College of Business & Economics
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Determinants of insurance companies' profitability in Ethiopia

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Statement of Declaration

I declare that the thesis for the M.Sc. degree at the Addis Ababa University, hereby submitted by me, is my original work and has not been submitted for any degree in any other university. I have undertaken it independently with the advice of my advisor, Dr. Abebaw Kassie. In performing the thesis I have used different sources and material which have been acknowledged.

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This thesis has been submitted for examination with my approval as a University advisor:

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This is to certify that the thesis prepared by Hanna Mariam Dejene, entitle: Determinants of Insurance Companies' Profitability 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

This study examines internal and external factors affecting insurance companies' profitability in Ethiopia. Profitability is proxied by ROA, which is a key indicator of insurance companies' profitability. As internal explanatory variables company size, leverage, liquidity, firm growth, age, volume of capital and tangibility are used, moreover, as external explanatory variables inflation and GDP are also used to examine the most determinants of profitability of insurance companies.

Panel data covering the period of 2005 to 2014 are analyzed for nine insurance companies. The study uses multiple linear regression models, and fixed effect technique has been applied to find out the most significant variables which affect the insurance companies' profitability. As a result, the result shows that from internal factors leverage, firm growth and tangibility of assets are the most significant determinants of profitability of insurance companies in Ethiopia, of which, firm growth has positive impact, on the other hand 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

The result also reveals that 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.

Key words: Determinants; profitability; insurance

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List of Abbreviations

CLRM: Classical Linear Regression Model

FEM: Fixed Effect Model

GDP: Gross Domestic Products

NBE: National Bank of Ethiopia

PMAC: Provincial Administrative Council

REM: Random Effect Model

ROA: Return of Asset

ROE: Return on Equity

ROI: Return of Investments

VIF: Variance Inflation Factor

VOC: Volume of Capital

Chapter One

1. Introduction

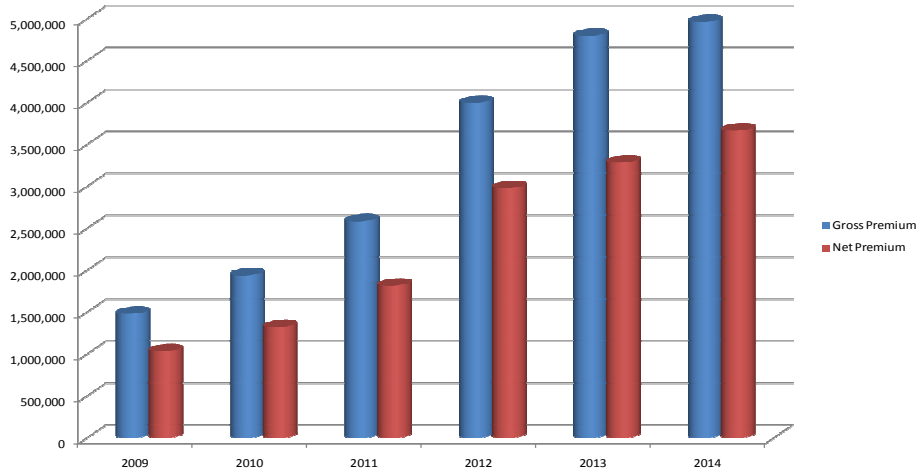
Financial institutions are vital contributor to the overall performance of an economy in any country by serving the economy as intermediary as well as risk taker. Workie (2012) stated that financial institutions serve as a medium of exchange and facilitate business activities, support mobilization of resources through savings and allocate resources to activities with highest returns, follow up investments and exert corporate governance, and offer a diversity of financial instruments. They provide various financial services to the community. Gashaw (2012) current business world without financial institutions such as insurance is unsustainable, in practice some economic units are in surplus whereas the others remain in deficit, in other way risky businesses do not have capacity to retain all types of risk in the uncertain environment.

One of the financial institution sectors is insurance, which provide a unique financial service by serving the societies in managing risk. Insurance companies protect policyholders from adverse events. For the past more than ten years Ethiopia's strong economic performance continues enormously, it is revealed by a remarkable GDP growth and it is also expected to continue for the future. According to annual report of NBE (2012/13), Real GDP continued to grow on average by 10.9 percent in the past decade which is 2003/04 to 2012/13, in 2012/13 the growth is much higher than as compared to forecast of other sub-Saharan African countries. World Economic Outlook Update, (July 2014), stated that in 2013/14 the 10.3% Ethiopian economic growth has been remarkable compared with the 5.4% growth estimated for Sub-Saharan Africa in 2014. The above

continuous economic growth encourage the emergence of insurance companies but the insurance sector in Ethiopia does not grow as expected and cannot take a major part for the economic development.

Shifa (2014) stated that although the insurance industry keeps on improving over time, it contributes less than 1% to country's GDP.

Figure 1 Development of insurance premiums (000 Birr)



Source: Shifa (2014)

Gashayie (2013) stated that the Ethiopia's life insurance sector is less mature as compared to international life insurance market, and its contribution to the country's GDP is very low. Due to Ethiopia's current strong economic performance, the potential of insurance industry is promising; as a result the number of insurance firms increasing from time to time somehow, but not as expected. The Ethiopian government is also

working on improving rules and regulations to protect the society at large. According to Shifa (2014) to accelerate the development of the insurance industry NBE introduced risk based supervision in the year 2012 such as prohibiting of credit sales which help the industry for better management of their risk. He also stated that to protect the industry, regulation is being set on an inclusive insurance for market and initiative to develop the life insurance market, furthermore, to establish domestic reinsurance market Insurance Supervision Directorate issued a licensing directives for reinsurance business to minimize foreign currency rendered to foreign reinsurers.

NIB Insurance company annual report (2012) stated that important development are being observed in the introduction and implementation of Motor Third Party Compulsory Insurance policies and amendment of the regulatory law. In the report it is also stated that though there are issues requiring further consideration on how it should be implemented without adversely affecting the performance of the industry in general and that of the private insurance companies in particular, the inclusion of the "No Premium No cover" provision in the recently issued proclamation is a major step in the right direction to curb the chronic problem of the industry.

Insurers help individuals as well as businesses to minimize the consequences of risk and put the insured in the positions where they were before the risk occurs. In order to carry all risks, insurers should keep their profitability; therefore, this study focuses on identifying the determinants of profitability of insurance companies in Ethiopia, so that the insurer could focus on the appropriate factors of profitability to maximize their profit.

1. 1 Development of Insurance industry in Ethiopia

According to Kumsa (1992) there have been traditional association which was used to share risks among the member, people contributed either money or labor to assist each other whenever a member faced financial difficulties or needs assistance, and these associations provided support. These associations are “Edir” and “Equb” which have some similarities with modern insurance. He further explained “Edir” is a gathering such as people form an association whereby each member contributes a fixed sum monthly, to common fund from which predetermined compensations is paid to members upon occurrence of unforeseen events such as death of family members or relatives. Ekub is a kind of traditional association, each member contribute a fixed sum of money for a special time and the winner receives the money and uses it for a project if he/she has one, or sells to another at a premium. Both “Edir” and “Equb” have their trustees who are elected among the members to administer the processes for a certain period of time.

Zeleke (2007) The history of modern forms of insurance industry in Ethiopia was introduced in 1905 together with the banking industry by Europeans, Emperor Minelik II and a representative of the British owned National Bank of Egypt were reached an agreement to open a new bank in Ethiopia, then, Bank of Abyssinia was opened. The first provider of modern insurance in Ethiopia was Bank of Abyssinia, it served as an agent of a foreign insurance company, which gave fire and marine policies. In 1923 a Swiss insurance company, La Baloise Fire insurance started functioning by an Austrian agent. In 1951 the first domestic insurer, Imperial insurance company was opened, until 1951 except Imperial Insurance Company, all the remaining were branches or agents of foreign insurance companies.

According to National Bank of Ethiopia's records there was a survey conducted in 1954, and indicated there were 9 insurance companies that provided insurance service in Ethiopia. The number of insurers increased considerably and reached 34 out of these 32 was branches or agents of foreign companies, which means it was dominated by foreigners; there was no restriction on foreign insurers. The commercial code of Ethiopia stipulated that the minimum paid-up capital required to establish an insurance company was only Ethiopian dollars 12,500.--.

Shifa (2014) during this period except marine insurance all insurance business was categorized as any trade undertaking and was administered by the provisions of the commercial code, the maritime code of Ethiopia was issued to govern the operations of maritime business and the related marine insurance. Then the most notable event for the Ethiopian insurance market was the promulgation of proclamation No, 281.1970 and this proclamation was issued to provide for the control and regulation of insurance business in Ethiopia. It created an Insurance Council and an Insurance Controller's Office; this helped the sector to increase incredibly. As a result the controller of insurance licensed 15 domestic insurance companies, 36 agents, 7 brokers, 3 actuaries and 11 assessors in the year after the issuance of the law.

According to Getahun (2014) although domestic and foreign insurance companies had been undertaking insurance business in Ethiopia prior to 1960, there were no insurance laws put in place until the issuance of the commercial code and the maritime code in

1960, then the first insurance proclamation was issued in 1970 by proclamation number 281/1970 and followed by insurance regulations in 1971 by legal notice number 393/1971. He also further stated that there was no supervising body for insurance companies in 1960s, NBE was formed in 1963 (under order no. 30/1963) when it was found necessary to separate commercial and central banking function, as a result Commercial Bank of Ethiopia and National Bank of Ethiopia were created as two independent entities, hence National Bank of Ethiopia was given the power of giving license as well as supervising banks.

After 1974 all private insurance enterprises were nationalized, and became one after merging all the privately owned insurance companies, which is owned by the government and a name given as Ethiopian Insurance Corporation. Getahun (2014) stated that in 1976, the provisional military administrative council (PMAC) issued another monetary and banking proclamation no. 99/1976, as a result the NBE was given a function to supervise, regulate and control the operations of the banks and other financial institutions which includes the insurance sector; as a result the NBE organized “insurance inspection division” to discharge its supervisory responsibility. For about 18 years Ethiopian Insurance service was monopolized, and Ethiopian Insurance Corporation was established in 1976 by proclamation No. 68/1975, became a sole enterprise which provided insurance services in all over the country. Then after change of the government in 1991 the privatization of enterprises became the hot issue to encourage the Ethiopian economy.

Proclamation number 86/1994 was issued to provide for licensing and regulation of insurance business. This proclamation opened the insurance market to domestic private investors that is why since 1994 many privately owned insurers are emerging, according to NBE 2013/14 report the numbers of insurance companies currently in operations are one government and 16 privately owned insurance companies. In the year 2012 new insurance business proclamation was issued, proclamation No. 746/2012 and directive No. SIB 34/2013 was followed to consider the requirement of risk based supervision, and which clearly restrict the insurance business to foreigners.

The National Bank of Ethiopia remained the sole regulator of insurance supervision in Ethiopia. The newly emerging companies in the insurance sector between 1994 and 1997 were encouraging; as a result, the number of insurance companies in operation reached 8 within four years time. But from 1997 to 2006 only one insurance company joined the industry, and then from 2007 to date almost every year one company joins the industry, which shows that the effort of The NBE to encourage the industry is becoming fruitful. According Asnakew (2011) In sum, the development of the insurance sector since 1994 in many ways resembles that of the banking sector, with the establishment of several new private insurance companies, the range of insurance products offered is limited indicating that the sector is still at an early stage of development. He also further explained that the Ethiopian insurance industry is among the lowest in the world and African countries in terms of the three measures namely: Insurance premium market share, market penetration rate and insurance density (insurance premium per capita). Therefore, The NBE should continue encouraging the industry as fast as possible to let the insurance companies to

penetrate potential of the insurance industries in African counties as the potentials mentioned by Association of Kenya Insurers 2012 annual report.

The current directive No. 34/2013 subsequent to insurance proclamation in article 4 states that in order to run insurance business in Ethiopia the share capital must not be less than birr 60 million for general insurance business, birr 15 million for long-term insurance business and birr 75 million to do both long-term and general insurance business.

