significant relationship with insurance companies' profitability. But Age of the company doesn't have relationship with its profitability

Kozak (2011) conducted a research by the title "Determinants of insurance company profitability in Poland". The study is based on panel secondary data which obtained from 25 Poland insurance companies in nine consecutive years from 2002 to 2009. The result of regression model shows that explanatory variables, growth of gross written premiums, gross domestic product (GDP) growth, operating costs reduction, reinsurance utilization and growth of the market share of the companies with foreign ownership have positive and significant relationship with insurance companies' performance. The leverage and provision levels have a negative and significant impact on the profitability of insurance companies. The researcher suggested that, majority of the insurance companies in Poland depend on reinsurance and leverage order to increase their underwriting capacity and to stabilize their earnings.

Charumathi B. (2012) conducted a research on the Indian Insurance companies by the title of "Determinants of Profitability of Indian Life Insurers" from the time period of 2009 to 2011. The researcher collect secondary panel data from all the 23 Indian life insurers operating at that time and the study tried to model the factors determining the profitability of life insurers operating in India taking return on asset as dependent variable and leverage, size; premium growth, liquidity, underwriting risk and equity capital as explanatory variable. Finally, the result of study shows profitability of life insurers is positively and significantly influenced by the size and liquidity. The leverage, premium growth and equity capital have negatively and significantly influenced the profitability of Indian life insurers. The study does not find any evidence for the significant relationship between underwriting risk and profitability.

Almajali (2012) conducted research on the factors that mostly affect financial performance of Jordanian Insurance Companies. The secondary panel data collected from all insurance company at that time was analyzed by using a number of basic statistical techniques as T-test and

Multiple- regression. He included all 25 insurance companies' enlisted at Amman stock Exchange during the period 2002-2007. The regression results showed that the explanatory variables Leverage, Size, liquidity, Management competence index have a positive and significant effect on the financial performance of Jordanian Insurance Companies. Finally the researcher recommended that increasing the company assets will lead to a good financial performance so managers should consider this matter and there is a significant need to have highly qualified and competent employees in the top managerial team.

Burca and batrinca (2014) conducted a research on the title of “Determinants of Financial Performance of insurance companies in Romanian”. The objective of their study was to determine the factors that affect the financial performance of life insurance companies in Romanian during the period 2008–2012. The study was conducted by applying specific panel data techniques. The regression results of the study showed that risk retention ratio, company size, solvency margin are positive and significant relationship with performance and financial leverage underwriting, growth of gross written premiums, risk negative and significant relationship with financial performance of performance.

Lee (2014) investigated in his study the relationship between firm specific factors and macroeconomics on profitability in Taiwanese property-liability insurance industry using the panel data of eleven years from 1999 to 2009. On the study profitability was measured by operating ratio and ROA. The results show that underwriting risk, reinsurance usage, input cost, return on investment and financial holding group have significant influence on profitability in both operating ratio and ROA models. The insurance subsidiaries of financial holding group compared with other insurance companies, showing lower profitability. In addition, economic growth rate has significant influence on profitability in operating ratio model but insignificant influence on profitability in ROA.

Mirie M. & Jane W (2015) conducted a research by the title of “Determinates of Financial Performance in General Insurance Companies in Kenya “. The main objective of the research was to establish the relationship between selected factors growth of premiums, size of insurer, retention ratio, earning assets, investment yield, loss ratio, and expense ratio and financial performance of general insurance underwriters in Kenya. The study employed multiple linear

regression analysis of three year data from 2010 to 2012 years respectively. The results of the study showed that financial performance was positively related to leverage, equity capital, management competence index and negatively related to loss ratio and expense ratio. Growth of premiums, size of underwriter and retention ratio were not significantly related to financial performance.

Kazeem (2015) conducted research on the impact of firm specific characteristics on the financial performance of listed insurance firms in Nigeria from twelve listed insurance firms for eight years from 2006-2013 through the panel secondary data. Financial Performance was proxied by ROA and secondary data was obtained from the audited financial statements of the companies were analyzed by the multiple regression statistical tool. The result of multiple regressions shows that firm liquidity, size, loss ratio and leverage are most important and significant determinants of financial performance in Nigerian insurance industry. Hence, firm size, loss ratio and leverage are negatively related. In contrast, liquidity ratio is positively and significantly related with financial performance. Lastly, age of insurance company and premium growth is not significantly related with financial performance of listed insurance firms in Nigeria.

Boyjoo and Ramesh (2017) investigated the factors influencing the performance of general insurance companies operated in Mauritius from 2011-2015 for a five consecutive years. In the study, performance of general insurers was determined by using Return on Assets (ROA) as dependent variable. The ordinary least square (OLS) multiple regressions is used to analyze the panel secondary data collected for the study purpose. The result of the study reveals that size of the company, Leverage, liquidity, underwriting risk, concentration ratio and investment performance has positive and significant impact on the profitability of the firm measured by return on asset (ROA). In contrast, Re-insurance dependency and growth rate has negative and insignificant relationship with ROA. However, net operating expense, sales profitability ratio, company age and premium growths are positively and insignificantly related with financial performance of general insurance companies operated in Mauritius.

2.4. Studies in Ethiopian

This section review studies conducted in Ethiopia in order to reach at the knowledge gap in this study. In the context of Ethiopia there is very little studies are conducted related to the topic of determinants of financial performance of insurance company as the researcher's best knowledge. From this little conducted researches most of them studies financial performance of companies in relation to profitability. For instance, Gemechis debela (2017) conducted the study on topic determinant of insurance companies' profitability in Ethiopia. For his study he selected sample of twelve insurance companies to study them for a period of six years (2011-2016) through panel data. The results of panel least square regression analysis indicate that industry concentration ratio and leverage have statistically significant and positive relationship with Non-life insurance business profitability. On the other hand, diversification, underwriting risk and reinsurance dependence has a negative and statistically significant relationship with general insurance companies' profitability.

Teklit and Jasmindeep (2017) conduct the study by the title determinants of insurance companies' profitability in Ethiopia. The main aim of the study was to identify the key factors that affect profitability of insurance companies. Panel data of ten year from 2006 to 2015 used. The results of the regression analysis revealed that size of insurance, capital adequacy, and liquidity ratio and growth rate of GDP were the major factors that significantly affect the profitability of insurance companies. On the other hand, leverage ratio, loss ratio, market share and inflation rate were found to have insignificant effect on insurance companies' profitability. The liquidity, loss ratio, Growth rate of GDP and inflation rate is negatively related with the profitability measured by the ROA. Finally the researcher suggested that managers of insurance companies as well as the policy makers in the country should take crucial measures by framing policies and strategies that aimed in improving the overall profitability of insurance companies.

Asrat and Tesfahun (2016) conducted study on the determinant of profitability of insurance companies in Ethiopia. Eight Ethiopian private insurance companies eleven year data from the period of 2005- 2015 through panel data where used. The data were analyzed by using multiple linear regression analysis. The regression result shows that profitability is significantly and

positively affected by firm specific factor which are, company size and premium growth are Negatively and significantly affected by underwriting risk and solvency ratio. Reinsurance dependency, inflation and interest has no influence on profitability and statistically insignificant. Finally the study recommended that private insurance companies should reduce the impact of underwriting risk by improving their underwriting performance through techniques like risk and product selections with geographical and different pricing strategy. In addition to that private insurance company should improve their underwriting in favor of economic growth of the country via identifying the potential and priority direction of the overall economic activity and growth of the country.

Hanna (2015) examined the determinant of profitability in Ethiopian insurance companies by considering both external and internal factors. In the study, a panel data covering the period of 2005 to 2014 are analyzed for a sample of nine insurance companies to reach on the final conclusions. The finding of the study shows that internal factors leverage, firm growth and tangibility of assets are the most significant determinants of profitability of insurance companies in Ethiopia. Firm growth has positive impact and leverage and tangibility of assets have negative impact on profitability of insurers. From macroeconomic factors, inflation has a negative and significant impact on insurers' profitability as well as company size, company age and GDP growth shows positive but insignificant relationship with insurers' profitability. And liquidity has negative and insignificant relationship with insurers' profitability. Based on the finding the authors recommend that an insurance company's management and investors should focus on how they promote the growth which significantly affects the profitability since the sector is still at the early stage of development.

Hadush (2015) examined the determinants of profitability of insurance company in Ethiopia. The econometric analyses have performed on a panel secondary data for a sample of nine Ethiopian general insurance companies for the study period of 2005-2014 which is ten year. The finding of the study reveals that tangibility, volume of capital, claim ratio, premium growth, and real GDP are the most important determinants of profitability hence tangibility, volume of capital, premium growth is significant and positively related. In contrast, claim ratio and real GDP are

negatively but significantly related with profitability. However, liquidity and inflation are not significantly related with profitability.

Suheyli (2015) examined the determinants of the of insurance companies' profitability in Ethiopia. The mixed research approach was used in the study, which consist of annual financial report of the firm and interview with financial director of insurance companies. Panel secondary data covering from 2004 to 2014 eleven year period are analyzed for a sample of nine insurance companies in Ethiopia. The result of the study demonstrate that underwriting risk, technical provision and solvency ratio have statistically significant and negative relationship with insurers' profitability. However, reinsurance dependence has negative but insignificant relationship with profitability. On the other hand company size, liquidity and premium growth have a positive and statistically significant relationship with insurers' profitability. In addition, economic growth rate has significant influence on profitability whereas inflation has insignificant influence on insurers' profitability. The study identified that underwriting risk; technical provision and liquidity are the most important factors that affect profitability of insurance companies in Ethiopia. So that, the managers of insurance companies give attention for change in this factors.

Meaza (2014) conducted study on profitability of insurance companies' in Ethiopia. The study focused on the effects of firm specific factors such as; size of company, liquidity ratio, leverage ratio, loss ratio/ risk, tangibility of assets, growth and managerial efficiency and macroeconomic factors (economic growth and inflation) on profitability proxied by ROA (dependent variables). The secondary data is collected from a sample of ten insurers by using panel data with the time duration of 2008-2013 for six consecutive years. The result of the study demonstrates that size, leverage, tangibility of asset, loss ratio, firm growth and managerial efficiency have significant impact on profitability (ROA). Whereas firm size, tangibility of asset, firm growth and, managerial efficiency is positively related. In contrast, leverage and loss ratio are negatively and significantly related with profitability. Liquidity, inflation, and economic growth are not significant determinants of profitability. The researcher recommended that, the insurance managers and policy makers should give more attentions to firm-specific determinants of profitability than macroeconomic variables; since investigating the effects of macroeconomic variables on profitability of companies more use longer period observations.

Daniel and Tilahun (2013) conducted study on factors determining insurance companies' performance in Ethiopia by using explanatory variables, leverage, tangibility, size, Loss ratio, growth in writing premium, liquidity and age and dependent variable was performance of insurance companies in Ethiopia which measured by (ROA). Panel secondary data was collected from the financial report of insurance companies selected sample of nine insurance companies was over the period of 2005-2010 and. The results of regression analysis reveal that insurers' size, tangibility and leverage are significant and positively related with return on total asset; however, loss ratio (risk) is statistically significant and negatively related with ROA. Thus, insurers' size, Loss ratio (risk), tangibility and leverage are important determinants of performance of insurance companies in Ethiopia. But, growth in writing premium, insurers' age and liquidity have statistically insignificant relationship with ROA.

Abate (2012) conducted study by the title of determinant of insurance companies in Ethiopia. On study he examined the effects of firm specific factors: age of company, size of company, leverage ratio, volume of capital, liquidity ratio, growth and tangibility of assets on profitability proxied by ROA. He included nine insurance companies for time period of nine years from 2003-2011 and secondary data collected from financial report. The regression result of the study showed; growth, leverage, volume of capital, size, and liquidity are identified as most important determinant factors of profitability hence growth, size, and volume of capita are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. Lastly, age of company and tangibility of assets are not significantly related with profitability.

2.5 Conclusion and Knowledge Gap

An investigation of the factors affecting financial performance of companies has been attracted many scholars attention in recent years. As clearly seen from the above Empirical review part there have been a growing number of studies recent years that test for measures and determinants of insurance companies' financial performance. Hifzaa Malik (2011), burca and batrianca(2014), Meaza Melese (2014) Charumathi B. (2012), lee (2014), Nikhel B. et al. (2015), Edlira Luçi et al, (2016), Mirie M. & Jane W (2015), Suheyli Reshid (2015), datu (2016) and are some of researchers who conduct study about the determinants of financial performance of insurance

companies. Even though, many study are the results found by the researchers mentioned above in the empirical revealed inconsistencies according to the country and the type of insurance company in which the research is conducted and regarding selected variables.