1.2 Statement of the problem

A well functioning financial system is very important for a county's economic growth. Insurance companies are one of the financial institutions which can play a vital role for economic growth of a country. Ward & Zurbruegg (200), the insurance sector of any country can take major part in the economic growth and development. Their significant role in economic development is through reducing uncertainty, and encourages innovation and investment. In other words, their contribution to the economic development of a given country is articulated by reducing the impact of large loses as a result encouraging new investments and healthy competition. Whatever the definition, and regardless of the size of the economy, the importance of insurance companies is crucial to the economic growth. Boadi et al. (2013) stated that some developed countries have seen significant improvements in their economy that leads the emergence of insurance industry and mobilizing of funds has been exercised and has made huge investments that have facilitated the development of nations.

On the other hand in developing countries such kind of improvements is not observed. Asnakew (2011) stated that the contribution of Ethiopian insurance sector in the country for gross domestic product is insignificant for several years, besides, number of people employed in the sector is very few as compared to other countries, and moreover, such underdevelopment of insurance is much more in life insurance division.

Ahmed et al. (2011) Stated that examining the performance of insurers has gained importance in the literature of corporate finance, it is due to as intermediaries, the insurers are not only providing the mechanism of risk transfer but also helps to channelizing the funds in an appropriate way to support the business activities in the economy.

Malik (2011) stated that insurance companies' play a crucial role in fostering commercial and infrastructural businesses that promotes financial and social stability like mobilizes and channels savings, support trade, commerce and entrepreneurial activity and improves the quality of the lives of individuals and the overall wellbeing of the society.

Insurance industry stabilizes the financial markets, through its capacity by creation of assurance and confidence in an economy at large. Investors can focus only on their business after transferring the risks which would adversely affect their business to insurers; even risk-averse business persons can undertake projects and engage in economic activities. Besides, the insurance sector contributes to employment generation; there are professionals as well as non-professionals working in insurance companies. In order to provide these and other benefits which are not mentioned here to the community, the insurance sector should be profitable. To maximize their profitability it is necessary to identify the major factors affecting their profitability.

A lot of researches have been conducted regarding measuring the profitability of banking sectors. Insurance sector had been given little attention in studying the impact of profitability in order to assist insurance companies to focus on the results and concentrate on it.

In Ethiopian insurance industry context, there are few studies conducted which incorporate only the internal factors such as Sambasivam and Gashaw (2013), used performance which is represented by ROA as dependent variable and age, size, leverage, growth, VOC, tangibility of asset and liquidity was used as determinant variables. Then they concluded that size of company, leverage, volume of capital firm growth and liquidity are the most important determinant of performance of life insurance sector, whereas, tangibility of asset and age are not considered as powerful explanatory variables to determine the performance of the insurance companies.

On the other hands, Mehari and Aemiro (2011) conducted a research on firm specific factors that affect insurance companies' performance in Ethiopia using ROA as a dependent variable to proxy the performance of the insurance companies' besides, age of company, size of company, leverage, loss ratio, tangibility of assets, liquidity, premium growth were used as explanatory variables. Then they concluded that firm size, leverage, loss ratio and tangibility of assets were statistically significant variables to explain performance of insurance companies whereas, firm age, liquidity and growth in written premium have no a statistical significant relationship with performance of insurance companies. Gashaw (2012) conducted a research to determine factors affecting insurance companies profitability in Ethiopian insurance companies', he used dependent variable ROA to measure profitability and age, size of company, leverage volume of capital

tangibility, liquidity and growth as independent variables to determine insurers' profitability. He found that leverage, size volume of capital, growth and liquidity are most important determinant of profitability of insurers, on the other hand age and tangibility have insignificant relationship with profitability of insurers' in Ethiopia.

It is also necessary to measure the impact of the new proclamation issued in 2012 which includes the risk based supervision strategy of the NBE. Besides, the existing empirical studies outcome of the variables used on examining the determinants of profitability is controversial. Such as Derbai (2014) and Pervan (2012) found a positive relationship between age and profitability, Derbai found positive relationship between size and profitability, Pervan did not take the size variable. Whereas, Bilal et al. (2013) found inverse relationship between age and profitability, but found positive relationship between size and profitability. Malik (2011), Almajali et al. (2012) and Mehari and Aemiro (2013) found insignificant relationship between age and profitability and positive relationship between size and profitability. The detail of controversy is going to be discussed in the literature part in chapter two.

Studies conducted mainly on the determinants of profitability on banking industries. Very little studies were conducted on the insurance companies' profitability determinants, all these little studies focused on the area of internal determinants, hence, this study is different from the previous studies by examining internal as well as external factors on profitability of insurers in Ethiopia.

As a result, there is a need for additional study which adds value to the insurance industries in Ethiopia therefore; this study includes external factors which affect insurers' profitability to fill the gap of the inconsistent results of the study.

1.3 Research objectives

The objective of this study is to investigate the factors that mostly affect the profitability of insurance companies in Ethiopia.

1.3.1. Specific Objectives

- Examining the impact of internal factors that determines the insurance companies' profitability.
- Analyzing the significance of macro-economic determinants on Ethiopian Insurance Companies profitability.
- Provide recommendations for top management, investors and National Bank of Ethiopia.

1.4. Significance of the study

The result of this paper by identifying major factors affecting profitability of insurers can be used by insurers to focus on the major profitability determinant to maximize their earnings. The significance of the study is to provide additional output to the literature and sort out the important factors affecting profitability of insurance companies and the result of the study will help the insurance company's management and investors to focus on the appropriate factors to make the firm sustainable and successful.

Identifying the factors that contribute to the profitability of insurance companies' in Ethiopia is useful for existing as well as prospect/potential investors, policy holders, researchers, scholars, and management of the insurance companies.

1.5 Scope of the study

The scope of this study is to focus on determining factors that affect Ethiopian insurance companies' profitability. Only took the insurance companies' registered by the National Bank of Ethiopia and which are in service for more than ten years, it is due to that, if it is taken beyond ten years the number of firms which will be out of the samples will increase. This study doesn't include the human resources aspect such as management efficiency which obviously contributes to the profitability of the insurance companies. Management efficiency cannot be measured only with financial statement output; it requires comprehensive analysis which cannot be covered with the given time frame. To get comprehensive information from each insurance company's requires extra efforts. Since this research is confined to a certain time limit, it is difficult to conduct comprehensive research.

1.6 Limitation of the study

Some financial results are presented in the net effect in some insurance companies, such as premium is presented in net amount, which consumes much time to get full information from each insurance companies.

Accessibility of some other countries previous relevant studies/thesis are limited, only abstract is available. Besides, up to date published data mainly in the context of Ethiopian insurance industry which can give or indicate the position of insurance industries as compared with global insurance industries.

1.7 Structure of the study

This study is organized in to four chapters. Chapter one presents the introduction of the study which includes statement of problems, objective of the study, methodology of the proposed study, limitation of the study, scope of the study, and significance of the study . Chapter two presents the literature review regarding the research area of determining the insurance companies' profitability and therefore sets out the theoretical foundations for the research. Then chapter three presents research design and methodology used in this study. Then in chapter four, research results will be presented and discussed in detail. The final chapter will conclude the paper, summarized the findings and drawn conclusions and recommendations.

Chapter Two

2. Literature review

The purpose of this chapter is to review the theoretical and empirical literature on the determinants of profitability of insurance companies. There are several factors that influence firm's profitability, in general terms the factors can be divided into two major groups; internal and external factors, the internal factors are under the insurer's control, while the external factors concern industry and macroeconomic variables. Lee (2014) specified that the determinants of insurer's profitability are divided into internal and external factors, whereas the internal factor focuses on insurer's specific characteristic, the external factors focuses on industry features as well as macroeconomic variables. Malik (2011) Firm's potential determinants of profitability can be company's size, loss ratio, investment ratio, capital structure, and growth of written insurance premiums past performance, besides, institutional and political environments also affect firm's profitability.

2.1. Theoretical Review

2.1.1 The role of Insurance

Insurance is an instrument to share the financial losses, which means insurance companies allow business/individuals to share their liability by pooling each risk and help them reduce the chance of facing financial losses. Insurance is a medium through which few losses are divided among larger number of people/business. Insurance companies provide financial coverage of the loss that a business or an individual is expected to suffer, by doing so they reduce the impact of a certain events. All the insured add the premiums together towards a fund, and out of which the persons/business facing a

specific risk is paid, which is facilitated by insurer. In other words the insurers reimburse the financial cost of a particular event against the premium they collect from the insured/policy holders. Zeleke (2007) Insurance cannot eliminate the occurrence of the loss, but finance the loss, as a result the policyholder would be restored to approximately where his/her financial position before the occurrence of the risk, except the case of life and personal accident insurance. Insurance companies play a vital role to the economic development of a given country, by intermediation, saving mobilization and by protecting policy holders from adverse events. In general, insurance companies provide protection to the policy holders from loss due to unavoidable events by allowing different risks to be managed more efficiently. Ghimire (2013) stated that the insurance companies perform three distinct jobs: i) Risk pooling, diversifying and loss compensation, ii) Risk management; and iii) Resource mobilization.

Charumathi (2012) Insurance industry is a fundamental part of the financial services sector and plays an essential role in the economic growth of an economy. He also explained further the importance of insurance industry that a well-developed insurance market paves way for efficient resource allocation through transfer of risk and mobilization of savings. Akotey et al. (2011) state that the insurance companies specialized financial services range from the underwriting of risks inherent in economic entities and the mobilization of large amount of funds through premiums for long term investments. They also explained further that the importance of insurance companies as the risk absorption role of insurers promotes financial stability in the financial markets and provides a “sense of peace” to economic entities. Ahmed et al. (2011) explained that

insurance role as insurers provide economic and social benefits in the society such as prevention of losses, reduction in anxiousness, fear and increasing employment.

As all types of activities are subject to risks of loss or damage due to unforeseen events which are beyond control of individual or business, insurance industry would help to take risks on behalf of the insured. Therefore, insurance companies transfer risk from insured to insurer, by doing this they promote financial stability and economic growth, rising contribution to GDP and increase employment. Insurance allows entrepreneurs to focus on the commercial and financial challenges of their business model without fearing the negative consequences of sudden, non-business related events. Ward & Zurbruegg (2000) explained one of the benefits from insurance industry is serving as intermediary and as such the development of the insurance market has significant implications for the accumulation of productive capital within an economy. Insurance also enables companies to put reserves to better use by reducing the need for liquidity. There are many types of insurance such as health, life, auto/motor, property and the like, but in general terms the insurance companies service is mainly divided into general (non-life) and life insurance, the general insurance provide non-life services whereas life insurance provides life related insurance services.

2.1.3. Performance

Performance is the accomplishment of a given task measured against a certain standards and considered as a fulfillment of an obligation. 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

objective of the organization angle, and against the industry average. Business dictionary defines that financial performance measures the results of a firm's policies and operations in monetary terms. Performance measures how well a firm can use its assets and 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. Good performance indicates the firm's ability to get sufficient return on resource used in the operation of a business. The basic measures of performance are economic viability and sustainability. Bawa and Chattha (2013) stated that the performance of the company plays a leading role towards the growth of the industry which ultimately leads to the overall success of the economy. Almajali et al. (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 function of the ability of an organization to gain and manage the resources in several ways to develop competitive advantage.

According to Kasturi (2006) performance of insurance company in financial terms is normally expressed in net premium earned, profitability from underwriting activities, annual turnover, return on investment, return on equity etc., these measures can be classified as profit performance measures and investment performance measures. Malik (2011) the firm's performance can be estimated by measuring the firm's profitability. Company performance is the measurement for what had been achieved for certain period of time and would help the company to focus on the right path. Iswatia, & Anshoria,

(2007), performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage.

2.1.4. Finance and Financial Institutions

Finance deals with the allocation of resource over time under conditions of certainty and uncertainty. Finance deals with the source of funding and the capital structure of a firm and the actions that managers take to increase the value of the firm to the shareholders, as well as the tools and analysis used to allocate financial resources; it is the study of money management. It deals with the ways in which business person, investors, government and financial institutions even families handle their money. Finance is very sensitive area of the organization and to manage it, it requires an ongoing revision of the system to go together with the updated challenging competitive environment. Finance requires the ability of an organization to mange it, besides, it is one of the major resource which enables the organization to fulfill its objectives consistently.