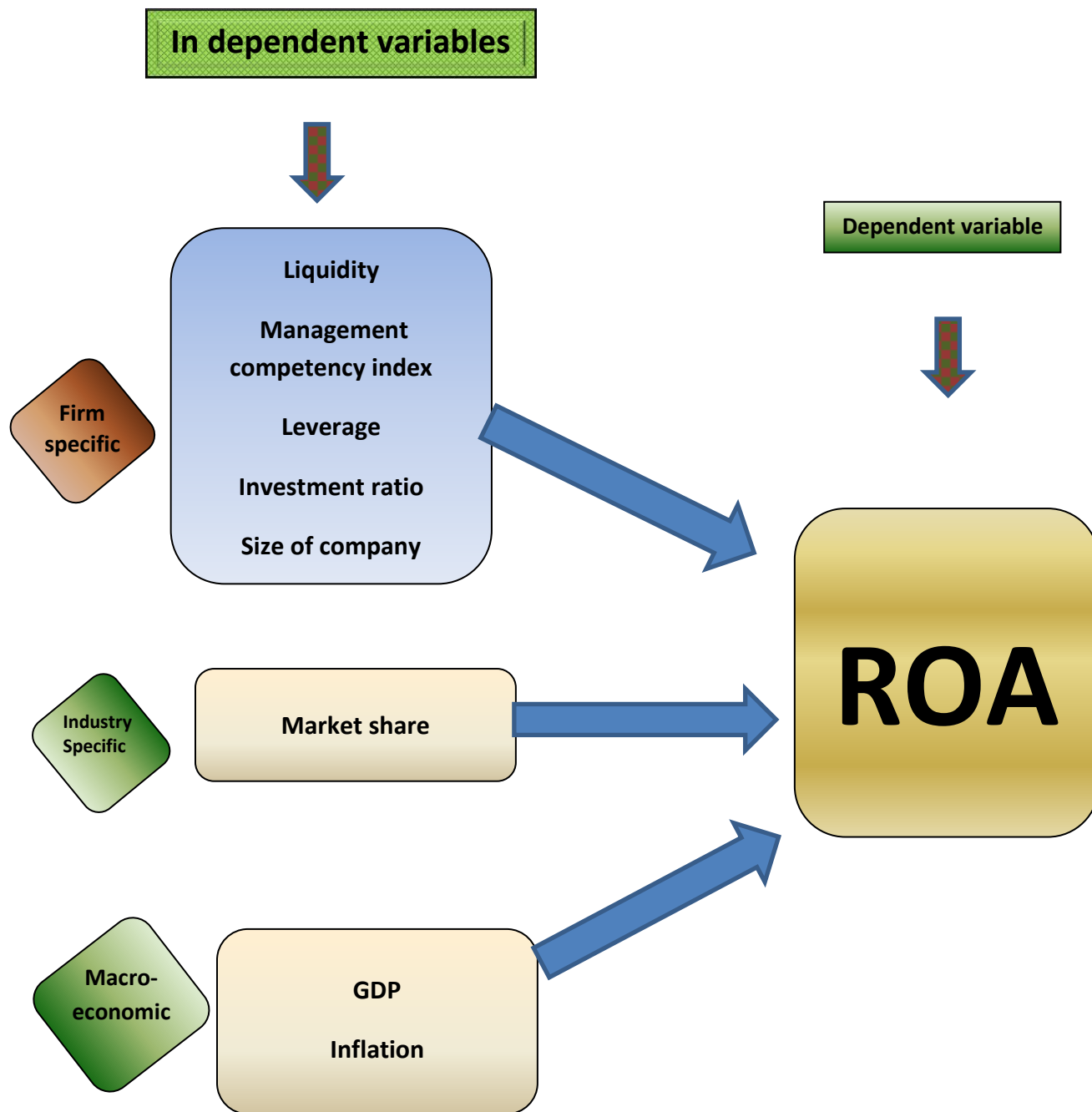
In the case of Ethiopia, few researches are conducted in the area of factor determining insurance companies' financial performance. There are fewer literatures concerning insurance companies as compared to banks since there is little research conducted on insurance compare to banks. From this small study, Most of literatures are focused on profitability rather than financial performance. According to the knowledge of the researcher, almost all of study conducted by using sample, which were selected from the list of existed insurance company in Ethiopia. They did not include all insurance companies in the studies. Few researches which considered the effects of macroeconomic factors and industry specific factors on financial performance and some firm specific factors are not covered. And also the results of these studies are inconsistency. Such as, Suyehli (2015) found positive and significant relationship between profitability and liquidity whereas Mehari and Aemiro (2013) found positive insignificant relationship between profitability and liquidity. In opposite to that Meaza (2014), Mistire (2015), Hanna (2015), Hadush (2015), Teklit and Jasmindeep (2017), Suyehli (2015), Demis (2016), Mehari and Aemiro (2013) and Asrat and Tesfahun (2016) states that liquidity have negative impact on profitability of insurance companies in Ethiopia.

For instance, the lack of sufficient research on the determinants of financial performance of insurance companies in context of Ethiopia, the existence of knowledge gap and the problem stated in the statement of the problem part in the area is initiate the researcher to conduct this study. Firm specific factor such as management competence index and investment ratio are not included in previous studies will included in this studies. Accordingly, this research will includes firm specific, industry specific and macroeconomic factors which are inconsistency in previous studies. This research will also try to include recent year's financial statements of all insurance companies'. This study will add literature on the determinants' of financial performance of insurance companies in Ethiopia.

2.6 Conceptual Framework

Conceptual frame work is a map which shows how particular variables are connected with each other in the study, it helps to clearly identify the variables that used in the research process (Teklit and Jasmindeep, 2017). The financial performance of insurance companies' influenced by both internal and external factors. Whereas internal factors focus on insurers specific characteristics, the external factors concern both industry features and macroeconomic variables. This study used both internal and external determinants of insurance's financial performance by including company size, leverage, liquidity, management competency index, investment ratio, market share, growth rate of GDP and inflation. The study identified how these variables determine the financial performance of insurance company in Ethiopia.

Figure 2.1 conceptual frame works



Source: compiled by researcher from empirical review

Chapter Three

Research methodology

3. Introduction

This chapter deals about the methodology that was used in gathering data, processing the data and translating the collected data into meaningful information. It provides the steps and procedures of the study that were used to find out the determinants of financial performance of general insurance companies in Ethiopia. The chapter explains about the research design, data type and source, research approaches, population, data collection instrument, data analysis techniques, variable definitions which encompasses choice of dependent variable and independent variables, diagnosis analysis and model specification.

3.1 Research Design

According to Kinnear (1989), a research design is the basic plan and procedure which guides the data collection and analysis phase of a research project. It is the framework which specifies type of data collected, from where and how the data to be collected and collection procedure. This implies that it is the researcher's plan of action for collecting data, analysis of data, answering questions and testing the hypotheses generated. It provides the procedural outline to conduct any investigation from starting to end. Correlation research design helps the researcher to construct correlational statistics and find out the degree of relationship between the dependent and independent (Creswell, 2012). The nature of research problem this study tends to be explanatory, which seeks to explain the relationship between financial performance and it related determinants in the study (Creswell, 2009). So, the research design applied for this study is correlational explanatory research design.

Accordingly in this study, the researcher conducted the research using quantitative approach and data was collected from all insurance companies in Ethiopia using five years panel data (2014 to 2018). Secondary source of data included Balance Sheet, Income statements, and Revenue Account of the insurance companies obtained from the NBE. Secondary data sources are the most reliable one, as these financial statements are already audited by independent auditors and

accepted by the users of the information. Other macro level data were obtained from the NBE (Research directorate) as reported to them by Ministry of Finance (MoF).

3.2 Research Approach

This section discusses the research methodology that applied for the study. Creswell (2014), described three basic types of approaches for research. The first is Quantitative research approach which is described as ‘entailing the collection of numerical data and testing objective theories by examining the relationship among variables and a numbered data can be analyzed by using statistical procedure deductively or inductively. The other is qualitative research approach which used for exploring and understanding the meaning of individuals or groups to ascribe to a social or human problem with intent of developing a theory or pattern inductively. Information is considered qualitative in nature if it cannot be analyzed by means of mathematical techniques. At the end, mixed approach in which the researchers used both quantitative and qualitative data in order to understand and emphasize the research problem.

In this study the researcher used the quantitative research approach based on quantitative nature of the data. This approach was used to identify and measure the determinants of financial performance of insurance companies. Specifically, multiple regression analysis is adopted to measure the effect of determinants on financial performance. The use of multiple regressions considers the simultaneous relationships amongst the independent and dependent variables found across the regression model, therefore best suited to the nature of the study. Therefore to comply with the objective of this research, the study is exclusively based on quantitative data, which constructed an econometric model to identify and measure the determinants of financial performance and their level of significance.

3.3 Data sources and Data Collection Instruments

To conduct this study the researcher was used five year panel secondary data, which was obtained from national bank of Ethiopia (NBE) and financial statement of individual insurance companies. Macro-economic data which needed for this study were obtained from report of Ministry of Finance (MoF). Compared to primary data, secondary data gives higher quality data

especially when they are assured by third party and also the feasible to conduct longitudinal studies. secondary data generally provide a source of data that is both permanent and available in a form that may be checked relatively easily by others. According to Chris Brookes (2008), using panel data has advantage to address a wide range of issues and challenge more complex problems, examine how variables change dynamically over time or the how the variables relate each other and also structuring the model in an appropriate way.

Among different data collection instruments, the researcher collected secondary data by reviewing the annual audited financial statements of Ethiopian insurance companies from year 2014 to 2018. On the other hand, in order to analyze the relationship that exists between financial performance and macro-economic variables, macroeconomic data gathered from the records held by NBE and Ministry of Finance and Economic Development (MOFED) through structured document review.

3.4 Population

The target populations of the study are all insurance companies registered by NBE and operate in Ethiopia. According to NBE annual report (2018), currently there are seventeen insurance companies are working in Ethiopia. Since, such number company are small this study includes all insurance company which operate in Ethiopia. Five year panel secondary data from 2014 to 2018 collected from all insurance companies. Using five years financial panel data is assumed to be relevant because five years and above is the recommended length of time used in most finance literatures. In addition, including all insurance companies help to reduce sampling and other related errors.

3.5 Method of Data Analysis

In order to achieve the objective of the study, the data collected from data sources explain in above was analyzed by using descriptive statistics, Pearson correlations analysis and multiple linear regression analysis. Mean values and standard deviations, minimum and maximum value are used to analyze the general trends of dependent and independent variable from 2014 to 2018

based on the data of all insurance companies and Pearson correlation matrix is also used to examine the relationship between the dependent variable and explanatory variables. In addition, ordinary least square (OLS) is conducted using statistical package “STATA 11” to determine the most significant and influential explanatory variables affecting the financial performance of the insurance industry in Ethiopia.

As stated by Brooks (2008) panel data is favored for situation often arises in financial modeling where we have data comprising both time series and cross-sectional elements. In addition, we can address a broader range of issues and tackle more complex problems with panel data than would be possible with pure time-series or pure cross-sectional data alone. Accordingly, the study model focused on panel data technique that comprises both cross-sectional elements and time-series elements; the cross-sectional element is reflected by the different all Ethiopian insurance companies (seventeen) and the time-series element is revealed by the period of study (2014-2018). Therefore, the collected panel data is analyzed to determine the relationships between the independent variables and dependent variable. Correlation used to determine the degree of relationships between the variables. Regression analysis used to determine the contribution or predictability of the independent variable to the dependent variables.

3.6. Variable Definitions and Hypothesis Development

3.6.1. Definition of variables

In any quantitative research, in order to make it is clear to readers what groups of variables are receiving the experimental treatment and what outcomes are being measured, the variables need to be specified (Creswell, 2009). The study not including all dimensions of the factors which affect financial performance of insurance company i.e. external, industry and internal factors but limited to the following variables. Therefore, one important thing here is that, either in the above measurement techniques or in the following definitions, the researcher not differ rather, it is duplicate and extends the existing common measurement techniques and definitions used by previous researchers on the topic under consideration.

3.6.2 Dependent Variable

In most of research of determinant of financial performance of banks and insurance companies, performance is commonly measured by Return on total assets (ROA). Return on total assets (ROA) is calculated as net profit before tax divided by total assets. Chen and Wong (2004), argued that the performance of insurance companies in financial terms is normally expressed in net premium earned, profitability from return on asset, underwriting activities, annual turnover, return on investment and return on equity. ROA is probably the most important single ratio in comparing the profitability, efficiency and financial performance of insurance companies as it indicates the returns generated from the assets that Insurers employed (Mehari and Aemiro, 2013).

Most researchers which conducted on insurance company efficiency, profitability and performance, the key indicator of a firm's financial performance were ROA. ROA is used as a better measure of financial performance than other ratios and it reveals how much profit a company earns for its assets (Malik, 2011). Researchers also use ROA as measurement of company's performance as well as profitability. Some of them are, Hafiz Malik (2011), Kozak (2011), Mwangi and Murigu (2015), Mazyional (2017), Lee and Lee (2012), Burca and Batrinca (2014), Hadush (2014), Lee (2014), Datu (2016), and Mehari and Aemiro (2013). In this research the performance of insurance company is dependent variable and measured by ROA. The formula for the performance measure is given as follows:

$$\text{ROA} = \text{Net profit before tax (t)} / \text{Total Assets (t)}.$$

3.6.3 Independent variables

Five firm specific (internal related) variables, one industry specific (external related) variable and two macroeconomic variables affecting the financial performance of Ethiopian insurance business were included in the study. From the many possible determinants of financial performance of companies previously identified in similar studies are included in this study. The independent variables are; leverage, liquidity, inflation, management competency index, market share, investment ratio, size of capital and GDP are included in this study. Therefore, in order to

achieve the objectives of this study, the variable is defined originated from the literature to give key factors that determine performance of general insurance companies operating in Ethiopia as follows.