Financial institutions are organizations that are involved in providing various types of financial service to their customers, and are controlled and supervised by the rules and regulations defined by the government authorities. Financial institutions collects funds from the public and place the fund in financial assets, they also transfer money or funds to various levels of economy and thus play a significant role in acting upon the domestic and the international economic scenario. The financial services industry is renowned to be a very important part of the world economy. It encourages investment activity, expansion of downstream sectors and reinforces trade relations between countries. An efficient financial sector is essential to a well functioning economy, which is facilitated through financial markets which facilitate the flow of funds and thereby allow financing

and investing. As a result competent financial market is a key factor in producing high economic growth. According to NBE annual report (2013-2014) the major financial institutions operating in Ethiopia are banks, insurance companies and micro-finance institutions.

Financial services are provided by representatives of the finance market. They are mainly divided into banking, insurance, credit and loans, mortgage services. In broader terms financial institutions can be classified into two; depository and non-depository institutions. Depository institutions accept deposits from surplus units and provide to deficit units through loan or purchase of securities, such as commercial banks, savings institutions and credit unions. Non-depository institutions do not take deposits rather they generate funds from sources and they also play a role in financial intermediation, such as insurances, mutual funds and pension funds. The financial institutions serve as a medium of exchange and facilitate business activities, besides; they serve as monitors of publicly traded firms. Since they invest major amounts in stock, they can have influential power over the management of these publicly traded firms.

As a result of globalization the African countries financial institutions will face a huge problem, which is due to there is the growing tendency among financial services companies to operate in non-domestic markets to satisfy requirements of their multinational customers. The financial services sector experiences changes driven by the financial market development. However, its growth is mainly retrained by the regulatory pressure on financial activities and a high level of operations' complexity and the demand for new types of services. More specifically in our context there is no financial market,

which really encourages the financial sectors to grow, this inexistence of financial market make the problem Ethiopian financial services more severe. In addition to this merger and acquisitions were not conducted in the past years to increase the capacity of these institutions to enable them to penetrate the existing potential market.

2.1.5. Insurance Companies

Insurance companies are companies that offer insurance policies to the public. An insurance company is usually comprised of multiple insurance agents; and it can specialize in one type of insurance, such as life insurance, health insurance, or auto insurance, or offer multiple types of insurance. Insurance companies provide insurance policies to firms or individuals that transfer the burden of the insured to the insurer. They charge premium in exchange for the insurance that they provide and invest the funds that they receive in the form of premium until the funds are needed to cover insurance claims. In this way, they finance the needs of deficit units and thus serve as important financial intermediaries.

Akino et al. (2014) stated that insurance is very important financial sector as they serve the needs of business units and individual in financial intermediation, they collect relative premium from many small individuals in the economy, and pull together, then this large pool of funds could be invested in short as well as long period. Afza & Asghar (2012) insurance companies pool the savings of the policyholders and invest those in capital markets which ultimately contribute positively toward the development of nay country.

Ward & Zurbruegg (2000) Insurance service encourages productivity in an economy by offering risk transfer and indemnification service, which enables risk averse individuals

to involve in a business, insurance also facilitates innovation within an economy by offering to underwrite new risks. Gashaw (2012) Insurance companies have double responsibility; in one hand they are required to be profitable to have higher rate of return for new investment, in other hand they need to be profitable to be solvent to make other industries where they were before even after the risk occurred. He further explained that insurance promote finance and social stability; mobilize and channels savings, supports trade, commerce and entrepreneurial activity and improve the quality of the lives of individuals and the overall wellbeing in a county. Although it is known that the insurance industry contributes to the economic growth of a country in most African countries it doesn't develop as expected.

According to Association of Kenya Insurers 2012 annual report, the African insurance market has strong growth potential, especially in sub-Saharan African, but Africa continues to register the lowest contribution to the global insurance premium at 1.6% and most African countries penetration level is below 1%. This report indicates that the insurance industry in Africa is expected to do much to increase its market penetration in this potential area.

Charumathi (2012) Well developed insurance market facilitates efficient resource allocation through transfer of risk and saving mobilization, hence, insurance industry plays fundamental role in the economic growth. Based on their roles to the economy, insurance companies are divided into two major categories; General and life insurance

companies, general insurance deals with non-life insurances whereas life deals with life insurances.

NBE annual report (2013-14) states that the number of insurance companies operating in Ethiopia reached to 17, among these, one is state owned the remaining sixteen are privately owned companies.

As indicated in Annex 1 the number of total branches available in the year 2013 increased from 273 to 332, which showed increase of 59 branches within a year time. Regarding increase in capital as indicated above United Ins. Com. S.C., Tsehay Insurance S.C. and Lucy record the highest capital change, 128.3%, 300.1%, 206.6% and 100.4% respectively. But all this growth is not as it is supposed to be. Asnakew (2011) The GDP of Ethiopia has grown consistently at an increasing rate, while the financial sector is only moderately, especially since 2002, it still lags behind the growth of the GDP.

Shifa (2014), The insurance market is growing at the rate above 20% annually during the last 10 years, to reach almost 5 billion in 2014 from birr 641 million 10 years ago. He also stated that although improved over time, the insurance sector still contributed less than 1% to country's GDP.

2.1.6. Profitability of financial Institutions

Profitability means the ability of making profit from a given investment to earn a return from its use. It shows the ability of earning return out of the resources consumed or used. Profitability shows the management's effort how they efficiently can make profit by using all the available resources in the market. It serves as a measure of evaluating overall business performance. Profitability is the standard to measure management's performance or efficiency. It is also expressed as the ability of enterprise to get sufficient return on the resource used in the operation of a business. Malik (2011) stated that profitability is the most important objectives of financial managers that resulted in maximizing the owners' wealth; among different techniques for measurement of profitability, ROA is a better way. Profitability is major factor of the firm to exist; the objective of financial managers is to maximize owners' wealth. There are variety of ways to measure profitability such as:- Return on asset (ROA), return on equity (ROE), return on investment (ROI), etc. Almajali et al. (2012) stated that company performance is a product that is achieved by an individual or a group of individuals through legal implementation in an organization. Profitability is the best measurement of performance; every firm's interest is to maximize its own profitability.

According to Boadi (2013) profitability is defined in terms of return on assets (ROA). The Return on Assets ratio is an important measure of profitability because it measures the efficiency with which the company is managing its investment in assets and using them to generate profit. It measures the amount of profit earned relative to the firm's level of investment in total assets. The return on assets ratio is related to the asset management category. The higher the percentage, the better the profitability, because that means the

company is doing a good job using its assets to generate sales. Bawa and Chattha (2013) in their analysis stated that ROA shows the investor how well a company uses its assets to generate income, besides, it is a key indicator of the overall productivity of the company, and shows the percentage of profit, company earns in relative to its total asset. Vejzagic and Zarafal (2014) defined ROA as a tool to measure the profit earned per dollar of assets and that show how well bank management use bank's real investments resources to generate profit. Hailegeorgis (2011) stated that ROA reflects the ability of a bank's management to generate profits from the bank's assets while ROE indicates the return to shareholders on their equity and equals to ROA times the total asset – to – equity ratio.

The Return on Equity is one of the important measures of profitability to investors. It measures the return on the money the investors have put into the company. This is the ratio potential investors look at when deciding whether or not to invest in the company. The higher the percentage, the better, with some exceptions, as it shows that the company is doing a good job using the investors' money. Based on the above literature review ROA is also used in this research.

2.2 Empirical Review on Determinants of profitability of Insurance Companies

There are several factors that affect firm's profitability; various studies used different variables to determine profitability. As previously mentioned the determinants of insurance companies' profitability can be classified as firm specific factors that are controllable by the management and macro economic factors which are not controllable by the firm's management. Most studies focused on internal factors such as Maliki

(2012), Boadi et al. (2013) and Charumathi (2012) used only internal factor, Gashaw (2012) conducted a research on factors affecting profitability of insurance company in Ethiopia by using internal factors and stated that insurance company's profitability mainly classified as internal, industry, and macroeconomic factors. Shiu (2004) classified the variables he used into economic and company specific factors. Among internal factors most researchers used company age, company size, liquidity, leverage, growth rate. In some studies both internal and external factors are used. The macro-economic variables are like inflation and GDP growth. To analyze these factors Bawa and Chattha (2013) indicated financial ratios are important tool for the business to measure the progress towards reaching goal as well as completions, hence in this study financial ratios, among non-financial age is used as internal and GDP and inflation from economic factors as external are used to determine the factors affecting the profitability. Demirguc-Kunt & Huzinga (1998), the profitability of insurance companies can be influence by external factors and internal factors. Hence this study incorporates both internal and external factors affecting profitability of insurance companies.

2.2.1. Company Size

Literature on insurance performance presented mixed findings about the relationship between insurance size and profitability. Numerous studies have been conducted on the relationship between company size and profitability, but the evidence show mixed findings, such as; Hailegeorgis (2011) on Ethiopian banks, Gashaw (2012) and Mehari and Aemiro (2013) on insurance companies profitability in Ethiopia. Malik (2011) on insurance companies' in Pakistan. Almajali et al. (2012) on Jordanian insurance companies, and Burca and Batrinca (2014) on Romanian's insurance market; all found

that performance is likely positively influenced by size; larger firms have better risk diversification, advantage of economic scale and better cost efficiency.

Burca and Batrinca (2014) explained further that larger firms have better risk diversification capacity, and have advantage of economic scale and better cost efficiency. Lee (2014) in Cummins and Nini (2002) says that larger firms are more cost and revenue efficient, and which implies that larger firms may experience greater premium growth.

To the contrary, Derbali (2014) on life insurance companies in Tunisia. Mwangi and Murigu (2015) on insurance companies in Kenya, and both found that size is negatively related to insurance company's profitability. Besides, Olaosebikan (2012), found size are not statistically significant and suggested that the firm size does not have any direct impact on the profitability.

In general, majority of studies indicated that performance of large size insurance companies is better than small size companies. But the size growth should be limited to a certain stage, and that certain stage 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. Hailegeorgis (2011) explained commercial banks profitability in Ethiopian Commercial Banks size represented by banks assets which increased significantly, this increase leads to the profitability of banks', the result implies that larger banks enjoy the higher profit than smaller banks in Ethiopian banking sector because they are exploiting the benefit of economies of scale.

There is no uniform result among the studies conducted on the determinants of profitability's. Davydenko (2011) there is no consensus in the literature on whether an increase in size provides economies of scale to banks. In these studies, it has been expected that company size is positively related to firm's financial performance and total asset is used as proxy for company size. Regarding measurement of the company size, different researcher use different proxies for measuring insurance companies' size such as; Boadi et al. (2013) and Derbali (2014) used log value of premium. Lee(2014), Malik (2011) and Shiu (2004) used Natural log of total asset. Though, the above two proxies are available to measure insurance companies' size, the researcher selects the most common one which is used by most of the researchers, which is log values of total assets that is used to measure insurance company size.

2.2.2. Leverage

Boadi et al. (2013), Leverage is defined as total debt divided by total asset. The more the firm use debt, the more it is risky. Charumathi (2012) the degree of financial leverage reflects insurance companies' ability to manage their economic exposure to unexpected losses. Mehari & Aemiro (2013), leverage is a financial ratio that indicated the percentage of a firm's assets that are financed with debt. In this study leverage is proxied by total liability divided by total assets.

Varieties of researches were conducted on determinants of financial performance of insurance companies in different countries. Malik (2011), Bilal et al. (2013) and Ahmed et al. (2011), Sambasivam and Gashaw (2013), Burca and Batrinca (2014) and Charumathi (2012) found that leverage is a significant and important determinant of profitability and it has a negative relationship with profitability. This negative

relationship shows that if insurance companies increase their debt then their profitability will be reduced significantly. In contrast, Boadi (2013) from Ghana, Mehari and Aemiro (2013) on Ethiopian insurance companies and Almajali et al. (2012) on Jordanian insurance companies studied and found that leverage and profitability have positive relationship. This indicates that an increase in leverage has a positive impact on performance.

And other studies indicated that leverage has insignificant influence on profitability, such as: - 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 profitability of insurance companies.

2.2.3. Liquidity

Liquidity of insurance companies is measured by the ratio of current asset to current liability. This ratio shows that the capacity of insurance companies to meet any payments such as to pay out claims to policyholders. The ability to meet insurers' obligations towards these policy holders is extremely important. Insurers should have a positive cash flow to meet their immediate liabilities without affecting normal operation. The lower ratio of this reveals that the insurance company will face difficulty in meeting payments in the right time and hence its liquidity is low. A lower liquidity ratio, then, 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, an extremely higher ratio of this would mean that the insurance company has kept excess liquid assets inactive and hence losing income from a variety of investments. Boadi et al. (2013) conducted on determinants of profitability of insurance firms in Ghana, Shiu (2004) on determinants of UK general insurance company performance, Bawa & Chattha (2013) on financial performance of life insurers in Indian insurance industry, Charumathi (2012) on the determinants of profitability of Indian life insurers and Almajali et al. (2012) conducted on factors affecting the financial performance of Jordanian insurance companies and found positive relationship between companies profitability and liquidity.

On the other hand, Gashaw (2012) conducted a study on factors affecting profitability of insurance companies in Ethiopia, Sambasivam and Gashaw (2013) conducted a study on the performance of insurance companies in Ethiopia and found a negative relationship between liquidity and insurance companies' profitability. In addition to this, Derbali (2014) on Tunisian insurance firms' performance, Mehari and Aemiro (2013) on Ethiopian insurance companies' performance and Bilal et al. (2013) on Pakistan insurance sectors found the relationship between insurance companies and liquidity is insignificant.

2.2.4. Firm Growth

Firm growth is represented by premium of current year less premium of prior year divided by premium of prior year. Firm growth indicates the expansion of the existing insurance industries onwards in terms of premium income, new business policies, number of offices, agents, products etc. Insurance industry in Ethiopia is moving slowly, meaning

it is not growing as expected. The insurance companies' growth is measured as the annual change on the earning or annual growth of firm's total assets.

The literature regarding the relation between profitability and firm growth is not the same. Derbali (2014) conducted a study on determinants of performance of insurance companies in Tunisia, Sambasivam and Gashaw (2013) studied on the performance of insurance companies in Ethiopia both studies concluded that firm growth has a positive impact on firms profitability. On the other way Charumati (2012) from Indian life insurers, Burca and Batrinca (2014) on Romanian insurance market found a negative relationship between firm profitability and growth. Other studies like Mehari and Aemiro (2013) on Ethiopian insurance performance, Bilal et al. (2013) and Ahmed et al. (2011) on Pakistan's insurers' profitability found no relationship between firm growth and profitability.

2.2.5. Company Age

Newly established companies are not expected to be profitable in the first one to three years of operation, they only focus on market penetration rather than focusing on profitability. Through experience firm's can focus on increasing profitability by using variety of ways which maximize their profit. Almajali et al. (2012) stated that older firms are more experienced, and have enjoyed the benefits of learning, are not prone to the liabilities of newness, and can, therefore, enjoy superior performance, older firms may also benefit from reputation effects, which allow them to earn a higher margin on sales. On the other hand, Shiu (2004) explained that older firms may be bureaucratic and stick only on routines and are sometimes out of touch with changes in market conditions, in such case an inverse relationship may occur.

Several studies were conducted by including age as independent variables, and the result is also controversial, Malik (2011), Mehari and Aemiro (20130, Almajali et al. (2012), Mwangi and Murigu (2015), and Gashaw (2012) conducted study by considering age as one of the independent variable which can affect insurance companies profitability and came out with the finding of insignificant relationship between age and profitability. On the other hand Derbali (2014) and Pervan et. al (2012) conducted study and found positive and significant relationship between profitability and age of the insurance companies'. On contrary Bilal et al. (2013) found that age of the firm is a significant determinant of profitability but has contradictory sign with profitability which shows an inverse relationship between age of the firm and profitability. Hence, there is no uniform output among different studies.

2.2.6. Volume of Capital

Volume of capital indicates the availability of capital contributed by owners of insurance companies which is known as the amount of owners' funds available to generate future income. As the volume of capital increases, the capability of insurance companies' to involve in a wider variety of business also increases. Gashaw (2012) stated that insurance companies' equity capital can be seen in two ways, one it can be seen as the amount contributed by owners of an insurance (paid-up share capital) that gives them the right to enjoy all the future returns, in other way it can be seen as the amount of owners' funds available to support a business. There are studies conducted by including volume of capital as a determinant of profitability of insurance companies and the outcome is controversial, Malik (2011) from Pakistan and Sambasivam and Gashaw (2013) from Ethiopia conducted a research to get major factors affecting the profitability of insurance

companies by including volume of capital and get positive and significant relationship between volume of capital and profitability of insurance companies. Whereas, Bawa and Chattha (2013) conducted a research on financial performance of life insurers in Indian insurance industry and Charumathi (2012) also conducted on the determinants of profitability of Indian life insurers, both found negative and significant relationship between volume of capital and insurers profitability. Since the result is controversial it is necessary to include the variable as a determining factor.

2.2.7. Tangibility of assets

In most studies tangibility is measured by the ratio of net fixed assets to total assets. Tangibility of assets ratio measures the share of fixed assets from total assets, this allows the firm to get a borrowing access easily, and it is due to serving as collateral to get sufficient loan. Asnakew (2011) Tangible assets are likely to have an impact on the borrowing decisions of a firm because they are less subject to informational asymmetries and usually have a greater value than intangible assets in case of bankruptcy. Therefore, it is considered that the availability of such borrowing capacity will impact on the profitability of the insurance companies. Akintoye (2008) argues that a firm, which retains large investments, in tangible assets will have smaller costs of financial distress than a firm that relies on intangible assets. He also explained further that since they get sufficient fund on loan basis to invest its impact to profitability is high and hence, the relationship between asset tangibility and profitability of the firm is expected to be positive.

The empirical studies revealed both negative and positive relationship between tangibility and performance of insurance companies, which indicates that there is a mixed result in the literature. As a result, some studies reported a positive relation between tangibility

of assets and performance; such as; Mehari and Aemiro (2013) in Ethiopian insurance companies' profitability and concluded that it is important determinant and has a positive impact on profitability.

On the other hand Derbali (2014) on the determinants of performance of Tunisia's insurance companies and Ahmed et al. (2011) on Pakistan life insurance companies' found positive result but is not statistically significant with the large p-value. Therefore, they concluded that although positive relationship shows a firm with the large portion of fixed assets can easily raise debt or obtain more debt at relatively lower rates by providing collaterals of these assets to creditor but due to the insignificant relationship, tangibility is not considered a powerful explanatory variable to define the performance of life insurance companies in Pakistan over seven years. Bodi et at. (2013) found negative result on the determinant of profitability of insurance; but not statistically significant.

2.2.8. Inflation

Inflation is represented by the average annual change in the consumer price index. It plays a role in insurance and has adverse impact on many aspects of insurance operations, such as claims, other expenses and salary expenses. Inflation particularly affects the profitability of insurance products because it alters consumption patterns. Hence, insurance companies may not adequately serve the interests of individuals or business. Lee (2014) in Browne et al. (2001) stated that firm performance is negatively related to unanticipated inflation. Shiu (2004) in Daykin, Pentikainen & Pesonen (1994) stated that inflation certainly plays in insurance and has adverse impact on many aspects of insurance operations, such as claims, expenses and technical provisions. Murungi (2014) inflation on profitability is statistically significant and negative, suggesting that higher

levels of inflation cause higher interest rates and lower bond prices which in turn reduce portfolio returns. Feyen et al. (2011) although they have studied the reason that drives the development of insurance sector, the development is somehow is related to profitability. They stated on their policy research working paper that inflation is expected to have a negative effect on the demand for life insurance, then after examining both life and non-life premiums over 90 countries during the period 2000 to 2008 and found that insurance activities are significantly hampered in high inflation countries, especially in the life sector. They explain the reason is the value of life policies is significantly eroded by high inflation, triggering a contraction in demand.

2.2.9. GDP Growth

GDP growth is defined as GDP at the time of t less GDP at the time of t minus one divided by GDP at the time of t minus 1. GDP is one of the primary macroeconomic indicators used to measure the health of the economy of a country, and it is a measure of the overall economic output within a country over a particular time, usually a year. Rao and Birkanu (2012) stated that GDP is one of the macroeconomic indicators used to measure the health of the economy of a country, and it is a measure of the overall economic output within a country's borders over a particular time, usually a year. Vejzagic (2011) made analysis of macroeconomic determinants of commercial banks profitability in Malaysia and found that real GDP is significant and have positive relationship with Banks' profitability. Murungi (2014) GDP growth positively affects insurers profitability that is, growth of overall economic activity encourage demand for insurers services and indirectly result in higher insurers income.

On the other hand some researches indicated that the relationship between GDP and profitability would be negative. Khrawish (2011) determined the macroeconomic indicators affecting the listed Jordanian banks. Result demonstrated significant negative impact of GDP and inflation with ROA and ROE.

2.3. Choice of variable

As mentioned above different studies used a variety of variables as dependent as well as independent variable. Dependent variables used in previous studies are:- Profitability or performance. In most studies ROA is used as dependent variable and Sometimes ROE is also used. And others used investment yield, percentage change in shareholders' funds and return on shareholders' fund as dependent variable. In other profitability ratio, it is used sales profitability ratio and net-operating expenses ratio as a measure of performance.

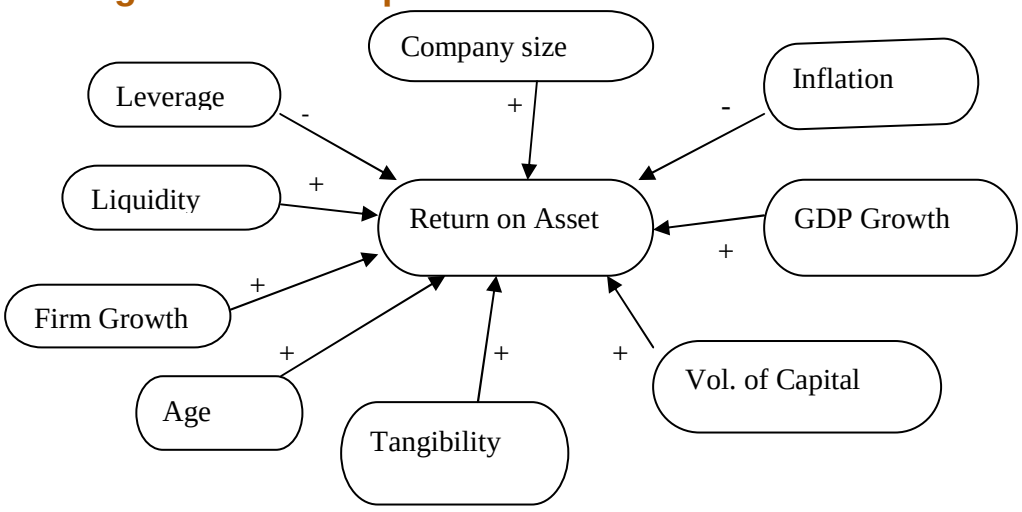
For this study the commonly used and very important ratio is used, that is ROA to measure profitability. Because ROA measures the profit earned per Birr/Dollar of assets and reflect how well the company's management use its real investment resources to generate profit. As mentioned above ROA shows the ability of making profit from a given investment to earn a return from its use. It shows the management's effort how efficiently they can make profit by using all the available resources in the market; in general, ROA shows the ability of enterprise to get sufficient return on the resource used in operation of a business. A higher ROA means better profits during the period; this better profit entails a strong capacity in dealing with losses, which increase insurer's retained premiums.

Regarding the independent variables different studies used variety of variables, in most studies age of company, company size, leverage, loss ratio, volume of capital, liquidity, firm growth, unexpected inflation and interest rate change are the major independent variables used which are internal as well as external factors that affect firm's profitability. Such as, Bawa and Chattha (2013) took independent variables:- current ratio, solvency ratio, insurance leverage, size and capital to determine financial performance. Bilal et al. (2013), used leverage, growth opportunities, company size, age, liquidity and earning volatility. Sambasivam and Ayalew (2013) used company size, leverage, liquidity, firm growth, volume of capital and tangibility of assets. For this study the independent variables selected are:- company size, leverage, liquidity, firm growth, volume of capital, tangibility of assets, inflation and GDP growth, which adds variables from macroeconomic factors.