1. Leverage

According to Mehari and Aemiro (2013) leverage is financial ratio that indicated the percentage firm's assets that are financed with long term debt (loan). Leverage is calculated as total debt divided by total asset. A company with more debt than equity financing is considered to be highly levered and risk of the insurance companies may increase when there is an increase in there leverage ratio. The trade of theory suggests a positive relationship between profitability and leverage ratio and which is because of taxes, agency costs and bankruptcy costs push more profitable firms towards higher leverage. Hence more profitable firms should prefer debt financing to get benefit from tax shield. Literature in capital structure confirms that a firm's value will increase up to optimum points as leverage increases and then declines. Leverage beyond the optimum level could result in higher risk and low value of firm. The pecking order theory states that there is no optimal capital structure since debt ratio occurs as a result of cumulative external financing requirements.

Varieties of researches were conducted on determinants of financial performance of insurance companies in different countries. As far as leverage ratio is concerned most of the studies conducted in this area come up with relatively similar conclusion; for instance Hifzaa (2011), Suheyli (2015), Meaza (2014), Charumathi B. (2012), Mirie M. & Jane W (2015), Andres & Stephen (2013) and Nikhel B. et al. (2015) showed leverage ratio is negatively related to financial performance/profitability, which means when the company is more financed with debt than equity the performance of the firm will decline. On the other hand Hana (2015), Mahari and Amero (2013) and Behaylu (2017) come up with different conclusion with the other studies; they concluded leverage ratio and financial performance/profitability of the firm have a positive relationship.

Whereas the result of Tariku (2019) on Ethiopian insurance companies, Derbali (2014) on Tunisian insurance companies, Bawa & Chattha (2013) on life insurers in Indian and

Olaosebikan (2012) on micro life insurers in Nigeria and all concluded that profitability is not related to leverage.

As indicated above, result of the researches showed different results, but the researcher assumes that based on majority of the literature result there is a negative and significant relationship between leverage and financial performance of insurance companies.

Hypothesis:-

H1: Leverage ratio has a negative and significant effect on financial performance of Ethiopian insurance companies.

2. Liquidity

Liquidity refers to the ability of an insurer to meet its short term obligations when it is due. It is commonly measured by the ratio of current assets to current liabilities. Liquidity ratios are an important class of financial metrics used to determine a debtor's ability to pay off current debt obligations without raising external capital. The ability of the firm to convert an asset to cash quickly and reflects the ability of the firm to manage working capital when kept at normal levels. A lower liquidity ratio would mean that the insurance company will not easily get funds or else it will have to incur an extremely high rate of interest which will raise the cost of funding and eventually impose on the profitability of the insurance company unfavorably. On the other hand, a very high ratio of liquidity could also mean that the insurer is keeping idle cash that could have generated income by investing in profitable areas.

With regard to liquidity ratio, the study conducted by Mahari and Amero (2013), Meaza (2014), Abate and Yuveraj (2013), Abate (2013) and Andres & Stephen (2013) concluded liquidity of insurance companies have a negative significant relationship with their financial performance/profitability. In the contrary to this findings kazeem (2015), boyjoo and Rames (2012), Behaylu (2017), Suheyli (2015), and Charumathi B. (2012), showed liquidity ratio have a positive relationship with financial performance/profitability this means when the liquidity of the firm improved the financial performance will also improve.

On the other hand the study conducted in Ethiopia by hadush (2015) and hana (2015), study conducted in Kenya by Mirie M. & Jane W (2015), and the study conducted in India by Nikhel B. et al. (2015) showed liquidity ratio and the financial performance of the firm have no statistically significant relationship at all.

As indicated above, result of the researches showed different results, but the researcher assumes that based on majority of the literature result there is a negative and significant relationship between liquidity and financial performance of insurance companies.

Hypothesis:-

H2: Liquidity ratio has a negative and significant effect on financial performance of insurance companies in Ethiopia.

3. Inflation

Inflation reduces the purchasing power of each unit of currency, which leads to increases general price of goods and services over time. Inflation is a general increase in the overall price level of the goods and services in the economy (Hadush, 2015). Expected inflation is taken into account when actuaries set actuarially fair premiums and in this case inflation itself is unlikely to seriously impact on the performance of insurance companies. Nevertheless, 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. As a consequence, profit margins of insurance companies are compressed and financial performance is accordingly impaired (Browne, Carson & Hoyt, 1999).

The inflation could affect insurance companies' financial performance by influencing both their liabilities and assets. In expectation of inflation, claim payments to customer's increases as well as reserves that are required in anticipation of the higher claims which have effect on investment, consequently reducing technical result and financial performance. According to Meaza (2014), Hana (2015), Teklit & Jasmindeep (2016), Asrat and Tesfahun (2016), Andres & Stephen (2017) and Behaylu (2017) inflation have negative and significant relationship with

profitability/financial performance of insurance companies. Study conducted by Redwan (2017), Suyehli (2015), shitu (2014) shows that inflation has indirect and insignificant relation with financial performance.

As indicated above, result of the researches showed different results, but the researcher assumes that based on majority of the literature result there is a negative and significant relationship between inflation and financial performance of insurance companies.

Hypothesis:-

H3: Inflation has negative and significant effect on financial performance of insurance companies in Ethiopia.

4. Management competency index

Boyatzis (1982) defines competence as “an underlying characteristic of a person”, stating it could be “motive, trait, skill, aspect of one’s self-image or social role, or a body of knowledge which he or she uses. (Hamel and Prahalad, 1994) define competence as a bundle of skills and technologies that enable company to provide benefits for customers rather than a single skill or technology. Wilson (1994) argue that managerial competences include the unique capability of the organization’s strategic leaders to articulate a strategic vision, communicate the vision throughout the organization and empower organizational members to realize that vision.

According to Pavett and Lau (1983) the competence of an effective manager includes the ability to enhance one’s position, builds a power base and establishes the right connections, mental ability to coordinate all of the organization’s interests and activities, ability to work with, understand and motivate other people, both individually and in groups. So, good management competence used to increase the performance and also the overall operation of the firm.

There are different methods of measuring the competency of management. Marikas, Merikas and Skandlis (2006) Measure management competency by dividing profit to total number of professionals. This way of measuring management competency index shows, how the managers

are important in generating revenue to the organization. Manjugu (2012) he estimate the number of professional as number of management team. So in this research management competency index is measured by profit divided by number of management team in each insurance company

There are few studies have been conducted on the relationship between management competency index and financial performance of insurance company. Wangugu (2012) found positive and significant relationship between financial performance and management competency index. From this result the researcher expect positive and significant relationship between management competence index and financial performance of insurance companies.

As indicated above, based on majority of the literature result the researcher assumes there is a positive and significant relationship between Management competency index and financial performance of insurance companies.

Hypothesis:-

H4: Management competence has positive and significant effect on financial performance of insurance companies in Ethiopia.

5. Market Share

According to (Gale, 1972) The industry specific factor market share have positively related to lower operating ratio, which coincides with the proposal of that high market share might result in high profit, mainly because high market share boosts a firm's market competitive advantage and its ability to set prices, which intern helps the firm to increase profit and achieve economies of scale. Chen-Ying Lee (2014) investigates the relationship between firm specific factors and macroeconomics on financial performance in Taiwanese property-liability insurance industry using the panel data over the 1999 through 2009 time period. Using operating ratio and return on assets (ROA) for the two kinds of performance indicators to measure insurers' financial performance. The results show that market share has positively significant influence on ROA. Tariku (2017), Edlira Luçi et al, (2016) also other researcher they found positive and significant relationship between ROA and market share. In contrast the study by Teklit & Jasmindeep

(2016) and Behaylu (2017) both of the studies concluded market share doesn't have a significant effect on the financial performance of insurance companies.

As indicated above, based on majority of the literature result the researcher assumes there is a positive and significant relationship between market share and financial performance of insurance companies.

Hypothesis:-

H5: Market share has a positive and significant effect on financial performance of insurance companies in Ethiopia.

6. Investment ratio

Heyman and Rowland (2006) asserted that investment officers of publicly held property-casualty companies struggle as to how best to contribute to shareholder value. The approach is to manage the investments independent of the insurance operations, as if they were a closed-end investment company that is funded by insurance underwriting and/or is to invest funds with the objective to decrease the insurer's liabilities and hence support the insurance operations of the insurer, whose principal value derives from its insurance activities. Good investment returns can generate competitive advantages, particularly in situations where investments matter more than underwriting profits/losses.

Increase in Allocation of available resources to productive investments one of the major source of profit which leads to good financial performance. All else being equal, high investment returns result in a better financial performance for insurance companies. Good investment return will higher the financial performance again even enable them to meet unexpected loss, claims and competent in the finance industry. Which results to building confidence to policy holders and even powerful to attract prospective policyholders to strength more its financial performance (mirie and jane, 2015).

As far as investment is concerned some studies tried to measure its influence on the insurance companies financial performance for instance, Burca and Batrinca (2014), Shiu (2004), Lee

(2014) and Boyjoo and Ramesh (2017) showed investment have a significant relationship with on ROA which is proxy financial performance. The investment ratio is computed by dividing investments to total assets, being expected a positive influence of this variable on the financial performance, as investments generate investment income.

As indicated above, based on majority of the literature result the researcher assumes there is a positive and significant relationship between investment ratio and financial performance of insurance companies.

Hypothesis:-

H6: Investment ratio has a positive and significant effect on profitability of insurance companies in Ethiopia.

7. Economic growth (GDP)

Growth domestic product is a macroeconomic variable and tells the total value of goods and services produced in a given nation over a specified period of time usually a year. GDP growth is indicative of overall business conditions and hence capacity to insurers (Hussain, 2015). Economic growth is an increase in the production of economic goods and services, compared from one period of time to another. The poor economic conditions can reduce investment of once country. This will have effect the performance of companies (Teklit and Jasmideep, 2017). If GDP grows, investment will increase and the likelihood of selling insurance policies also grows and insurers are likely to benefit from that in form by obtaining more gross premium which lead to higher profits. Economic growth leads to improve the living standards, levels of income and increasing the purchasing power of population (Burca and Batrinca, 2015).

As far as economic growth is concerned several studies tried to measure its influence on the insurance companies profitability for instance, Meaza (2014), Hana (2015), Mister (2015) and Teklit & Jasmindeep (2016) showed GDP have positive insignificant relationship with on ROA which is proxy for profitability. But studies conducted by Kalkidan (2016), hadush (2015), Behaylu (2017) and Andres & Stephen (2013) concluded GDP has a negative insignificant

influence on the performance of insurance companies, which means as the rate of GDP increases financial performance of insurance companies will decrease but not significant. In the contrary to this findings Tariku (2019), Kazimierz (2016), Suyehli (2015) and Asrat and Tesfahun (2016) showed GDP has a positive impact on profitability of the firm, which means as GDP increase profitability of insurance companies will also increase.

As indicated above, result of the researches showed different results, but the researcher assumes that based on majority of the literature result there is a positive and significant relationship between GDP and financial performance of insurance companies.

Hypothesis:-

H7: Economic growth has positive and significant effect on financial performance of insurance companies in Ethiopia.

8. Company size

In general, majority of studies indicated that performance or profitability of large company size insurance companies are better than from the small size companies. The main reasons are, large insurance companies normally have greater capacity for dealing with adverse market and economic change than small insurance companies. They can relatively easily recruit employees with professional knowledge compared with small insurance companies and large insurance companies have economies of scale in terms of the labor cost, which is the most significant major input for delivering insurance services (Shiu, 2014). But the size growth should be limited to a certain stage, until reach maturity level then after this stage the firm performance could be defined based on the ability of the management. If the company size keeps on increasing above the optimal point it is obvious that the increase in insurance's size provides diseconomies of scale, therefore, up to the optimal point increase in size gives the above mentioned advantages to the firm.

Numerous studies have been conducted on the relationship between company size and profitability or performance but the evidence show mixed findings, such as; Boyjoo and Rams (2012), Abate (2012),hadush (2015), Mehariand Aemiro (2013), Malik (2011), Suheyli (2015),

bahailu (2016), Burca and Batrinca (2014) that financial performance/profitability is likely positively influenced by size

Lee (2014), Cummins and Nini (2002), Mazyional et.al(2017), Kazeem (2015), Derbali (2014) , Mwangi and Murigu (2015) found that size is negatively related to insurance company's performance/profitability. Besides, Hana (2015), Aserat and Tesfahun (2016), Olaosebikan (2012), found company size are not statistically significant and suggested that the firm size does not have any direct impact on the performance/profitability.

In most of studies Company size is computed as decimal logarithm of total assets of the insurance company. In this study the researcher expected a positive linkage between company size and its financial performance, since larger firms have more resources, a better risk diversification, complex information systems and a better expenses management.

As indicated above, result of the researches showed different results, but the researcher assumes that based on majority of the literature result there is positive and significant relationship between company size and financial performance of insurance companies.

Hypothesis:-

H8: Company Size has a positive and significant effect on financial performance of insurance companies in Ethiopia.

3.7 Empirical Model Specification

Model building involves specifying relationships between the dependent variable and independent variable; perhaps extending to the development of descriptive or predictive equations (William 2010). The nature of data that was deployed in this study enabled the researcher to use econometric panel data model, which cover cross sectional and time series data methodology. Panel data is favored over pure time-series and cross-sectional data because it can control for individual heterogeneity and there is a less degree of multi-linearity between variables (Altai, 2005).