2.3.1. Conceptual Framework

Based on the related literature reviewed earlier, a conceptual framework for the determinant of insurance companies' profitability is developed hereunder:-

Figure 2 – Conceptual Framework



Chapter Three

3. Research Design and methodology

3.1. Introduction

The purpose of this chapter is to describe the choice of appropriate research method for the study. In order to achieve the objective of this research, relevant literatures were reviewed then this chapter depicts the steps and procedures applied to analyze the major factors affecting profitability of insurance companies in Ethiopia. The procedures cover the research design used to conduct the study, the population of the study and the sample size used. Besides, data collection method, data analysis and model specification are presented that are used to arrive at conclusions regarding the major factors affecting the profitability of insurance companies in Ethiopia.

3.2 Research methods

Based on the objective set above, the study adopts quantitative method research approach, and it is based on secondary data which has been collected from annual reports of insurance companies obtained from National Bank of Ethiopia and from each firm. Panel data analysis approach is adopted for the evaluation of the internal as well as macroeconomic determinants of insurance companies' profitability. It is due to that panel regression technique is used which gives informative data by analyzing both cross sectional information, which capture individual variability, and time series information, that capture dynamic adjustment. The time period covers 10 years that covers from 2005 to 2014, the number of total insurance companies under study is 9. The data on the macroeconomic conditions of The Ethiopian economy were taken from the National Bank of Ethiopia and Central Statistics Agency. Since there is more than one

independent variable multiple linear regression analysis is used to analyze the relationship between dependent and independent variables. This model is a probabilistic model that includes more than one independent variable.

3.3. Population, Sample selection and data collection

The population of the study comprised all insurance companies in operation in Ethiopia in the year 2014. This study uses secondary data sources, such as annual report of insurance companies obtained from National Bank of Ethiopia and from the companies' record. In Ethiopia currently there are 17 insurance companies in operation, one is owned by the government and the remaining are privately owned companies. Out of these 17 companies 8 companies such as lion, Ethio-Life, Oromia, Abay, Birhan, Tsehay, Lucy and Buna were established after 2007 and did not have full information for the study period. If the number of years will be increased the number of companies out of the sample would also increase, due to the above mentioned reasons only 9 insurance companies are purposefully selected as samples.

This chapter provides the procedure followed to analyze the data to determine profitability of insurance companies in Ethiopia

In order to achieve the objectives of the study, quantitative data is used from secondary data such as Balance sheet and Income statement, which is obtained from National Bank of Ethiopia and form each firms. The selected insurance companies are:- Awash Insurance company, Africa Insurance company, Global Insurance Company, NIB Insurance Company, Nile Insurance Company, Nyala Insurance Company, United

Insurance Company, Ethiopian Insurance Corporation and National Insurance Company of Ethiopia S.C.

Company specific variables of the study are driven from balance sheet and income statement of the selected nine insurance companies in Ethiopia. And for macroeconomic variables it is obtained from annual report of National Bank of Ethiopia. Besides, the data covers from 2005 to 2014.

Return on Asset is used as dependent variable to measure insurance companies' profitability. Since ROA reflects the ability of insurer's management to generate profit, it is considered in this study as a better proxy and used to measure profitability. Return on equity only indicates return to shareholders on their equity. The Return on Assets ratio is an important measure of profitability because it measures the efficiency with which the company is managing its investment in assets and using them to generate profit.

3.4. Definition of variables

ROA = measures the profit earned dollar/Birr of assets and shows how well insurance companies management use the resources to generate profit. And defined as the before tax profit divided by total assets

Company size = is measured by total assets in log value

Leverage = is defined as insurance companies' asset that are financed with debt:- total debt divided by total asset

Liquidity = measures the insurance companies' ability to use its near cash or "quick" assets to cover its liabilities and defined as current assets divided by current liabilities

Firm Growth = measures how firm is growing and is defined as premium of current year less premium of prior year divided by premium of prior year.

Company Age = measured by the number of years that companies are in operation (in the service).

Volume of capital = measured by the book value of equity

Tangibility of assets = measured by fixed asset divided by total asset

Inflation = measured as the average annual change in the consumer price index.

$(CPI_t – CPI_{t-1})/CPI_{t-1}$

GDP growth = The average annual change in GDP

Model Formulation

The model would be:-

$$ROA = \beta_0 + \beta_1 size_{i.t} + \beta_2 lq_{i.t} + \beta_3 lv_{i.t} + \beta_4 gz_{i.t} + \beta_5 ag_{i.t} + \beta_6 voc_{i.t} + \beta_7 tang + \beta_8 inf_{i.t} + \beta_9 gdp_{i.t} + e_{i.t}$$

Where :-

ROA = Return on total assets

Size = Company size

Lq = Liquidity

Lv = leverage

Gz = firm frowth

Ag = Company age

Voc = Volume of capital

Tang = Tangibility of assets

Inf = inflation

Gdp = GDP growth

e = error term for company I at time t assumed to have a zero mean $E(e_{i.t}) = 0$

ß$_0$ = Constant term

ß$_{1,2,3 \ldots..9}$ are parameters to be estimated

i= insurance company i, …. 9, and t = the index of time periods, t= 1, … 10

3.5. Diagnostic Tests

As stated in Brooks (2008) book there are five basic assumptions relating to classical linear regression model. These assumptions are:-

- The average value of the errors is zero
- Assumption of homoscedasticity
- The covariance between the error terms over time or (cross-sectionally) is zero, the errors are uncorrelated with one another
- The x_t are non-stochastic
- The disturbances are normally distributed

These assumptions are required to show that the estimation technique which is ordinary least square had a number of desirable properties; hence, hypothesis tests regarding the co-efficient estimates could validly be conducted. If these assumptions hold, then the estimators determined by ordinary least square will have a number of desirable properties, which are known as Best Linear Unbiased Estimates. Therefore, in this model, diagnostic tests are performed to ensure whether these assumptions of the CLRM are violated or not.

According Brooks (2008) the first assumption holds true since a constant term is included in the regression equation. Since there is a constant term in this study, there is no need to conduct the test.

3.5.1. Test for assumption of homoscedasticity

In Brooks (2008) it is assumed that the variance of the errors is constant, if the errors do not have a constant variance, they are said to be heteroscedastic. In order to check the existence of heteroscedasticity the white test could be used. This test executes testing of the null hypothesis that the variance of the errors is constant (homoscedacticity) it can also be said no heteroscedasticity.

3.5.2. Test of autocorrelation

The third assumption is known as autocorrelation that is the covariance between the error terms over time is zero, it is assumed that the errors are uncorrelated with one another.

3.6. Hypothesis of the study

Based on the previous chapter literature results the researcher formulates the following hypothesis

Ho1: There is no significant relationship between company size and profitability of insurance companies in Ethiopia

Ho2: There is no significant relationship between leverage and profitability of insurance companies in Ethiopia

Ho3: There is no significant relationship between liquidity and profitability of insurance companies in Ethiopia

Ho4: There is no significant relationship between firm growth and profitability of insurance companies in Ethiopia

Ho5: There is no significant relationship between company age and profitability of insurance companies in Ethiopia

Ho6: There is no significant relationship between volume of capital and profitability of insurance companies

Ho7: There is no significant relationship between tangibility of company assets and profitability of insurance companies

Ho8: There is no significant relationship between inflation and profitability of insurance companies in Ethiopia

H9: There is no significant relationship between GDP growth and profitability of insurance companies in Ethiopia

Chapter Four

4. DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter analyzes the empirical evidence on the determinants of insurance companies' profitability in Ethiopian insurance industry. Return on assets is taken as a profitability measure in this study and the study conducted by using internal and external factors that can affect insurance companies' profitability. These factors are company size, leverage, liquidity, firm growth, company age, volume of capital, tangibility of company assets, inflation and GDP growth. And hence, multiple regression models is used, which is all independent variables enter the equation at once to determine the relationship. The study is conducted by using balanced panel data, in which all variables are observed for each cross section and each time period. The time covers ten years, from 2005 to 2014 and a cross section includes nine insurance companies which are operational for the past twelve years. Besides, in this chapter diagnostic test is carried out to ensure that the data fits the basic assumptions of classical linear regression model. In addition to this, descriptive statistics is also discussed and then the outcome of the regression results is going to be presented and discussed.

4.2. Tests of heteroscedasticity

The assumption of homoscedasticity says that the variance of the errors is constant, Brooks (2008) if the errors do not have constant variance they are said to be heteroscedastic. In this study which is indicated below; the test result presented on table 2 both F – statistics and Chi square showed that there is no evidence that there is heteroscedasticity because the result in the P value is more than .05. The third version of

the test statistic, “Scaled Explained SS”, which is based on a normalized version of the explained sum of squares from the auxiliary regression also gives the same result that there is no evidence for the presence of heteroskedasticity problem which is the result of the p-value is considerably in excess of .05.

Table 1 Heteroskedasticity Test: White

F-statistic	0.285940	Prob. F(8,81)	0.9688
Obs*R-squared	2.471884	Prob. Chi-Square(8)	0.9630
Scaled explained SS	2.075474	Prob. Chi-Square(8)	0.9786

4.3. Test for auto correlation

The Durbin-Waston test statistic value in table 3 is 1.905, which is a result of 90 observations. There are 9 regressors and an intercept term in the model, hence the relevant critical values for the test of 90 observation and 9 regressors are:- dL = 1.336, dU = 1.741, and 4 – du which is 4 – 1.741 = 2.259; 4 – dL which is 4 – 1.336 = 2.664. The result of Durbin Watson test statistic of 1.78 is between the upper limit (dU) which is 1.741 and the critical value of 4 – dU which is 2.259. Therefore, result falls under no auto-correlation range, which is within the non rejection line of the number line which shows there is no evidence for the presence of autocorrelation.

Table 2 Test of auto correlation

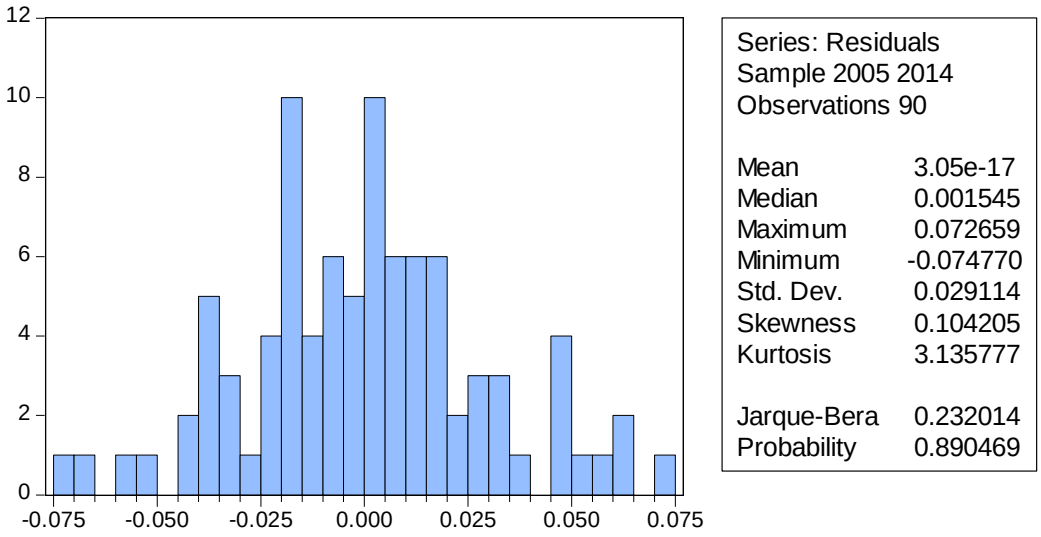
R-squared	0.674793	Mean dependent var	0.077328
Adjusted R-squared	0.598008	S.D. dependent var	0.044172
S.E. of regression	0.028007	Akaike info criterion	-4.135897
Sum squared resid	0.056475	Schwarz criterion	-3.635935
Log likelihood	204.1154	Hannan-Quinn criter.	-3.934283
F-statistic	8.788084	Durbin-Watson stat	1.904827
Prob(F-statistic)	0.000000		

Source: Financial statements of insurers and own computation

4.4 Test for Normality

Brooks (2008), if the residuals are normally distributed, the histogram should be bell-shaped. A normal distribution assumption states that it is not skewed and has a coefficient of kurtosis of 3. Bera_Jarque formalizes this by testing the residuals for normality and testing whether the coefficient of skewness is zero and kurtosis to be three. The normality test of this study is shown in figure 3 and has kurtosis close to 3, and Jarque_Bera statistic had a p-value of .890 which shows that the data is consistent with a normal distribution assumption.

Figure 3 - Normality test for residuals



Source: Financial statements of insurers and own computation

4.5 Test for Multicollinearity

Multicollinearity test is conducted to check whether the independent variables are correlated or not. Hailegiorgis (2011) a correlation is a single number that describes the degree of relationship between two variables. The standard statistical method for testing data for multicollinearity analyzes the control variables correlation coefficient; it

represents the linear relationship between two variables. Bilal et al. (2013) Before running the panel data models, it is essential to check the correlation between independent variables in order to confirm that there is no problem of multicollinearity. As it is indicated below the correlations between independent variables show correlation among independent variables such as:- company size is highly correlated with volume of capital as indicated below in the table it is nearly .95, this indicates that increase in size of the insurance company shows a higher correlation with volume of capital. In addition to this there is correlation between age with volume of capital and company size, the result shows .74 and .71 respectively, it shows increase in age shows a higher correlation between volume of capital and company size. This correlation indicates that multicollinearity may be a potential problem.

Table 3 – Correlation matrixes of independent variable

	CO.SIZE	LEV.	LIQU.	GROWTH	AGE	V.OF CAPITAL	TANGIB.	INFLATION	GDP
CO. SIZE	1.000000	0.088500	-0.032132	-0.025022	0.713370	0.947671	-0.405690	0.063961	-0.463043
LEV.	0.088500	1.000000	-0.437429	0.107089	0.035265	-0.099928	-0.260361	0.039054	0.038296
LIQU.	-0.032132	-0.437429	1.000000	-0.013196	0.100893	0.109360	-0.304901	-0.232543	0.209697
GROWTH	-0.025022	0.107089	-0.013196	1.000000	0.066278	-0.064748	-0.113855	0.171746	-0.243054
AGE	0.713370	0.035265	0.100893	0.066278	1.000000	0.736288	-0.276274	0.045001	-0.294119
V.OF CAPITAL	0.947671	-0.099928	0.109360	-0.064748	0.736288	1.000000	-0.384399	0.010655	-0.393301
TANGIB.	-0.405690	-0.260361	-0.304901	-0.113855	-0.276274	-0.384399	1.000000	0.023290	0.014540
INFLATION	0.063961	0.039054	-0.232543	0.171746	0.045001	0.010655	0.023290	1.000000	-0.517236
GDP	-0.463043	0.038296	0.209697	-0.243054	-0.294119	-0.393301	0.014540	-0.517236	1.000000

If the correlation coefficient is low it indicates that there is no problem of multicollinearity. When there is a multicollineariarity problem it indicates that the estimates of the sample parameters become inefficient and entail large standard error

which makes the coefficient values and signs unreliable. Therefore, in the result of correlation analysis above it indicates that there is a high positive correlation between volume of capital and company size. Hence, further an alternative method should be employed to check the presence of multicollinearity among independent variables. Variance inflation factors (VIF) is one of the tools used to measure the degree of co-linearity present for each factor. Gashayie (2013) indicates that multicollinearity is a violation that no independent variables are nearly or highly correlated, as a result high correlation among independent variables will makes hard to separate the effects of individual variables. Gujarati (1995), multicollinearity, is not considered a severe problem if the VIF value is less than ten. Therefore, after obtaining the correlated variables, the researcher further assessed the severity of multicollinearity as indicated above by evaluating the VIF values and the tolerance level.

Table 4- Collinearity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.287	.150		1.916	.059		
	Company_size	.005	.030	.050	.162	.872	.056	17.717
	Leverage	-.235	.057	-.458	-4.144	.000	.444	2.250
	Liquidity	-.010	.018	-.058	-.568	.572	.518	1.932
	Firm_Growth	.002	.001	.244	3.032	.003	.840	1.191
	Age	-.001	.001	-.088	-.768	.445	.415	2.408
	Volume_of_capital	.019	.031	.195	.625	.534	.055	18.029
	Tangibility	-.087	.041	-.213	-2.112	.038	.531	1.882
	Inflation	-.131	.036	-.325	-3.594	.001	.664	1.506
	GDP_Growth	1.789	.451	.432	3.968	.000	.457	2.187

a. Dependent Variable: ROA

Multi-collinearity is investigated using tolerance value and variance inflator facto (VIF) value. From the above table it can be seen that company size and volume of capital have more than 10 value of VIF, and their tolerance value is somehow closer to zero. This indicates that there is multicollinearity problem. Shiu (2004) Dropping one of the two highly correlated variables is a possible remedy for multicollinearity in the model. Therefore, since multicollineariity is a data problem, the researcher decided to start the treatment by removing the variable that are found to be strongly correlated, one at a time, then, first to drop company size. Hence, after dropping the company size, the result is as follows:

Table 5 – Collinearity without company size

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.305	.146		2.079	.041		
	Leverage	-.253	.049	-.493	-5.185	.000	.596	1.677
	Liquidity	-.009	.017	-.053	-.520	.605	.521	1.919
	Firm_Growth	.002	.001	.240	3.002	.004	.846	1.183
	Age	.000	.001	-.067	-.615	.541	.454	2.202
	Volume_of_capital	.021	.013	.225	1.695	.094	.305	3.279
	Tangibility	-.090	.041	-.220	-2.194	.031	.537	1.863
	Inflation	-.132	.036	-.327	-3.635	.000	.665	1.504
	GDP_Growth	1.754	.446	.424	3.936	.000	.464	2.154

a. Dependent Variable: ROA

From the above table it can be seen that tolerance levels have increased and VIF values are less than 10, this indicates that the model is useful. In order to choose among the two variables the model summary is presented here under after removal of company size. The R^2 of the summary is .563.

Table 6 – Model summary without company size

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751[a]	.563	.520	.03059

a. Predictors: (Constant), GDP_Growth, Tangibility, Leverage, Firm_Growth, Age, Volume_of_capital Inflation, Liquidity,

To choose among these two correlated variables again the researcher would like to drop volume of capital. The result after dropping volume of capital is presented hereunder;

Table 7 – Collinearity without volume of capital

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.292	.145		2.007	.048		
	Company_size	.024	.013	.241	1.804	.075	.300	3.337
	Leverage	-.231	.051	-.450	-4.536	.000	.544	1.837
	Liquidity	-.010	.017	-.061	-.608	.545	.533	1.876
	Firm_Growth	.002	.001	.243	3.047	.003	.841	1.189
	Age	-.001	.001	-.088	-.771	.443	.415	2.408
	Tangibility	-.088	.041	-.215	-2.150	.035	.536	1.865
	Inflation	-.131	.036	-.326	-3.634	.000	.667	1.499
	GDP_Growth	1.812	.426	.438	4.256	.000	.507	1.973

a. Dependent Variable: ROA

Again from the above table the result shows that tolerance levels have increased and VIF values are less than 10, this indicates that this model is also useful. Therefore, in order to choose which variable to drop among the two variables the researcher is obliged to choose based on the greater R^2. To this end, model summary is presented here under after removal of volume of capital. The R^2 of the summary is .565.

Table 8 – Model summary without volume of capital

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752[a]	.565	.523	.03052

a. Predictors: (Constant), GDP_Growth, Tangibility, Leverage, Firm_Growth, Age, Inflation, Liquidity, Company_size

From the model which excludes volume of capital from the list of all regressors, as it is revealed in the above table, it indicates that the value of VIF for all variables which is below 10. Besides, the tolerance value for all variables is not near to zero, and it has a slightly higher R^2 which is .565 than R^2 of .563 and indicates that the model without volume of capital is the best model among the above two. In general, the model, which is set after treating the problem of multicollinearity, shows that there is no more multicolionearity problem. Therefore, it can be concluded that the model is the best model after the researcher drop the volume of capital variable.

4.6. Descriptive Statistics

The result of statistical description of both dependent and explanatory variables of the study provides descriptive about statistical mean, maximum value, minimum value and standard deviation of each variables. This is generated to give overall description about data used in the model.

Table 9 – Descriptive Statistics

	ROA	C. SIZE	LEV.	LIQUI.	Firm G.	AGE	Vol. of Cap	Tang.	INFL.	GDP
Mean	0.077328	383.3367	0.651000	1.118778	0.779689	15.83333	130.8306	0.170111	0.170800	0.107800
Median	0.075000	205.8300	0.650000	1.090000	0.225000	14.00000	65.34000	0.155000	0.146500	0.109000
Maxim.	0.170000	2632.010	0.990000	2.310000	48.16000	39.00000	1002.430	0.540000	0.364000	0.126000
Mini.	-0.050000	23.07000	0.450000	0.550000	-12.47000	3.000000	7.420000	0.020000	0.028000	0.088000
Std. D	0.044172	488.4882	0.086220	0.257755	5.293758	7.630880	171.1312	0.107969	0.109842	0.010678
Obser.	90	90	90	90	90	90	90	90	90	90

Table 9 provides a summary of the descriptive statistics of the dependent and independent variables for ten year from 2005 to 2014 for nine insurance companies with a total 90 observations. The descriptive statistic result includes the mean median, minimum, maximum and standard deviation for the dependent and independent variables of the model. It is the indicators of variables computed from the financial statement. As stated in the above table 9, profitability of insurance companies in Ethiopia is measured by ROA, then from the total of 90 observations the insurance companies achieved on average a positive before tax profit for the last ten years. Regarding the total sample, the mean of ROA is 7.7% with a minimum of -5% and a maximum of 17%. This indicates that the most profitable insurance company in the selected sample companies earned 17 cents of profit before tax for a single birr invested in the assets of the firms. The maximum loss a firm incurred is 5 cents on each birr invested on total asset of insurance companies. The standard deviation statistics for ROA is 0.044 indicating that the profit variation between the selected insurance is moderate which indicates that the data points are tend to be close to the mean.

Concerning the explanatory variables, leverage is proxied by debt ratio which is debt divided by total assets. The mean of leverage is 65 percent, with a maximum and minimum of .99 and .45 percent respectively, with the standard deviation of .734.

On the other hand, the size of the insurance companies are measured in natural logarithm of total assets, the result of the descriptive statistics after antilog the figure it shows that average value of size is 383.3367 million with minimum of 23.07 million and maximum of 2,632.01 billion, the standard deviation is 488.4882 million, which indicates that there is a significant deviation in the study time period. Liquidity of insurance companies has 1.12, maximum of 2.31 and minimum of 0.55 with the standard deviation of 0.26. Firm growth has an average value of 77 percent, the maximum of 48.16 and minimum of -12.47, with a standard deviation of 5.29. The exaggerated maximum of 48.16 occurred due to the forced third party insurance Nice insurance company worked on it to collect a large amount of premium, as a result high firm growth was registered.

The average age of the Ethiopian insurance companies is 16 years with a maximum of 39 and a minimum of 3, this gap is due to the monopolization of the industry for a long time due to this it has a standard deviation of 7.63. The average volume of capital is 130.8306 million with a maximum of 1,002.430 billion and minimum of 7.42 million, this shows that the volume of capital between the very old firm which is Ethiopian Insurance Corporation and the younger companies, and it has a standard deviation of 171.1312. The descriptive statistics also displayed that tangibility has a mean of 0.17 this indicates that on average 17 percent of the firms' assets are fixed this occurs due to the industry is

in emerging stage, and tangibility has a maximum 0.54 and a minimum of 0.02 with a standard deviation of 0.11. Firms in developing countries rely on high asset tangibility for debt financing, but in this study the asset tangibility ratio is low. It is against the capital structure theories which states that firms with high asset tangibility should have greater borrowing capacity.