Based on the theoretical setups and empirical evidences in previous researches, this study deemed some of the key variables under consideration those used by different researchers at different times. In highlight to this, the model consists of dependent and independent variables. Different researcher employed major dependent variable of financial performance that measured by Return on Asset; which used by Gemechis (2015), Lee and Lee (2012), Abate(2012) , Pervan and Kramaric (2012), Burca and Batrinca (2014), Lee (2014), Suhyli (2015), Mehari and Aemiro (2013), Hafiz(2011), Demis (2016) and Datu (2016).

The independent variables used are; liquidity, leverage, size of company, investment ratio, management competency index, market share, growth domestic product and inflation rate. To investigate the exogenous and endogenous financial performance determinants of insurance companies operating in Ethiopia; the following baseline regression model was specified with some modification depending on empirical studies in aforementioned source which include Mehari and Aemiro (2013), Demis(2016), Asrat and Tesfahun (2016), Meaza(2015), Tariku(2017), Sheyli(2015), Hussain, (2015) Moro and Anderloni (2014), Burca and Batrinca (2014), Lee (2012), and Kozak (2011).

There are fixed effect, random effects and pooled OLS regression model can be used to analysis panel data in financial research. In order to decide which model is appropriate for this study different tests are implemented, first Hausman test was implemented to select appropriate model from random effect and fixed effect model. Then after selecting the appropriate model from effective and fixed effect model, Breush and Pagan lagranian multiplier test implement to select the appropriate model from the result previous test between fixed effect and random effects regression model and OLS regression model. The result of the first test shows p-value was insignificant at 5% level of significance random effect was selected. Further test was also conducted to choose between random effect versus pooled OLS regression model by using Breush and pagan Lagrangian multiplier test and the result showed that pooled OLS is fitted for the study since the P-value was insignificant at 5% level of confidence. Therefore, model for the study was specified as follows:

$$ROA_{it} = \beta_0 - \beta_1 Lvr_{it} - \beta_2 Lqr_{it} - \beta_3 Infr_{it} + \beta_4 Mci_{it} + \beta_5 Mrs_{it} + \beta_6 Ivr_{it} + \beta_7 GDP_{it} + \beta_8 Szc_{it} + \varepsilon_{it}$$

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$ and β_9 = Coefficients of independent variables

I = Insurance company and $i = 1, 2, 3, \dots, 17$

T = The index of time periods and $t = 1, 2, 3, \dots, 5$

$\varepsilon_{it} = a_i + u_{it}$, when a_i all unobserved, time constant factor that affect ROA it
 u_{it} is often called the idiosyncratic error or time-varying error

Table 3.1 Variables and there measurements

S/No	Variable name	proxy	Description of measurement	Expected sign
1	ROA	ROA	Ratio Net profit befor tax to total asset	
2	Leverage ratio	Lvr	Ratio of debt to equity	-Ve
3	Liquidity ratio	Lqr	Ratio of current asset to current liability	-Ve
4	Inflation rate	Infr	The country annual inflation rate	-Ve
5	Management competency index	Mci	Ratio of profit to number of management team	+Ve
6	Market share	Mrs	Ratio of an insurer's gross premium to the total gross premium of industry	+Ve
7	Investment ratio	Ivr	Ratio of investment to total asset	+Ve
8	Company size	Szc	Natural logarithm of total asset	+Ve
9	GDP growth rate	GDP _{Pr}	The real GDP growth rate of the country	+Ve

Source: compiled by researcher from the model

Chapter Four

Data Presentation and Analysis

4.1 Introductions

This chapter analyzes the determinants of financial performance of insurance companies, using the balanced panel data, where all the variables are observed for each cross-section and each time period. The study has a time series segment covering from the period 2014 up to 2018 and a cross section segment which considered seventeen Ethiopian insurance companies. The chapter is organized into five sections. Section one discusses descriptive statistics, Section two is about classical linear regression model assumptions and diagnosis test. Correlation analysis and model specification presented in section three and four respectively. The last section of this chapter is regression analysis.

4.1 Descriptive Statistics

In this section, the researcher presents the descriptive statistics of dependent and independent variables which used in the study. The dependent variable used is financial performance of insurance company which measured by return on asset and explanatory variable are leverage, liquidity, inflation rate, management competency index, market share, investment ratio company size and GDP growth rate. The total observation for dependent and independent variable was 85 which were collected from 17 insurance companies for the period of 2014 to 2018. The overall descriptive statistics that computed in the study includes mean, maximum, minimum and standard deviation of all study variables. Each result of the descriptive statistics was summarized and represented in the following tables 4.1.

Table 4.1: Summary of descriptive statistics

. sum ROA LVR LQR INFR MCI MRS IVR GDPr SZC					
Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	85	.0827294	.0401972	-.041	.192
LVR	85	.6105039	.1094624	.2554196	.8336244
LQR	85	1.366859	.5180391	.365	3.349
INFR	85	.1017765	.0325062	.075	.168
MCI	85	6.538087	.4856016	4.331781	7.380211
MRS	85	.0598235	.0779609	.001	.374
IVR	85	.1364941	.1019582	.004	.552
GDPr	85	.093	.0119871	.077	.104
SZC	85	8.660588	.4567206	7.39	9.65

Source: output of STATA

As indicated above table 4.1, mean of ROA all insurance companies in last five year was 8.3% with a minimum of value -4.1% and a maximum of value 19.2%. From the result we can understand that on average for the last five years insurance companies in Ethiopia earned 8.3% of their total asset. In addition, the good financially performed company has 19.2% of profit before tax to total asset ratio, which means for a single birr invested there is return of .192 birr. On the other hand, the least financially performed insurance company in the last five year earned loss of 4.1% of the total asset. The maximum value indicating the Ethiopian Insurance Corporation (EIC) and the minimum value indicate one of privately owned insurance company which is Berhan insurance. Regarding In addition to that, the standard deviation for ROA was 4.0% which small, means the ROA of most insurance company concentrate around the mean value 8.3% from above and below.

As presented in table 4.1, the first explanatory variable of the study, leverage has a minimum value and maximum value of 0.26 and 0.83 respectively. These indicates that there is a general insurer companies with the maximum leverage or the ratio of total liabilities to total asset is 0.83 and a general insurer with as minimum as 0.26 ratio of total liabilities to total asset during the review period. Yet, the ratio of total long term liabilities to total asset has dispersed by standard deviation of 0.41 from its mean value 0.61. The average value of leverage 0.61 indicates 61% of the total asset general insurers companies were financed by debt and they use uses debt financing than equity for their financing purpose.

The liquidity ratio is used as another indicator determinants financial performance of general insurance companies in this study. It is computed by dividing total current assets to total current liabilities. As presented in table 4.1 above its liquidity has mean and standard deviation of 1.37 and 0.52 respectively. This implies that moderate deviation of liquidity ratio across the mean value insurance companies of is 0.52. The overall maximum and minimum value for liquidity ratio is 3.35 and 0.37 respectively. In past five year highly liquid company has 3.35 liquidity ratios and company struggle with liquidity problem has 0.37 liquidity ratio.

One of the macroeconomic variables employed in this study, the average inflation rate of the country over the past five years was 10.2%. The maximum inflation was recorded in the year 2018 which is 16.8% and the minimum was in the year 2015 it was about 7.5%. The rate of inflation was dispersed over the periods under study towards its mean with standard deviation of 3.25 %. This implies that inflation rate in Ethiopia during the study period was somehow little stability which may have little effect on the insurance companies financial performance.

Management competence index of insurers during the selected period has 0.486 standard deviation and mean value 6.54. Maximum and the minimum value of management competency index is 4.33 and 7.35 respectively. This implies that the most effective manager generates profit of 22,387,211 Birr and the poorly performed manager generates profit of Birr 21, 3798. In addition for past five year on average a manger helped the insurance company to create profit of Birr 10^{4.33}. The standard deviation of 0.486 is small and indicted the performance of most of managers are similar and close to the mean value.

Market share is the only industry specific factor used in this study to analyst its effect on the financial performance of insurance company. It is measured by ratio of company gross premium to total gross premium of the industry. In the study period the least performed company has market share of 0.1% and highest market share achieved by one company was 37.4%. This shows very wide difference range of market share of insurance company, this may due to some of insurance company are new for market and this high range difference may affect the performance of insurance company in Ethiopia. The standard deviation of each insurance company's market share is equal to 0.78 this implies that market share of Ethiopian insurance

companies deviate from period to period across insurance companies by the stated amount from both side the mean.

One of macroeconomic variable used in this study is GDP growth, as presented on the table 4.1, the average real GDP growth rate of the country's economy over the past 5 years is 9.3%. The maximum and minimum growth of the economy was recorded and reported during the year of 2014 to 2018 which is 7.7% and 10.4% respectively. The table 4.1 also presents small percentage of the standard deviation which is 1% for GDP. The value of GDP across insurance companies is the same and there is no deviation in value of GDP across the companies.

One of firm specific variable used in this study investment ratio, it is computed by dividing investment to total asset. As presented in table 4.1 above its investment ratio has mean and standard deviation of 14% and 10% respectively. This implies that moderate deviation of liquidity ratio across the mean value insurance companies of is 10%. The overall maximum and minimum value for investment ratio is 0.4% and 55% respectively. In past five year highly invested company has 55% investment ratios and company which is new and less participation in the investment has 0.4% investment ratio.

Size of company which are also another variable of the study, as presented on the table 4.1 has an average mean value of 457,088,189 which clearly displays the average. The maximum and minimum size of company was recorded and reported during the year of 2014 to 2018 which is 24,547,089 and 4,466,885,921 respectively. The table 4.1 also presents large percentage of the standard deviation which is 0.46%. This shows that there is large variation across the insurance companies in Ethiopia for the past five years. Hence, the highly deviated size may have significant impact on the financial performance of insurance firms in Ethiopia as this reflected in our regression result.

4.2 Correlation Analysis

Correlation is the degree of linear association between two variables. The values of the correlation coefficient (r) are always lies between positive one and negative one. The most widely used type of correlation coefficient is Pearson(r) which is also called linear or product moment correlation. The correlation values are derived from the Pearson correlation of two tailed

significance. When correlation positive one and negative one means that there is a perfect positive and perfect negative relationship between the two selected variables respectively. On the other hand, a correlation coefficient of zero indicates that there is no linear relationship between the two variables. The table below shows correlation matrix with the top values displaying the Pearson correlation coefficient between all pairs of variables and the asterisk beside the pearson correlation coefficient showing the two tailed significance of these coefficient. Observing the pattern of the correlation between the explained and explanatory variables, it is however deduced that six of the variables correlate perfectly while two of them are not highly correlated.

Table 4.2 shows the correlation between the dependent variable which is Return on assets (ROA) and independent variables which are leverage, liquidity, management competency index, investment ratio, company size, market share inflation and GDP.

Table 4.2 Correlation Matrix Table

pwcorr ROA LVR LQR INFR MCI MRS IVR GDPr SZC, sig star (0.1)										
	ROA	LVR	LQR	INFR	MCI	MRS	IVR	GDPr	SZC	
ROA	1.0000									
LVR	0.0946 0.3891	1.0000								
LQR	0.0142 0.8972	0.3046* 0.0046	1.0000							
INFR	0.0075 0.9454	0.0080 0.9421	0.1070 0.3296	1.0000						
MCI	0.6098* 0.0000	0.0289 0.7931	0.0230 0.8343	0.1204 0.2723	1.0000					
MRS	0.5657* 0.0000	0.0320 0.7713	-0.1090 0.3208	0.0337 0.7596	0.5206* 0.0000	1.0000				
IVR	0.1753* 0.0885	0.0037 0.9732	0.0166 0.8805	0.0272 0.8050	0.0267 0.8081	-0.0402 0.7150	1.0000			
GDPr	0.1883* 0.0844	0.1036 0.3453	-0.0273 0.8042	-0.4587* 0.0000	-0.1570 0.1513	-0.0282 0.7980	-0.0051 0.9630	1.0000		
SZC	0.3629* 0.0006	0.0372 0.7353	-0.0656 0.5510	0.2430* 0.0250	0.7842* 0.0000	0.5747* 0.0000	-0.0012 0.9910	-0.3271* 0.0022	1.0000	

Source: output of STATA

From the above table 4.2 we can conclude that, at 0.1 levels of significances, the explanatory variables management competency, Market share, company size, leverage, GDP and investment ratio are significant and positive correlation with ROA. Liquidity and inflation are not significant correlation with ROA. The result of correlation matrix shows the highest positive percentages are management competency index and Market share measured as ratio of premium to total gross

premium of the industry. The coefficient of correlations between management competency index and financial performance of insurance firms is 0.61. This implies that management competency index is positively related to financial performance up to the tune of 61%. The result therefore revealed a direct relationship between management competency index and return on asset.

Analysis of market share shows that correlation coefficient of 0.57 which is significant at 1% significant level. The variable is positively and significantly correlated with financial performance of insurance firms in Ethiopia. This implies that the market share insurance company increase, the financial performance also increases and the relationship is significant at 1% level of significance.