Concerning the external factors such as, inflation the average inflation is 17.08 with a maximum rate of 36.40 and a minimum of 2.80 which shows a very fluctuating situation with a standard deviation of 10.98. The GDP shows that the average GDP growth is 10.78 % with a maximum of 12.60% and a minimum of 8.80% with a standard deviation of 1.1 for the study period which indicated the economic growth in Ethiopia during this period is stable. This GDP result coincides with the government report and indicates that there is a potential for the insurance industry.

4.7 Result of the regression analysis

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 multiple regressions to predict the magnitude of each explanatory variables impact on the dependent variable. Based on the result, this section presents the empirical findings from the economic results on the factors affecting insurance companies' profitability in Ethiopia. The section covers the empirical regression model used in this study and the results of the regression analysis. As the estimation result of the operational panel regression model used in this study is presented in table 11, the detail explanation would be presented in this section.

Empirical model: As presented earlier the empirical model used in the study in order to identify the factors that can affect Ethiopian insurance companies profitability which is presented hereunder:-

$$ROA = \beta_0 + \beta_1 size_{i.t} + \beta_2\, lq_{i.t} + \beta_3\, lv_{i.t} + \beta_4\, gz_{i.t} + \beta_5\, ag_{i.t} + \beta_6\, voc_{i.t} + \beta_7\, tang + \beta_8\, inf_{i.t} + \beta_9\, gdp_{i.t} + e_{i.t}$$

4.8Choosing Random versus Fixed Effect Models (FEM)

Gujarati (2004), if T which is the number of time series data is larger and N which is the number of cross-section units is small, there is likely to be little difference in the values of the parameters estimated by fixed effect model (FEM) and random effect model (REM). Hence, the choice is based on computational convenience. In this study the number of time series which is 10 years which is greater than the number of cross-sectional units which is 9 insurance companies. Besides, according to Brooks (2008) if samples are selected randomly it is more appropriate to use REM, and when the entities in the sample effectively constitute the entire population/sample frame, FEM is more appropriate. Therefore, as mentioned above the sample for this study was not selected randomly hence; FEM is preferable in this regard.

Table 10 – Regression results without company size

Total panel (balanced) observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.007958	0.301584	-0.026387	0.9790
LEVERAGE	-0.169103	0.054379	-3.109725	0.0027***
LIQUIDITY	-0.029499	0.024028	-1.227708	0.2235
FIRM_GROWTH	0.001925	0.000631	3.050813	0.0032***
AGE	0.001201	0.004148	0.289566	0.7730
VOLUME_OF_CAPITAL	0.043814	0.043270	1.012572	0.3146
TANGIBILITY	-0.155404	0.065144	-2.385538	0.0197**
INFLATION	-0.100202	0.038240	-2.620351	0.0107**
GDP_GROWTH	0.877430	0.613417	1.430399	0.1569
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.674672	Durbin-Watson stat		1.902445
Adjusted R-squared	0.603368			
S.E. of regression	0.027819			
F-statistic	9.461825			
Prob(F-statistic)	0.000000			

*** and ** denote significance at 1% and 5% levels respectively.
Source: Financial statements of insurers, and own computation

Although, the result of both without volume of capital and company size has similar results due to the above reason explained after evaluating the VIF value the estimation result of the operational panel regression model used in this study is presented in table 11 below, and the result of the output will be discussed in detail. In order to be able to investigate whether each of the research hypotheses discussed earlier should be rejected or not rejected. This section analyzes the statistical finding of the study against the ones suggested by the theoretical literature and the ones found in other empirical studies as illustrated in chapter two.

Table 11 Regression Results for factors affecting Ethiopian insurance companies' profitability without volume of capital

Total panel (balanced) observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.188579	0.209920	0.898339	0.3720
COMPANY_SIZE	0.012963	0.026383	0.491340	0.6247
LEVERAGE	-0.186863	0.055803	-3.348598	0.0013***
LIQUIDITY	-0.021528	0.022491	-0.957182	0.3416
FIRM_GROWTH	0.001996	0.000629	3.171687	0.0022***
AGE	0.003771	0.003037	1.241345	0.2185
TANGIBILITY	-0.143623	0.064221	-2.236392	0.0284**
INFLATION	-0.104797	0.038087	-2.751507	0.0075***
GDP_GROWTH	0.857918	0.620424	1.382793	0.1709

R-squared	0.671190	Durbin-Watson stat	1.932024
Adjusted R-squared	0.599123		
S.E. of regression	0.027968		
F-statistic	9.313315		
Prob(F-statistic)	0.000000		

*** and ** denote significance at 1% and 5% levels respectively.
Source: Financial statements of insurers, and own computation

Accordingly, the report of regression result shows the result of the relationship between ROA and explanatory variables. As indicated in the table, the regression result shows the reasonable explanatory power of Adjusted (R^2), approximately .60 which endorses that 60 percent of the variation in the dependent variable which is return on asset is explained by the independent variables of the model. Hence, the remaining 40 percent of the variation in the dependent variable is left unexplained by explanatory variables of the study, which shows that this change is explained by other factors which are not included in the model. Therefore, it can be concluded that the null hypothesis of f- statistic which is the overall test of significance that the R^2 is equal to zero is rejected at 1% as the p-

value is sufficiently low. Meaning, the regression result shows that the value of f – statistic is 9.313 which is the p- value of 0.0000 indicates strong statistical significance, at 1% significant level that supports the stability which enhanced the reliability and validity of the model for the study.

In the regression output, the DW stat result of the study indicates that there is no autocorrelation which occurred between the variables and their respective lagged value.

To this end, the regression result both the internal and external factors are listed in the above table which shows that from the internal factors leverage and firm growth show significant impact on insurance companies in Ethiopia. Leverage has a negative impact whereas firm growth has a positive impact on profitability of the insurance companies. Among two external factors inflation has a significant negative impact at 5% significant lever on insurance companies' profitability in Ethiopia. On the other hand, the study did not find relationship between company size, liquidity, age and GDP growth and insurers' profitability in Ethiopia.

Company Size

In the theoretical parts, it is indicated that as the company size increases up to a certain stage it allows the company to enjoy the benefit of economies of scale market-power hypothesis. Which means as firms' size increases, they become more diversifies and have more stable cash flows. They are less likely getting bankrupt as compared to small firms so that they can afford getting high return. Gashaw (2012) larger insurance companies make efficiency gains that can be captured as higher earnings due to the fact that they do not operate in very competitive markets. Ahmed et al. (2011) Performance

of large size life insurance companies is better than small size companies. Therefore, based on the theoretical findings it was expected positive and significant relationship between company size and insurance companies' profitability.

In most literatures, the effect of size of insurance companies' profitability is positive, such as Bawa and Chattha (2013), Mehari and Aemiro (2013), Bilal et al. (2013), Ahmed et al. (2011) and Malik (2011), Burca and Batrinca (2014) by including the company size as independent variable, then, all found that company size has a positive linkage with insurers' financial performance. Burca and Batrinca (2014), Explained that since larger firms have more resources, a better risk diversification, complex information systems and a better expenses management. Swiss Re (2008) stated that larger firms can grow faster than smaller firms.

To the contrary, few researches found negative and significant relationship between insurance company size and profitability, such as:- Mwanfi (2015) Oino (2014) from Kenya and Derbali (2014). Mwamfi further explained that as the relationship between size and performance was negative, perhaps due to diseconomies of scale, it may be prudent to focus on performance instead of growth for its own sake. Derbali concluded that the negative result shows that the Tunisian small size companies are more efficient than those of larger sizes.

There are also studies conducted to find the most determinant factors of insurance companies profitability by including company size, that are found positive or negative

but insignificant to influence the companies' performance. Such as; Lee (2014) from Taiwan found positive but insignificant relationship between profitability and company size. This finding is consistent with the study of Lee, which is indicated in the regression result in table 11. It is found positive coefficient and insignificant relationship with p – value of .6247. Then, the researcher fails to reject the hypothesis. As many literatures indicated it is expected that larger firms can obtain lower unit cost and higher profit through economies of scale, but the largest insurance company in Ethiopia which is Ethiopian Insurance Corporation has similar ROA with the smaller insurance companies. This may be due to less competition and all insurance companies provide similar products which means lack of providing new services such as agriculture insurance which accommodate many types of risks, and work on awareness creation to the public at large. It can be seen that those insurers which focused on relatively variety of services scored a higher ROA other than those larger insurers.

Leverage

Nuredin (2012) highly leveraged firms depend on external financing to a greater extent than the one with lower leverage ratios, because leverage produces fixed charge requirements. Too much debt can be dangerous for a company and its investors. Olaosebukan (2012) Increased leverage also causes agency problems, such as the underinvestment incentive, that can reduce annual profitability due to the associated increase in the costs of monitoring and control.

Gahsaw (2012) literature in the capital structure confirm that a firm value will increase up to optimum point as leverage increases and then declines if leverage is further increases

beyond that optimum level. Almajali et al. (2012) Companies that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt; they may also be unable to find new lenders in the future, however leverage is not always bad, however; it can increase the shareholders' return on their investment and make good use of the tax advantages associated with borrowing.

A number of previous empirical studies reported statistically significant and negative relationship between financial leverage and insurance companies' profitability. Charumathi (2012) Sambasivam and Gashaw (2013), Burca and Batrinca (2014) Bilal et al. (2013), and Malik (2011) found a negative impact of leverage on insurance companies' profitability. Whereas, Mehari and Aemiro (2013), Mwangi and Murigu (2015) and Almajali et al. (2012) found a positive significant effect of leverage in insurance companies' profitability.

As predicted in the previous chapter the above regression results of this study shows a negative and statistically significant relationship between leverage ratio and insurance companies' profitability, which is consistent with Charumathi, Sambasivam and Gashaw, Burca and Batrinca, Bilal et al. and Malik report. Therefore, the hypothesis is rejected, and concluded that there is a negative and significant relationship between leverage and insurers' profitability. This indicates that insurers in Ethiopia using leverage beyond a level will have adverse impact on the profitability.

Lee (2014) used two dependent variables to find the most significant factors affecting insurance companies' profitability in Taiwan; in the ROA variable he found negative and significant impact of leverage on firm's profitability. He explained the reason referring Elango et al. (2008), that the use of financial leverage might lower the capital required for an insurer to operate business, but high financial leverage could be reflected in lower market value, thereby reducing the firm's profit and leading to solvency problem. As the case of unexpected losses lower equity would have a negative influence on the insurance companies' performance. As indicated above this negative relationship shows that if insurance companies increase their debt, their profitability will decline significantly.

Liquidity

Saeed (2014), Liquidity represents the degree to which companies' assets or securities can be purchased or sold in the market without influencing the price of the asset, and liquidity can affect the profitability in both ways; it has a positive impact if the bank is successful in holding liquidity or otherwise it has a negative impact on profitability. Liquidity ratio measures the ability of insurance companies in meeting debt obligations to policyholders and creditors. Financial and risk management studies indicate that a high liquidity ratio means low probability in financial distress. It is possible to increase insurer retentions if insurance companies own sufficient funds.

Hua Lee and Ying Lee (2011) financial and risk management studies indicate that a high liquidity ratio means low profitability in financial distress. Insurers only consider high liquidity if they have enough cash or other liquid assets in possession, it does not mean that insurers need to uphold huge cash and idle funds in order to become profitable.

Insurers need to create a balance between cash reserves and expected claims to the policyholders because investing excess cash on short term investment helps them to become profitable. If not, Almajali et al. (2012), high liquidity could increase agency costs for owners by providing managers with incentives to misuse excess cash flow by investing in projects with negative net present value and engaging on excessive perquisite consumption.

Shiu (2004) found positive and significant relationship between performance of insurance companies and liquidity in all the three models. Bawa and Chattha (2013) , Charumathi (2012) and Almajali et al. (2012) also found positive and significant relationship between performance and liquidity. But, Mwangi and Murigu (2015), Ahemed et al. (2011), Boadi et al. (2013), Mehari and Aemiro (2013) and Derbali (2014) did not find a relationship between performance and liquidity. On the other hand, Sambasivam and Gashaw (2013) study on insurance companies and found negative and significant relationship between firm profitability and liquidity.