There is positive correlation between ROA and company size with correlation coefficient of 0.36 which is significant at 5% significant level. ROA has correlation with explanatory variables GDP, investment ratio, inflation, leverage and liquidity which are correlation coefficient of: 0.21, 0.19, 0.18, 0.09 and 0.01 respectively. The correlation coefficient of GDP and investment ratio are significant at 10% level of significant, But the correlation between ROA and liquidity and inflation are insignificant at 10% of significant level. Finally, the result of correlation matrix shows from correlation coefficient of dependent and independent variables the lowest correlation is existed between ROA and liquidity.

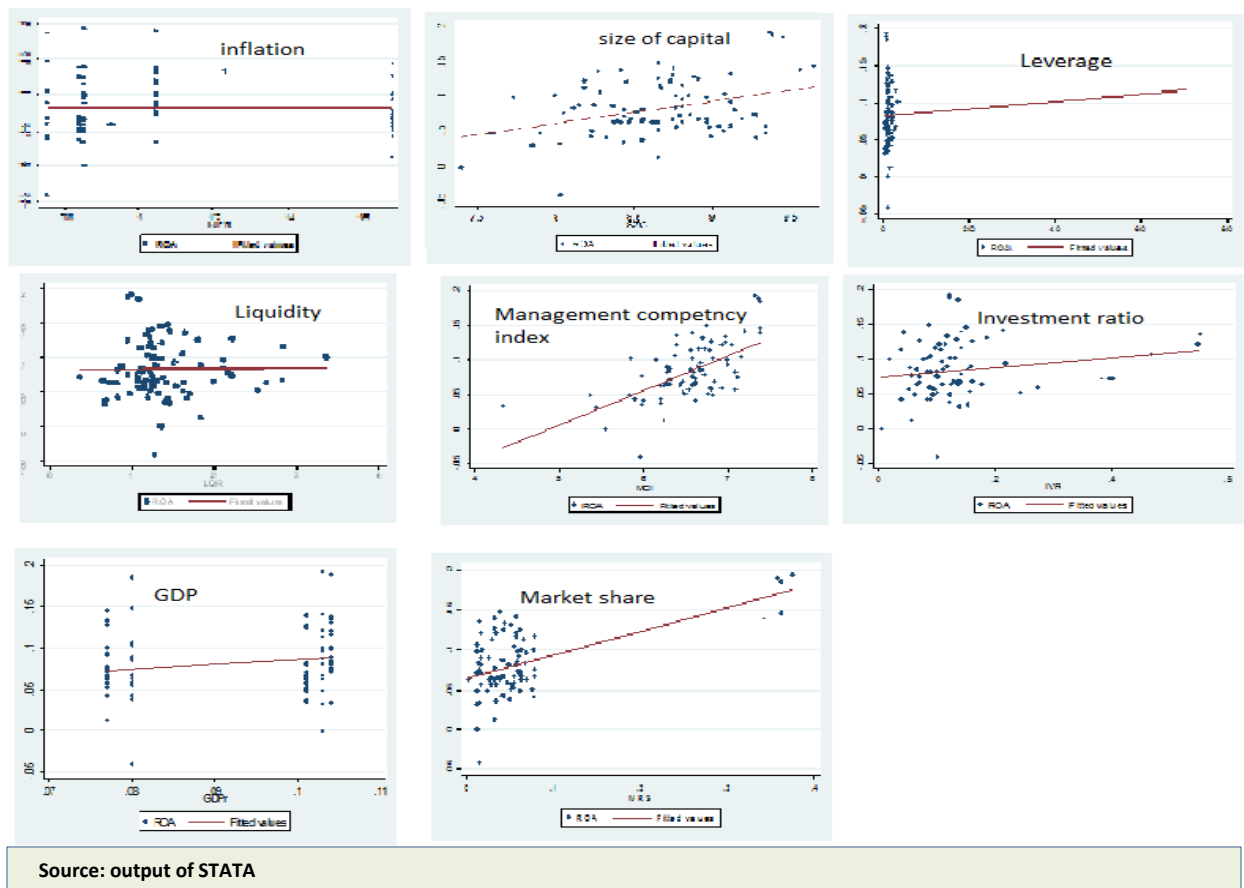
4.4 CLRM assumptions and Diagnostic tests

The diagnostic tests were undertaken to ensure that the assumptions of classical linear regression model are concerned, the coefficient estimators of both α (constant term) and β (independent variables) that are determined by ordinary least square (OLS) will have a number of desirable properties and usually known as Best Linear Unbiased Estimators (BLUE). The diagnostic test is made in order to make sure that the classical linear regression model assumption is violated or not. Therefore, in this study, an attempt is made to check by testing error term have mean value zero value, Heteroscedasticity, Autocorrelation, Normality and Multicollinearity. The result of tests applied for CLRM Assumptions presented and discussed on the following section.

4.3.1 Test of linearity

According to Mool (2014), The first assumption explains about relationship between an independent variable and the dependent variable should have linear, As long as you write a model where the regression parameters (the β s) are linear, you satisfy this assumption. Checking the linearity between dependent variable and independent variables can be done by plotting the independent variables against the dependent variable. Using a scatter plot, we can then assess whether there is some type of non-linear pattern.

Graph 4.1 scatter plot diagram



From the above graph 4.1, the scatter plot graph line show straight line for each independent variable, this implies that the relationship between the dependent and independent variables are linear.

4.3.2 The Errors have zero mean

According to Brooks (2008), the second assumption of CLRM required that the average value (not expected) value of the error term is zero. If we do not expect the sum of the errors to be zero, we obtain a line that is biased. That is, we have a line that consistently over or under estimate the true relationship. If the constant term is included in the regression equation, the assumption will not be violated and if the regression did not include an intercept and the average value of the errors was non-zero. Thus, since the regression model used in this study included a constant term, this assumption was not violated.

The errors have zero mean $E(u_t) = 0$.

4.3.3 Tests of Heteroscedasticity

According to Brooks (2008), it has been assumed that the variance of the disturbance is constant. This is known as the assumption of homoscedasticity. If we estimate regression models on data in which the variance is not constant, they will still result in errors that are zero on average (i.e., our predictions are still correct), but this may cause some independent variables not to be significant, whereas, in reality, they are. If the errors do not have a constant variance, they are said to be heteroscedastic. To test for the presence of heteroscedasticity, the popular white test and Breush and pagan test employed.

The hypothesis for testing the presence of Heteroscedasticity:

H0: There is no Heteroscedasticity

H1: There is Heteroscedasticity

Table 4.3 white's test for Heteroscedasticity result

White's test for H_0 : homoskedasticity
against H_a : unrestricted heteroskedasticity

chi2(44) = 54.29
Prob > chi2 = 0.1376

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	54.29	44	0.1376
Skewness	7.12	8	0.5236
Kurtosis	2.65	1	0.1033
Total	64.06	53	0.1419

Source: output of STATA

Table 4.4 Breush and pagan test for Heteroscedasticity result

Breusch and Pagan Lagrangian multiplier test for random effects

ROA[number,t] = $Xb + u[\text{number}] + e[\text{number},t]$

Estimated results:

	Var	sd = sqrt(Var)
ROA	.0016158	.0401972
e	.0005565	.0235894
u	.0001507	.0122774

Test: $\text{Var}(u) = 0$

chi2(1) = 1.77
Prob > chi2 = 0.1832

Source: output of STATA

As indicated in the above, in both tests of white's test and Breush - pagan lm test with P-values of these test statistics 0.1376 and 0.1832 subsequently are considerably in excess of 0.05, based on this statistic result we fail to reject the null hypothesis that indicated model is homoscedastics. Therefore, we can conclude that the variance of disturbance term is constant and there is no Heteroscedasticity problem.

4.3.4 Test for auto correlation

According to Gujarati (2004), autocorrelation is correlation between members of series of observations ordered in time as in time series data or space as in cross-sectional data. The classical linear regression model assumes that the disturbance term relating to any observation is not influenced by the disturbance term relating to any other observation. Which means the covariance between the disturbance terms over time is zero. In other words, it is assumed that the disturbances are uncorrelated with one another. If the disturbances are not uncorrelated with one another, it would be stated that they are “autocorrelated” or that they are “serially correlated”. To test this assumption the Breush-Godfrey LM test for panel data was applied.

Hypothesis to test serial correlation:

H0: There is no autocorrelation

H1: There is autocorrelation

Table 4.5 the result of Breusch-Godfrey test result:

Breusch-Godfrey LM test for autocorrelation

lags(<i>p</i>)	chi2	df	Prob > chi2
82	84.000	82	0.4180

H0: no serial correlation

Source: output of STATA

The Bgodyfrey test of autocorrelation for 85 observations panel data statistics from the table indicates that the p value of 0.418, which is greater than 0.05. So, we fail to reject the null hypothesis hence the researcher conclude there is no autocorrelation problem in model.

4.3.5 Test for Normality

The classical linear regression model (CLRM) assumes that each residual is distributed normally with zero mean and constant variance (Brooks, 2012). If the residual are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. This

means that the p-values given at the bottom of the normality test screen should be greater than 0.05 to not reject the null hypothesis of the normality at the 5% level (Brooks, 2012).

The hypothesis of normality test is presented as follows:

H0: The residuals are normally distributed.

H1: The residuals are not normally disturbance

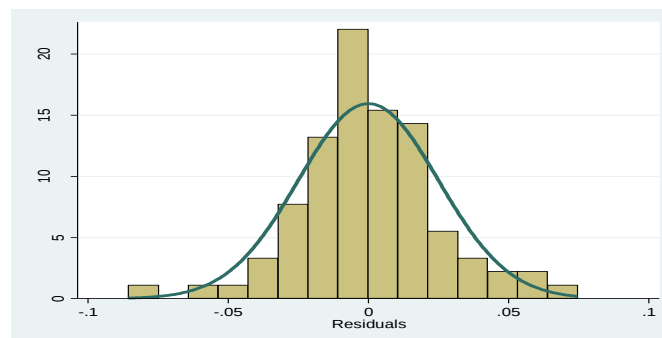
Table 4.6 the result of Jarque-Bera normality test

```
. jb resi
Jarque-Bera normality test:  2.926 Chi(2)  .2315
Jarque-Bera test for Ho: normality:
```

Source: output of STATA

The result of Jarque-Bera normality test for this study as shown above table 4.6, statistic has a chi(2) value of 0.2315 which is considerably greater than p value of 0.05, then the study failed to reject the null hypothesis of normality at the 5% significance level. This implies that the residual is normally distributed and the data is consistent with a normal distribution assumption.

Graph 4.1 Histogram graph



Source: output of STATA

In addition to the formal tests for normality, we also examined the data graphically through histogram. The condition is that when a histogram's shape approximates a bell-curve it suggests that the data may have come for a normal population. In this case the graph 4.1 shows the graph

has bell-curve and the researcher conclude that the residuals appears to be reasonably normal distributed.

4.3.6 Multicollinearity Test

According to Gujarati (2004), multicollinearity is other very important assumption of the classical linear regression model that test existence of multicollinearity among the explanatory variables. Multicollinearity exists when one independent variable is correlated with another independent variable and also one Independent variable is correlated with a linear combination of two or more independent variables (Gujarati D, 2004). If there is correlations among the independent variables are strong, it misleadingly inflates the standard errors. Thus, it makes some variables statistically insignificant while they should be otherwise significant. According to Gujarati, (2004) multicollinearity could only be a problem if the pair-wise correlation coefficient amongst repressors is above 0.80. In addition, (Hair JF, 2006) argued that correlation coefficient below 0.9 may not cause serious multicollinearity problem. Therefore, the correlations between the variables in the study models are provided in table 4.7 below.

Table 4.7: Correlation Matrix

```
. corr LVR LQR INFR MCI MRS IVR GDPr SZC
(obs=85)
```

	LVR	LQR	INFR	MCI	MRS	IVR	GDPr	SZC
LVR	1.0000							
LQR	-0.4179	1.0000						
INFR	-0.0327	0.1070	1.0000					
MCI	0.1527	0.0230	0.1204	1.0000				
MRS	0.5122	-0.1090	0.0337	0.5206	1.0000			
IVR	-0.2171	0.0166	0.0272	0.0267	-0.0402	1.0000		
GDPr	0.1351	-0.0273	-0.4587	-0.1570	-0.0282	-0.0051	1.0000	
SZC	0.2645	-0.0656	0.2430	0.7842	0.5747	-0.0012	-0.3271	1.0000

Source: output of STATA

As exhibited in the above table 4.6, since the highest correlation coefficient is 0.78 between size of company and management competency index, it can be concluded using the rule of both Gujarati, (2004) and Hair JF (2006), that all variables have low correlation power, which is

below 0.8 implies no multicollinearity problem in the explanatory variables of this study. If there is no relationship between the explanatory variables (independent variable), they would be said to be orthogonal to one another. If the explanatory variables were orthogonal to one another, adding or removing a variable from a regression equation would not cause the values of the coefficients on the other variables to change (Chris B, 2008).

Table 4.8: variance inflation factor result

. vif

Variable	VIF	1/VIF
SZC	3.50	0.286049
MCI	2.84	0.351888
MRS	2.02	0.495300
LVR	1.88	0.532425
GDPPr	1.48	0.676672
INFR	1.32	0.759576
LQR	1.28	0.781780
IVR	1.07	0.932683
Mean VIF	1.92	

Source: output of STATA

Multicollinearity can also treat using variance inflation factor (VIF). The VIF for the given independent variable indicates how correlated with other independent variables. For most of financial sectors VIF cutoff of is 10, each variable that has a VIF higher than 10 is considered to be multicollinear and is dropped from the model. The result of VIF in above table 4.7 indicates all independent variables have VIF which is below 10, since VIF of all variables are even below 4, we can conclude that there is no multicollinearity problem.

4.4 Model specification

OLS estimate, fixed effect and random effect Econometrics model for panel data can be used to examine the impact of independent variable on dependent variable. The data collected from secondary sources is panel data, so regression model which should be OLS or fixed-effects or random-effect model. To identify the appropriate model for study, the first choices was done between random and fixed model, then OLS model compared with the result of the previous comparison. The study used Hausman Specification Test to identify whether fixed effect or random effect model is appropriate for study.

Table 4.9 Result of model selection Test: Hausman test of fixed random

. hausman fixed random

	Coefficients			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
LVR	.0045296	.0017358	.0027938	.002712
LQR	.0038231	.0021604	.0016628	.0054139
INFR	.1386195	.1263589	.0122606	.0238325
MCI	.0316882	.0478333	-.0161451	.0074302
MRS	.1387046	.2263639	-.0876593	.2375513
IVR	.0961897	.0748404	.0213493	.0520982
GDPPr	.6900331	.7739257	-.0838926	.1095409
SZC	-.0248711	-.028168	.0032969	.0100269

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)
= 6.66
Prob>chi2 = 0.5738

Source: output of STATA

Therefore, the hypothesis employed for Hausman specification test is:

H0: Random- effect model is appropriate

H1: Fixed-effect model is appropriate

As shown in Table 4.10, the Hausman specification test for this study has a p-value of 0.6210 for the regression models. This indicates that p-value is not significant and then the null hypothesis is not rejected justifying as random effect model is appropriate for the given data set in this study.

Then additional test called Breusch-Pagan Lagrange multiplier test used to decide between random effect model and simple OLS regression. It gives details of major existing variation among units. In case of no variability across units, simple OLS regression is employed than random effect model. In case of major variation in units then panel data models (fixed effect model, random effect model or between effect model) is used.

Therefore, the hypothesis employed for Breusch and Pagan lagrangian multiplier test is:

H0: The simple OLS model is adequate

H1: The simple OLS model is not adequate

Table 4.10 Result of model selection Test: Breusch and Pagan lagrangian multiplier test

Breusch and Pagan Lagrangian multiplier test for random effects

$$ROA[\text{number},t] = Xb + u[\text{number}] + e[\text{number},t]$$

Estimated results:

	Var	sd = sqrt(Var)
ROA	.0016158	.0401972
e	.0005565	.0235894
u	.0001507	.0122774

Test: $\text{Var}(u) = 0$

chi2(1) = 1.77
Prob > chi2 = 0.1832

Source: output of STATA

The LM test helps you decide between a random effects regression and a simple OLS regression. Here we failed to reject the null since p value greater than 0.05 and conclude that random effects is not appropriate. This is, no evidence of significant differences across insurance companies, therefore you can run a simple OLS regression.

4.5. Regression Analysis

This section presents the overall results of the regression analysis on the determinants of Ethiopian insurance companies' financial performance. In this study ROA were used as proxy for financial performance.

4.5.1. Regression Result

As indicated above test of assumptions have been conducted by using different techniques, this can assure the researcher that the data used is free of any problem. Thus, the researcher employs OLS multiple regressions to predict the magnitude and the direction of each explanatory variables impact on the dependent variable. In this regression analysis the dependent variable is ROA while the independent variables are Leverage ratio, Liquidity ratio, Inflation rate,

Management competency index, Market share, and investment ratio, Size of capital and GDP growth rate. The regression equation estimated as follow:

$$ROA_{it} = \beta_0 + \beta_1 Lvr_{it} + \beta_2 Lqr_{it} + \beta_3 Infr_{it} + \beta_4 Mci_{it} + \beta_5 Mrs_{it} + \beta_6 Ivrr_{it} + \beta_7 GDP_{it} + \beta_8 Szc_{it} + \varepsilon_{it}$$

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ and β_8 = Coefficients of independent variables

I = Insurance company and $i = 1, 2, 3, \dots, 17$

T = The index of time periods and $t = 1, 2, 3, \dots, 5$

$\varepsilon_{it} = a_i + u_{it}$ when a_i all un observed, time constant factor that affect ROA_{it}
 u_{it} is often called the idiosyncratic error or time-varying error

Table 4.11 Result of regression

. reg ROA LVR LQR INFR MCI MRS IVR GDPr SZC

Source	SS	df	MS			
Model	.083165771	8	.010395721	Number of obs =	85	
Residual	.052563006	76	.000691619	F(8, 76) =	15.03	
				Prob > F =	0.0000	
				R-squared =	0.6127	
				Adj R-squared =	0.5720	
Total	.135728777	84	.001615819	Root MSE =	.0263	

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LVR	.0002728	.0004006	0.68	0.498	-.000525	.0010706
LQR	-.0003875	.0059866	-0.06	0.949	-.0123109	.0115358
INFR	.1264848	.100992	1.25	0.214	-.0746582	.3276278
MCI	.0592433	.0098717	6.00	0.000	.0395822	.0789044
MRS	.2216068	.0465396	4.76	0.000	.1289152	.3142984
IVR	.0675112	.0282256	2.39	0.019	.0112951	.1237273
GDPr	.7532727	.2871384	2.62	0.011	.181387	1.325158
SZC	-.0350952	.0117249	-2.99	0.004	-.0584474	-.011743
_cons	-.1059258	.0853078	-1.24	0.218	-.2758311	.0639794

Source: output of STATA

Table 4.11 shows the results of the independent variables from the random effect regression model and the overall model is very strongly significant (P-value = 0.0000) with adjusted R² is about 61.3 %. This indicates that the variables which were considered in the study are capable of explaining about 61.3 percent of the variation on the insurer's financial performance. The reset

38.7 percent explained by others variables which are not included in the study. Result also shows that about five of the independent variables like management competency index, market share, investment ratio, GDP and size of company significant effect on performance of insurance company. Furthermore, the main findings of the study regarding the factors that affects the financial performance of insurance companies are discussed below.

The null hypothesis of F-statistic (an overall test of significance) is that all the coefficients of independent variables equal to zero. The F-statistic (0.00000) is significant at 1% significance level which implies that indicates that financial performance and its related factors selected in the study is adequately fit the model and explanatory variables are jointly significant. This implies that, All the explanatory variables have jointly statistically significant impact on the financial performance of general insurance business in Ethiopia and there is 99.9% probability that the relationship among the variables is not due to mere chance. The random effect estimation regression result in the above table shows that, coefficient intercept (α) is -0.1059258. This means, when all explanatory variables took a value of zero, the average value ROA would take -0.1059258.

As the above result shows the coefficient of leverage ratio is positive 0.0002728 and statistically insignificant with p-value of 0.498 which is higher than 0.05. This show there is Insignificant a positive association between leverage and ROA. The above table depicted that, the coefficient of liquidity measured by current assets to current liability is -0.0003875 and its P-value is 0.949. There is insignificant negative relationship between liquidity and return on asset (ROA) of Ethiopian insurance companies. The coefficient of inflation 0.1264848 was positive, but it was not statistically significant p-values 0.214. The regression coefficient is management competency index was 0.0592433 and p-value of 0.000. The result suggested positive and significant relationship between ROA and management competency index. The coefficient of market share is positive 0.2216068 and statistically significant with p-value of 0.000 which is below 5% which is also significant even 1% significant level. The coefficient of Investment ratio is 0.0675112 and statistically significant at 5% significance level with p-value of 0.025 which is lower than 0.05. The coefficient of GDP is positive 0.7532727 and statistically significant at 5% significance level with p-value of 0.011 which is lower than 0.05. The regression result of the study

revealed that there exist a significant and negative relationship between company size and financial performance of insurance companies in Ethiopia with a regression coefficient of - 0.0350952 and p-value of 0.004.

4.6 Discussion of Research Findings

Discussion of findings is focused on the result of the above multiple regression result table and based on the result the effect of each explanatory variable on the financial performance of insurance companies in Ethiopia are discussed in the following part.

Leverage

Leverage is measured by debt to equity ratio. Leverage considers the capital structure of the firm and the evaluation of the relative risk and return associated with long term debt and equity. The coefficient of leverage ratio is positive 0.0002728 and statistically insignificant with p-value of 0.498 which is higher than 0.05. This implies that Using standardized coefficient and holding all other factors constant, a 1% increase in leverage of insurance firms in Ethiopia lead to on average a 0.02% increase in their financial performance, but the increase is insignificant. Hence the result is inconsistent with the hypothesis of the study but consistent with the correlation analysis. A positive and insignificant association between debts to equity ratio and financial performance implies that insurance companies in Ethiopia over the period of the study (2014 to 2018) were not significantly affected as a result of whether increasing or decreasing the level of leverage ratio. This result is against the finding of previous researches; Hana (2015), Mahari and Amero (2013) and Behaylu (2017), they concluded leverage ratio and profitability or financial performance of the firm have a positive relationship. empirical result of this study is, however, similar with those findings which were obtained by scholars such as Muhammed (2012), Hifza (2011), Derbali (2014), Bawa & Chattha (2013), Kamrul and Firoja (2013).

Liquidity

Liquidity is measured by current asset to current liability ratio. The above table depicted that, the coefficient of liquidity measured by current assets to current liability is -0.0003875 and its P-value is 0.949. There is insignificant negative relationship between liquidity and return on asset (ROA) of Ethiopian insurance companies. Hence the result is inconsistent with the hypothesis of the study but consistent with the correlation analysis result of this study which shows poor correlation (9%) between ROA and liquidity. Therefore, the researcher rejects the null hypothesis that there is significant negative relationship between liquidity and ROA.

This insignificant relationship between liquidity and financial performance can be analyzed in to two dimensions. The first is when the insurance have low liquidity ratio and this has not significant effect on their performance, this is may be due to insurance companies needs cash or being liquid to pay claims of customer, employee salary and other miscellanies expenses, but the major portion of cash payment is for paying claims. When insurers' sales policy they collect cash immediately and they pay claims the paying process takes long period so it not significant effect of their paying ability which means their liquidity. On the other hand; an extremely higher ratio would mean that the insurance company has kept excess liquid assets inactive and hence losing income from a variety of investments, the regression result shows there is no significant difference, whether this accumulated cash are invested of deposited in bank, this may be due to there is not different varieties of short term and long term investment options in Ethiopia and the return of available investments are not that much difference from the deposit interest income for insurance companies.

Using standardized coefficient and holding all other factors constant, a 1% increase in liquidity of insurance firms in Ethiopia lead to on average a 0.04% decrease in their financial performance. But as we see the reduction in performance is very little and insignificant. This means, there is no sufficient evidence to support the negative relationship between liquidity and ROA. The negative coefficient indicates that an increase in the liquidity of insurance companies have a decrease on financial performance even though the impact is found to be insignificant. The result is consistence with previous studies which

found a positive relationship between liquidity and ROA, for instance, hadush (2015), Hana (2012), Mirie and Jane (2015) and Nikhel B. et, al (2015).

Inflation

The inflation could affect insurance companies' financial performance influencing both their liabilities and assets. In expectation of inflation, claim payments increases as well as reserves that are required in anticipation of the higher claims, consequently reducing technical result and profitability. The coefficient of inflation 0.1264848 was positive, but it was not statistically significant p-values 0.214, thus the effect of inflation on Ethiopian insurers' financial performance is not significant. This implies that using standardized coefficient and holding all other factors constant, a 1% increase in inflation of insurance firms in Ethiopia lead to on average a 12% increase in their financial performance, but the result is not statistically significant at 5% significant level. Hence the result is inconsistent with the hypothesis of the study and the findings of Meaza (2014), Hana (2015), Teklit & Jasmindeep (2016), Asrat and Tesfahun (2016), Andres & Stephen (2017) and Behaylu (2017) they found negative and significant relationship with profitability/financial performance of insurance companies. So, the researcher rejects the null hypothesis that there is negative and significant relationship between inflation and ROA, since it is inconsistent with the regression result of the study.

From the actual result one can conclude that inflation do not have influence on Ethiopian insurance companies' financial performance since the study could not get enough statistical result that support negative and significant relationship between inflation and ROA. This result is also consistent with findings by Tariku (2017), Andres C. (2017), Godfrey (2012), and Hadush G. (2015) who found insignificant positive relationship between inflation and ROA.

Managerial competency index

As it can be seen from table 4.11 managerial competency index as measured by the log of ratio of profit to the total number of top management team is statistically significant at 1 percent and 5 percent significant level with ROA. Which means managerial competency

have great contribution to improve the financial performance of insurance companies in Ethiopia. The regression coefficient is 0.0592433 and p-value of 0.000. Hence the results are consistent with the hypothesis of the study and correlation analysis. The standardized coefficient of management competency index shows that, all other factors remaining constant, an increase in management competency index by 100 leads to an increase in return on assets by 6%. The result suggested that the insurance companies should focus on competency of management team. When the capabilities' of management team increase, it leads to performance of the company to increase. This may be due to this professional helps the insurance company in management of risks, finding and creating investment options and also efficient use of resource and working capital management. The result is similar with the findings of Almajali (2012) and Wangugu (2012) they conclude management competency index has a strong influence on the profitability

Market Share

Market share is industry specific variable measured by Ratio of an insurer's total gross premium to the total gross premium of industry. The coefficient of market share is positive 0.2216068 and statistically significant with p-value of 0.000 which is below 5% which is also significant even 1% significant level. Hence the results are consistent with the hypothesis of the study and correlation analysis. The positive relationship between market and ROA shows that there is a direct relationship between market share and financial performance of Ethiopian insurance companies' proxy by ROA. The standardized coefficient of management competency index shows that, all other factors remaining constant, an increase in market share by 1% lead to an increase in financial performance of insurance company by 23%. This is due to the fact that the higher market share gives the insurance companies the chance to utilize economies of scale to reduce costs and give insurance companies more power to set price. This positive relationship is expected and the result is consistence with previous studies by Tariku (2017), Gale (1972), Chen-Ying Lee (2014) which found a positive relationship between the market share and ROA.

Investment ratio

Investment ratio is measured by the Ratio of investment to total asset. The coefficient of Investment ratio is 0.675112 and statistically significant at 5% significance level with p-value of 0.025 which is lower than 0.05. Hence the results are consistent with the hypothesis of the study and correlation analysis. The standardized coefficient of investment ratio shows that, all other factors remaining constant, an increase in investment ratio by 1% leads to an increase in return on assets by 7%. This implies that insurance companies which has more allocated there available resources to productive investments, the higher the expected financial performance. The research finding is consistence with previous studies which were conducted in other countries and found a positive and significant relationship between ROA and financial performance, which are Burca and Batrinca (2014), Shiu (2004), Lee (2014), and Boyjoo and Ramesh (2017).

Gross Domestic Product

GDP is the most important macroeconomic indicator of progress in economic development. GDP is measured by the growth in gross domestic products of the country. The coefficient of GDP is positive 0.7532727 and statistically significant at 5% significance level with p-value of 0.011 which is lower than 0.05. Hence the results are consistent with the hypothesis of the study and correlation analysis. The standardized coefficient of Gross domestic product shows that, all other factors remaining constant, an increase in domestic product by 1% leads to an increase in financial performance of insurance company by 75%. The significant positive coefficient of the variable signifies that economic growth and financial performance are highly directly related, i.e. economic growth can facilitate the performance of insurance companies mainly through increasing the need for financial services, thereby increasing insurers' cash flows and profit margins. Whenever the economy gets prosperous, then the need for insurance service will definitely increase and this can ultimately results in high return or profit margin to the insurers. The finding of this study is congruent with Tariku (2008), Murungi (2014), Doreen (2013), and Lee (2014).

Company Size

Company size is computed as logarithm of total assets of the insurance company. The regression result of the study revealed that there exist a significant and negative relationship

between company size and financial performance of insurance companies in Ethiopia with a regression coefficient of -0.0350952 and p-value of 0.005. Hence the results are consistent with the hypothesis of the study and correlation analysis. The standardized coefficient of size shows that, all other factors remaining constant, an increase in size by 100 leads to a reduction on average return on assets by 3.5. This means that bigger insurance firms may be inefficient and their size does not give them a comparative advantage for improving their performance. The negative effect of firm size is inconsistent with our a priori expectation. This implies that for every one unit increase in firm size, the ROA reduce by on average of 3.5%. This may be as a result of diseconomies of scale suffered by insurance firms due to uncontrolled increased size. Majumdar (1997) opined that as firms becomes larger; they might suffer from inefficiencies leading to inferior financial performance. The findings contradict the resource based theory which articulates a positive and significant relationship between firm size and financial performance of a firm.

The regression result of this study is similar with the finding of Lee (2014), Cummins and Nini (2002), Kazeem (2015), Derbali (2014) and Mwangi and Murigu (2015) whose found that company size negatively related to insurance company's performance/profitability.

Table 4.12: Summary and comparison of hypothesized test and actual impact

Dependent variable		ROA		
Explanatory variables	Expected relationship	Actual relationship	Statistical significance Test	Hypothesis status
Leverage ratio	Negative	Positive	insignificant	Reject
Liquidity ratio	Negative	Negative	insignificant	Reject
Inflation rate	Negative	positive	insignificant	Reject
Management competency index	Positive	Positive	Significant 1%	Failed to reject
Market share	Positive	Positive	Significant 1%	Failed to reject
Investment ratio	Positive	Positive	Significant 5%	Failed to reject
GDP growth rate	Positive	positive	significant	Failed to reject
Size of capital	Positive	Negative	Significant 5%	Failed to reject

Source: compiled by researcher regression result

As shown from the above summary table 4.12 the independent variables: leverage, liquidity, inflation and Size of capital were deviated from the expected results. Therefore, the researcher rejected the null hypothesis of leverage, liquidity, and inflation. Liquidity has also insignificant effect on ROA. This may be due to the fact that more liquid insurance repaying to policy holders when loss occurred very without difficulty. This may attracts other external customer to buy policies and increase the premium collected. So this will improve the performance of the insurance company. This explains that the more external financing firms will use then the financial performance of the firm improved. Therefore, the researcher rejected the null hypothesis of leverage, liquidity, and inflation.

The regression result of inflation is deviate from the researcher expectation. The researcher expected negative relationship but the result is positive and insignificant relationship between inflation and ROA. While this is due to the reason of transferring effect which implies as inflation increases insurance companies forced to raise their premium in order to maintain their profit margin. Therefore, the researcher rejected the null hypothesis of leverage, liquidity, and inflation.

Company size is the other variable which has inverse relationship with ROA and the researcher fails to reject the null hypothesis due to the fact that company size has statistically significant relationship with Ethiopian insurance companies' financial performance.

Chapter five

5 Summary, Conclusion and recommendation

5.1 Summary and findings

The study specified an empirical framework to examine the firm specific, industry specific and macroeconomic factors affecting financial performance of insurance companies as measured by ROA. Financial performance was proxed by ROA. Explanatory methods of research used to determine the relationship between financial performance of insurance companies and the selected internal as well as external industry and macroeconomic factors. As internal factors, leverage, liquidity, management competency index, investment ratio company size, as industry specific factor market share and as macro-economic factors, inflation and GDP growth were used as explanatory variables in the study. The study used secondary quantitative panel data during the period 2014-2018 and includes all insurance companies operates in Ethiopia. Descriptive statistics, correlation analysis and OLS regression analysis were performed to describe the financial performance of insurance companies among insurance companies. Based on analysis the major summary of the study findings are presented below:

- The descriptive analysis shows that the mean of return on assets for insurance firms was 0.08. The mean value leverage was 1.8, mean value liquidity was 1.34, mean value management competency index was 6.53, mean value investment ratio was 0.14, mean value company size 8.67, mean value inflation was 0.1 and mean value GDP growth was 0.09.
- The correlation matrix showed, the highest correlation between management competency index and ROA which is positive 0.61 the next highest is between market share and ROA which is 0.56. The result also shows positive correlation between ROA and company size with correlation coefficient of 0.36 which is significant at 5% significant level. ROA was correlation with explanatory variables leverage, GDP, investment ratio, inflation, and liquidity which are correlation coefficient of: 0.21, 0.19, 0.18, 0.08 and 0.01 respectively. But the correlation between ROA and explanatory variables leverage, inflation and liquidity are insignificant at 0.1 level of significance.

- The coefficient of leverage ratio is positive 0.0002728 and statistically insignificant with p-value of 0.498 which is higher than 0.05.
- The coefficient of liquidity measured by current assets to current liability is - 0.0003875 and its P-value 0.949 which implies insignificant negative relationship between liquidity and return on asset (ROA) of Ethiopian insurance companies.
- The coefficient of inflation positive 0.1264848, but it was not statistically significant p-values 0.214, thus the effect of inflation on Ethiopian insurers' financial performance is not significant.
- The regression coefficient of management competency index is 0.0592433 and p-value of 0.000 which is significant at 1% and 5% level of significance.
- The coefficient of market share is positive 0.2216068 and statistically significant with p-value of 0.000 which is below 5% which is also significant even 1% significant level.
- The coefficient of Investment ratio is 0.675112 and statistically significant at 5% significance level with p-value of 0.025 which is lower than 0.05.
- The coefficient of GDP is positive 0.7532727 and statistically significant at 5% significance level with p-value of 0.011 which is lower than 0.05.
- The regression result of the study revealed that there exist a significant and negative relationship between company size and financial performance of insurance companies in Ethiopia with a regression coefficient of -0.0350952 and p-value of 0.005.

5.1 Conclusion

- Descriptive statistics, Pearson correlation matrices and random effect regression analysis were performed to describe the determinants of financial performance of insurance companies. The study revealed that the selected variables explained 61.3% of the variability in ROA of insurance companies in Ethiopia. This means the independent variables leverage, liquidity, inflation rate, management competency index, market share investment ratio, company size and GDP growth rate jointly explain about 61.3 percent of the variation in the financial performance of insurance companies.
- The regression coefficient of the company size is negative and statistically significant determinants of financial performance at 5% significance level. This means that bigger insurance firms may be inefficient and their size does not give them a comparative advantage for improving their performance. This may be due to companies' acquiring of machinery, expansion of branches and the implementations of new technologies which increase their total assets in order to increase their profit by underwrite more policies. But not realize their desired results because of inefficient management and other factors. Thus, an increase in assets reduces the financial performance of insurance company which proxy by ROA.
- The regression and correlation analysis suggest that a positive and significant relationship between management competency index and the financial performance of insurance companies. This implies that insurance companies with more professional managers expected to be in a better position of being profitable. This is due, competent managers enable the insurance company effective and efficient use of company resources, investment analysis, assessing and managing the product mix, good market analysis, risk management, better analysis of future threats and taking appropriate action. So, from this we can conclude that competent manager is important for good performance of insurance companies.
- The correlation and regression result of study confirms a positive and highly significant relationship between market share and financial performance of insurance

companies in Ethiopia at 1% significance level. This result implies that, high market share might leads the insurance company to good financial performance, mainly because high market share boosts a firm's market advantage and its ability to set prices sell more policies, which helps the firm to boost profit and achieve economies of scale. Thus, the market share is important factor which helps the insurance company to become financially strong and to improve their performance.

- The regression and correlation analysis result of the study shows there is positive and highly significant relationship between the financial performance of insurance companies and real GDP growth rate. This result implies that when GDP of the country increase then investment of the country will increase and the likelihood of selling insurance policies and investment options for insurance companies also grows and insurers are likely to benefit from that in form of higher profits. So, the GDP is most dominant factor which increase or decrease has considerable effect on the performance of insurance company.
- The coefficient of leverage ratio is positive 0.0002728 and statistically insignificant with p-value of 0.498 which is higher than 0.05. A positive and insignificant association between debts to equity ratio and financial performance implies that insurance companies in Ethiopia over the period of the study (2014 to 2018) were not significantly affected as a result of whether increasing or decreasing the level of leverage ratio. Thus, it can be concluded that insurance companies whether they use debt financing or equity financing to increase total asset or to investment, there is no effect on the financial performance of insurance company.
- The regression result explained there is no significant relationship between inflation and performance of insurance companies at 5% level of significance during study period. This was might due to there is no significant change on inflation of the country from year 2014 to 2018 and also due to the actuarial of the insurance companies consider the inflation when they give policies for client and the client receive fixed predetermined amount when they incurred loss. Thus, the decrease or increase of inflation rate has no effect on the performance of insurance companies in Ethiopia.

- The coefficient of the investment ratio is positive and statistically highly significant determinants of financial performance at 5% significance level. It is reflecting that high investment returns result in a better financial performance for insurance companies. This is due to an increase in investment income will enable to meet unexpected loss and competent in the finance industry. Which results to building confidence to policy holders and it also gives good advantage to attracts others policyholders towards them, which leads to strength financial performance. So, investment ratio is the most determinant factor of the performance of insurance companies in Ethiopia.
- The regression analysis result of the study shows, there is negative and not significant relationship between the financial performance of insurance companies and liquidity ratio. Thus, the financial performances of insurance companies are not influenced by shortage or accumulation of current asset or current liabilities.

5.2 Recommendations

Based on the study finding, the financial performance of Ethiopian insurance companies measured by ROA were affected by both the internal and external factors; i.e. company size, management competency index, investment ratio, market share, growth rate of GDP. Since the management of the insurance companies has control over the company specific (internal) factors, it is possible to improve the performance of the insurers by giving more attention on the identified insurance specific factors such as, management competency index, market share, investments ratio and company size. Therefore, On the basis of the findings of this study, the researcher has drawn the following recommendations.

- The finding of the study implied insurance companies' financial performance highly and positively influenced by their market share. To increase the financial performance of the company the managers needs to increase the market share of the firms. This could be done by opening new branches in different parts of country, by providing new product lines and by making advertisement of service and facilities of

company. So, the expanding of market share leads to the good financial performance, the managers of insurance companies should focus and give attentions to improve the market share.

- GDP is one of the dominant factors which influence the performance of insurance companies. Companies should prepare themselves for the change in economic growth of GDP, even if macroeconomic factors are not controlled by the management. This can be done by preparing financial plans like cash budget, pro-forma balance sheet and income statement this will help Insurance companies to easily adopt the economic changes of the country. So, the manager of the insurance companies' should have knowledge and awareness of the movement of the economic growth of country to benefit favorable change and to protect the organization from unfavorable effect.
- Company size has a negative and significant effect on return on assets. That is an increase in total assets may be by expanding branches, acquiring of asset and adoption of new technologies to underwrite more policies may not achieved their desired results. Thus, the managers of insurance companies should perform a cost benefit analysis prior increase their assets and also each expansion in asset needs effective supervisors follow up and management, since the increase an asset has negative impact on the performance of insurance companies.
- Since, the investment ratio positive effect on financial performance insurance companies. The managers of insurance companies should analyses different investment options and involve in investments in order to increase the firms performance. In the near future there will be beginning of capital market in Ethiopia, this may create good opportunity for firms like insurance company by enhance initiatives to establish new and expand/diversify existing businesses by providing venture capital as well as the flexibility to exit from or simply change investment portfolios and attract a credible volume of foreign direct investment. So, the managers of insurance company should prepare for such opportunity.

- The analysis suggest that a positive and significant relationship between management competency index and the financial performance of insurance companies. It implies that insurance companies with more professional managers expected to be in a better in their financial performance. This may be due to this professional helps the insurance company in management of risks, finding and creating investment options and also efficient use of company resource and working capital management. so, firms should increase managerial competency of the staff though training and other mechanisms as it is positively related to financial performance and The insurance companies also needs to hold qualified and experienced managers by allowing them higher salary and other benefits.

- Since, firm specific factors like company size, management competency index and investment ratio have significant effect on financial performance of the company. Management bodies of insurance companies should attempt to give an emphasis to these factors by analyzing the effect of them when making financial decisions, preparing financial plan and budget by considering the influence of this factors

- Finally, this study particularly examined some firm specific, industry specific and macroeconomic financial performance determinants of insurance companies in Ethiopia because short time and data limitation. Thus, future research may be conducting more researches on the areas particularly by expanding time frame and considering some variable such as branch number, average claim per revenue, revenue per policy holder, average cost per claim, investment mix to identify which variables are the powerful determinants of financial performance.

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Appendices

Appendix A. lists of insurance companies operating in Ethiopia

No.	Insurance co.	Establishment year	
1	Ethiopian Insurance Corporation	1976	
2	Africa Insurance Company S.C	1994	
3	Awash Insurance Company S.C	1994	
4	National Insurance Company of Ethiopia S.C.	1994	
5	Nile Insurance Company S.C	1995	
6	Nyala Insurance Company S.C	1995	
7	Global Insurance Company S.C.	1997	
8	The United Insurance S.C	1997	
9	NIB Insurance Company	2002	
10	Lion Insurance Company S.C	2007	
11	Ethio-Life and General Insurance S.C.	2008	
12	Oromia Insurance Company S.C.	2009	
13	Abay Insurance Company	2010	
14	Berhan Insurance S.C.	2011	
15	Lucy Insurance S.C.	2012	
16	Tsehay Insurance S.C.	2012	
17	Bunna Insurance S.C.	2013	

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Appendix B. Data used for analysis

NO	Ins. name	year	ROA	LVR	LQR	INFR	MCI	MRS	IVR	GDP _r	SZC
1	EIC	2014	0.192	0.81	0.985	0.085	7.32222	0.374	0.121	0.103	9.37
2	EIC	2015	0.189	0.83	0.946	0.104	7.36173	0.357	0.121	0.104	9.39
3	EIC	2016	0.185	0.75	1.063	0.075	7.38021	0.362	0.136	0.08	9.45
4	EIC	2017	0.139	0.79	1.191	0.084	7.38021	0.342	0.141	0.101	9.56
5	EIC	2018	0.145	0.73	1.339	0.168	7.38021	0.362	0.149	0.077	9.65
6	AWASH	2014	0.101	0.69	3.349	0.085	6.57978	0.077	0.131	0.103	8.76
7	AWASH	2015	0.116	71	2.836	0.104	6.66276	0.078	0.141	0.104	8.81
8	AWASH	2016	0.041	0.55	1.652	0.075	6.62325	0.076	0.084	0.08	9.28
9	AWASH	2017	0.048	0.56	1.693	0.084	6.82607	0.061	0.093	0.101	9.34
10	AWASH	2018	0.059	0.55	1.257	0.168	6.92942	0.046	0.088	0.077	9.34
11	GLOBAL	2014	0.122	0.57	1.351	0.085	6.38021	0.016	0.549	0.103	8.18
12	GLOBAL	2015	0.136	0.49	1.632	0.104	6.39794	0.014	0.552	0.104	8.27
13	GLOBAL	2016	0.106	0.56	1.594	0.075	6.36173	0.012	0.468	0.08	8.28
14	GLOBAL	2017	0.071	0.52	1.364	0.084	6.32222	0.011	0.395	0.101	8.43
15	GLOBAL	2018	0.071	0.66	1.351	0.168	6.32222	0.015	0.383	0.077	8.43
16	NILE	2014	0.114	0.67	1.089	0.085	6.78533	0.065	0.107	0.103	8.67
17	NILE	2015	0.085	0.63	1.119	0.104	6.6721	0.067	0.111	0.104	8.76
18	NILE	2016	0.086	0.67	0.848	0.075	6.30103	0.058	0.153	0.08	8.81
19	NILE	2017	0.125	0.63	0.931	0.084	6.96379	0.061	0.162	0.101	8.91
20	NILE	2018	0.133	0.66	1.149	0.123	6.96379	0.043	0.118	0.077	9.12
21	NICE	2014	0.063	0.74	1.123	0.085	6.25527	0.031	0.109	0.103	8.41
22	NICE	2015	0.121	0.68	1.208	0.104	7.04139	0.034	0.104	0.104	8.45
23	NICE	2016	0.056	0.26	1.074	0.075	7.07918	0.033	0.051	0.08	8.98
24	NICE	2017	0.058	0.31	1.235	0.084	6.80618	0.015	0.091	0.101	9.04
25	NICE	2018	0.057	0.39	1.142	0.092	6.80618	0.028	0.093	0.077	9.12
26	AFRICA	2014	0.067	0.77	0.632	0.085	6.61278	0.062	0.135	0.103	8.74
27	AFRICA	2015	0.072	0.68	0.365	0.104	6.62325	0.061	0.402	0.104	8.79
28	AFRICA	2016	0.064	0.64	0.706	0.075	6.57978	0.069	0.176	0.08	8.81
29	AFRICA	2017	0.063	0.62	0.812	0.084	6.57978	0.001	0.125	0.101	8.96
30	AFRICA	2018	0.075	0.59	0.934	0.168	6.57978	0.078	0.098	0.077	9.26
31	NIB	2014	0.096	0.71	2.097	0.085	6.68124	0.068	0.109	0.103	8.81
32	NIB	2015	0.074	0.61	2.198	0.104	6.60206	0.061	0.102	0.104	8.86
33	NIB	2016	0.067	0.62	1.056	0.075	6.62325	0.054	0.138	0.08	8.91
34	NIB	2017	0.068	0.66	1.151	0.084	6.61278	0.041	0.141	0.101	8.96
35	NIB	2018	0.068	0.69	1.255	0.168	6.8451	0.078	0.162	0.077	9.18
36	NYALA	2014	0.122	0.61	1.218	0.085	6.91908	0.056	0.114	0.103	8.73
37	NYALA	2015	0.099	0.58	1.245	0.104	6.99123	0.058	0.077	0.104	8.96

NO	Ins. name	year	ROA	LVR	LQR	INFR	MCI	MRS	IVR	GDP	SZC
38	NYALA	2016	0.104	0.59	1.175	0.075	7.14613	0.054	0.089	0.08	9.08
39	NYALA	2017	0.081	0.59	1.125	0.084	7.07918	0.015	0.084	0.101	9.15
40	NYALA	2018	0.074	0.63	1.235	0.168	7.11394	0.058	0.069	0.077	9.28
41	UNIC	2014	0.141	0.62	1.233	0.085	7.20412	0.056	0.212	0.103	8.75
42	UNIC	2015	0.131	0.56	1.201	0.104	6.69897	0.051	0.185	0.104	8.74
43	UNIC	2016	0.059	0.51	1.526	0.075	6.78533	0.054	0.274	0.08	9.12
44	UNIC	2017	0.051	0.56	1.605	0.084	6.74819	0.051	0.244	0.101	9.07
45	UNIC	2018	0.093	0.55	1.505	0.168	7	0.059	0.217	0.077	9.12
46	OROMIA	2014	0.082	0.71	1.201	0.085	6.59106	0.056	0.099	0.103	8.56
47	OROMIA	2015	0.116	0.72	1.191	0.104	6.70757	0.056	0.097	0.104	8.66
48	OROMIA	2016	0.056	0.73	1.141	0.075	6.53148	0.051	0.098	0.08	8.77
49	OROMIA	2017	0.051	0.68	1.208	0.084	6.49136	0.075	0.101	0.101	8.23
50	OROMIA	2018	0.101	0.83	1.281	0.168	6.81954	0.063	0.122	0.077	8.85
51	LION	2014	0.087	0.64	0.867	0.085	6.27875	0.041	0.054	0.103	8.36
52	LION	2015	0.081	0.68	0.811	0.104	6.27875	0.047	0.089	0.104	8.43
53	LION	2016	0.038	0.69	0.669	0.075	6.20412	0.049	0.121	0.08	8.55
54	LION	2017	0.063	0.71	0.756	0.084	6.20412	0.062	0.111	0.101	8.65
55	LION	2018	0.042	0.67	0.816	0.168	6.20412	0.042	0.089	0.077	8.99
56	BUNNA	2014	-0.001	0.63	1.345	0.085	5.54467	0.011	0.004	0.103	7.39
57	BUNNA	2015	0.101	0.61	1.252	0.104	5.84927	0.017	0.084	0.104	7.99
58	BUNNA	2016	0.042	0.62	1.183	0.075	5.89702	0.041	0.037	0.08	8.22
59	BUNNA	2017	0.066	0.69	1.289	0.084	6.44716	0.035	0.069	0.101	8.56
60	BUNNA	2018	0.063	0.67	1.405	0.168	6.43136	0.026	0.108	0.077	8.62
61	ETHIO-LIFE	2014	0.048	0.69	0.958	0.085	5.3692	0.011	0.123	0.103	7.59
62	ETHIO-LIFE	2015	0.076	0.62	1.069	0.104	5.98194	0.014	0.057	0.104	8.05
63	ETHIO-LIFE	2016	0.041	0.56	1.427	0.075	6	0.042	0.041	0.08	8.32
64	ETHIO-LIFE	2017	0.064	0.53	1.613	0.084	6.25527	0.037	0.065	0.101	8.46
65	ETHIO-LIFE	2018	0.012	0.49	1.823	0.168	6.25527	0.031	0.056	0.077	8.65
66	ABAY	2014	0.114	0.71	1.257	0.085	6.54407	0.029	0.038	0.103	8.18
67	ABAY	2015	0.138	0.61	1.444	0.104	6.5682	0.032	0.043	0.104	8.41
68	ABAY	2016	0.148	0.51	1.421	0.075	6.74036	0.038	0.086	0.08	8.65
69	ABAY	2017	0.126	0.54	1.791	0.084	6.79934	0.042	0.069	0.101	8.65
70	ABAY	2018	0.128	0.57	2.202	0.168	6.79934	0.032	0.134	0.077	8.89
71	LUCY	2014	0.099	0.62	1.345	0.085	6.14613	0.011	0.018	0.103	7.73
72	LUCY	2015	0.085	0.41	2.098	0.104	6.54407	0.013	0.064	0.104	8.11
73	LUCY	2016	0.089	0.43	1.821	0.075	6.64345	0.016	0.159	0.08	8.24
74	LUCY	2017	0.065	0.46	1.985	0.084	6.61278	0.035	0.136	0.101	8.39
75	LUCY	2018	0.078	0.51	2.164	0.168	6.716	0.031	0.141	0.077	8.51
76	TSEHAY	2014	0.048	0.71	1.304	0.085	5.83107	0.023	0.062	0.103	7.89
77	TSEHAY	2015	0.089	0.65	1.275	0.104	6.27875	0.025	0.117	0.104	8.14

NO	Ins. name	year	ROA	LVR	LQR	INFR	MCI	MRS	IVR	GDPr	SZC
78	TSEHAY	2016	0.064	0.31	2.624	0.075	6.30103	0.031	0.136	0.08	8.37
79	TSEHAY	2017	0.068	0.39	2.822	0.084	6.47712	0.042	0.129	0.101	8.48
80	TSEHAY	2018	0.053	0.35	2.512	0.168	6.47712	0.053	0.156	0.077	8.65
81	BERHAN	2014	0.031	0.68	0.667	0.085	5.43453	0.012	0.138	0.103	7.85
82	BERHAN	2015	0.033	0.55	1.451	0.104	4.33178	0.014	0.153	0.104	8.02
83	BERHAN	2016	-0.041	0.64	1.272	0.075	5.95851	0.014	0.101	0.08	8.03
84	BERHAN	2017	0.035	0.67	1.395	0.084	5.98254	0.034	0.152	0.101	8.43
85	BERHAN	2018	0.065	0.65	1.233	0.168	6.27875	0.028	0.141	0.077	8.54