The result of this study revealed negative coefficient and greater p- value which is .3416, this p-value indicates no evidence to reject the hypothesis and showed a negative relationship between liquidity and firm profitability, but statistically insignificant. In this study liquidity of the insurers is found insignificant determinant of insurers' profitability and has inverse relationship with profitability. This inverse relationship shows that insurers with greater ratios are less profitable 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, it may causes form lack of short term investment in Ethiopia.

Firm Growth

As it is indicated in the literature section, firm growth is represented by premium of current year less premium of prior year divided by premium of prior year, which shows a year to year change in the new premium of insurance companies.

Sambasivam and Gashaw (2013) and Derbali (2014 found positive and significant relationship between firm growth and performance of insurance companies'. This study is consistent with the above two studies, the result of the fixed effect regression analysis show that there is a positive and significant impact of firm growth on insurance companies' profitability. The result of this study has coefficient of .001996, t- statistics of 3.17 and p-value of 0.0022. Gashaw (2012) Insurance companies having more and more assets over the years have also better chance of being profitable for the reason that they do have internal capacity though it depends on their ability to exploit external opportunities. Therefore, the researcher rejects the hypothesis and the study confirms that firm growth has positive impact on profitability of insurance companies in Ethiopia during the study period. This implies that insurers with higher premium growth are in a better position of being profitable. The positive relationship encourages insurers to keep on increasing their premium, this increase will also result increase in their profitability. The more premiums are underwritten, the higher income insurers obtain.

CompanyAge

Derbali (2014), found a positive and significant relationship between age and profitability. Hamadan Ahamed Ali Al-Shami (2008) found no significant statistical relation between age and profitability of insurance companies in UAE. In this study the regression coefficient of age is .0038 with a t – statistics of 1.24 and significance is .2185. This can show that although it has a positive impact, there is insignificant relationship between age and profitability of insurance companies in Ethiopia. The result is consistent with Mwangi and Murigu (2015) and Gashaw (2012). This implies that older firms may stick on routine and neglect innovation. Besides, it may be due to shifting of expertise to newly emerging insurance companies; highly experienced staff may be shifted to the newly emerging insurers with a higher position. This erodes the availability of expertise in older firms.

Tangibility of assets

Mehari and Aemiro (2013) in Ethiopia and Malik (2011) in Pakistan found positive and significant relationship between profitability and tangibility. A positive relationship was expected based on the theoretical point of view, but in this study, tangibility of assets is found negative and has significant impact at 5% significant level on the profitability of insurance companies in Ethiopia. The regression results of tangibility of assets show that the coefficient is -0.1436, t-statistics -2.2364 and p-value of 0.0284. It is consistent with the study of Boadi et al. (2013) of Ghana. In accordance with this result, reject the hypothesis and it can be concluded that there is negative and significant relationship between tangibility of assets and profitability of insurers in Ethiopia. This negative impact tells us a percentage change in tangibility will have significant adverse effect on

insurers' profitability. This indicates that tangible assets are recorded at historical costs and during inflationary conditions the reported amount becomes small even if the replacement cost is high.

Inflation

Browne et al. (2001) firm performance is negatively related to unanticipated inflation. Shiu (2004) conducted a research to find determinants of UK general insurance company performance by using three models, the result of all models reveal that the performance is negatively related to inflation. A negative coefficient is expected when its costs increase faster than its income, if insurers' income rises more rapidly than its costs, inflation is expected to exert a positive effect on profitability, but it seems in practical as the case of Ethiopian insurance companies. Feyen et al. (2011) stated on their policy research working paper that inflation is expected to have a negative effect on the demand for life insurance, then after examining both life and non-life premiums over 90 countries during the period 2000 to 2008 and found that insurance activities are significantly hampered in high inflation countries.

The result of this study clearly indicates that inflation has a negative impact on profitability and statistically significant determinant of Ethiopian insurance companies' profitability. In this regard, the researcher rejects the null hypothesis and concludes there is negative relationship between inflation and insurers profitability. As it is known inflation has effects on reducing performance by increasing the price of labor and increase in the price. Bilal et al. (2013) the higher cost of operations due to very rapid

inflation can significantly reduce the profit of the insurance companies. This also indicates during refund of claims insurers paid unexpected amounts which causes due to the result of inflation. Therefore, the result of this research indicates that the insurance companies in Ethiopia are slow to adjust their performance in accordance with the inflation rate, which helps them to minimize the adverse effects. Besides, inflation reduce the purchasing power this results the reduction of affordability of the society.

GDP Growth

The coefficient of GDP is positive and it is not statistically significant, thus, the effect of GDP on Ethiopian insurance companies' profitability is not significant. The findings suggested that as GDP is not a determinant of insurance companies' profitability in Ethiopia, as far as the parameter for this variable is insignificant as illustrated by the large p-values of 0.1709. Theoretically GDP has positive and significant influence on profitability of insurance companies. Murungi (2014), GDP growth positively affects insurers profitability that is, growth of overall economic activity encourages demand for insurers services and indirectly result in higher insurers income. Lee (2014) conducted a research to find factors affecting profitability of property-Liability insurance industry in Taiwan by using operating ration and ROA as a dependent variable, and found only on the operating ratio model positive and significant relationship between GDP growth and firms' profitability. Kanwal and Nadeem (2013), GDP may induce a positive effect in countries where financial markets are well-developed and economies are in boom but negative effect in developing countries.

However, to the contrary the result of this study clearly indicates that GDP has a positive impact on profitability but statistically not significant determinant of Ethiopian insurance companies' profitability. Ethiopian insurance industry is not growing in line with the growth of the economy. This implies that insurance companies in Ethiopia do not anticipate the GDP and do not work on awareness creation to the society to let them know the importance of the insurance and the result of risk transfers to insurers.

Table 12 Summary of actual and expected signs of explanatory variables on the dependent variables

Explanatory Variables	**Expected Impact**	**Actual Impact**
Company size	Positive and significant	Positive and insignificant
Leverage	Negative and significant	Negative and significant
Liquidity	Positive and significant	Negative and insignificant
Firm Growth	Positive and significant	Positive and significant
Company age	Positive and significant	Positive and insignificant
Volume of Capital	Positive and significant	Positive and insignificant
Tangibility of assets	Positive and significant	Negative and significant
Inflation	Negative and significant	Negative and significant
GDP Growth	Positive and significant	Positive and insignificant

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study has investigated the major factors affecting insurance companies' profitability by employing multiple regressions to predict the magnitude of each explanatory variables impact on the dependent variable. The appropriate econometric methodology for estimation of variables coefficient is employed under fixed effect regression model. Efficient financial system contributes for sustainable economic growth of a given country. Hence, in order to convey this efficiency, researches should be conducted in an orderly manner by incorporating up to date information to assist managements to focus on relevant issues. This study specified an empirical framework to investigate the effect of company specific and macroeconomic determinants of Ethiopian insurance companies' profitability during the last 10 years, from 2005 to 2014.

This chapter presents the concluding remarks of the study and possible recommendations for practice and suggestions for further research.

5.2 Conclusion

As indicated in table 11 of regression results, internal and macroeconomic determinants are able to explain a substantial part of insurance companies' profitability in Ethiopia. ROA was used as a proxy for profitability; the study is designed to determine the relationship between profitability of insurance companies and the selected internal as well as external (macroeconomic) factors. As internal factors, company size, leverage, liquidity, firm growth, company age, volume of capital, tangibility of assets, were used

and as external factors, inflation and GDP growth were used as explanatory variables in the study.

The study revealed that the selected variables explained 67% of the variability in ROA of insurance companies in Ethiopia. The empirical findings on the impact of insurers' profitability in Ethiopia for the sample suggest the following conclusions.

The result of leverage showed a negative and significant relationship with strong statistical significance, which is as expected. The coefficient of leverage ratio is moderate that shows an increase in leverage result a decrease in insurance companies' profitability. This envisages that the performances of highly leveraged insurers are less profitable and this implies that equity financing is better than debt financing in Ethiopian insurance companies. The leverage ratio level of the insurance companies' affects their profitability negatively. This indicates that highly profitable insurance companies are more likely depend on equity capital than debt capital for the source of financing the firm; this result supports the hypothesis formulated for the study.

Regarding firm growth, the regression result indicates a positive and significant impact on Ethiopian insurance companies' profitability. This means, the increase in premiums collection contributes to firms' profitability. This indicates that the higher underwriting premium will increase the profitability of the existing insurance industry onwards in terms of premium income, new business policies, number of offices, agents, products highly contributes to the profitability of insurance companies in Ethiopia. This positive

relationship encourages insurers to keep on increasing their premium, and this result will increase their profitability.

The result of tangibility showed negative and significant relationship with insurance companies' profitability. The negative coefficient of tangibility showed that when tangibility of assets increases, profitability decreases. This inverse relationship indicates that a percentage change in tangibility will have significant effect on insurance companies' profitability. Therefore, this indicates that insurers with high fixed assets to total assets leads lower performance; as a result during this sample period insurers were not able to utilize their fixed assets.

From the two external factors which is macroeconomic factors, inflation has a negative and significant impact on insurance companies profitability in Ethiopia. The coefficient of inflation is moderate, this indicates that an increase in the inflation rate moderately result a decrease in firms' profitable.

This study also found that company size, liquidity, age and GDP growth are not to be statistically significant in influencing profitability of insurance companies in Ethiopia.

5.3 Recommendations

Based on the result of analysis conducted in the previous chapter and the above conclusions, the following possible recommendations have been forwarded to the management, The National Bank of Ethiopia and investors which helps them to focus on the most important determinant of profitability.

As it is indicated in the literature and in this research also supports that the development of the insurance sector is not as such as expected. Besides, the range of insurance product offered by the insurer is limited, that indicates the sector is still at the early stage of development. Hence, The National Bank of Ethiopia, the insurance company's management and investors should focus on how they promote the growth which significantly affects the profitability. Ethiopian insurance companies need to try their best, in order to provide new services such as agriculture insurance which accommodate many types of risks, and work on awareness creation to the public at large. Then, this would facilitate the firm growth by collecting more premiums; and would enable the firm to utilize its asset to generate proportional profit.

In addition to this, the result also supports the insurance companies' to use the resources efficiently to finance their business, highly leveraged companies are less profitable. Therefore, care must be taken in order not to exceed the optimal capital structure.

Larger insurance companies need to work on providing new up to date products by including agriculture insurance coverage to the society in order to attract the customer. On the other hand, insurance companies during setting of the premium, they should incorporate the effect of inflation in order not to be affected that much.

Finally, the study sought to identify the factors that affect profitability of insurance companies' in Ethiopia. However, the variables used in the statistical analysis may omit the major determinants that can affect the insurance profitability. Hence, the researcher urges scholars to do further investigation to assist the insurance industry in Ethiopia.

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Annex 1 Branch Network & Capital of Insurance Companies as at June 30, 2014

(Branch in Number and Capital in Millions of Birr)

No.	Insurance Companies	Branch						Capital		
		2012/13			2013/14			2012/13	2013/14	% change
		A.A	Reg.	Total	A.A	Reg	Total	A	B	B/A
1	Ethiopian Insu. Corp	11.0	38	49	18	44	62	376.0	434.4	15.5
2	Awash Ins. Com. S.C.	20.0	12	32	21	12	33	145.7	182.9	25.6
3	Africa ins. Co. S.C.	6.0	7	13	8	7	15	106.5	134.9	26.7
4	National Ins. Co.of Eth	9.0	10	19	9	12	21	54.9	72.6	32.1
5	United Ins. Co. S.c	16.0	8	2	18	10	28	88.9	203.1	12.3
6	Global ins. Co. S.C.	6.0	5	11	6	5	11	44.2	67.1	51.9
7	Nile ins. Co. S.C	11.0	12	23	14	14	28	158.9	182.0	14.6
8	Nyala ins. Co. S.C.	12.0	9	21	12	9	21	163.0	206.3	26.6
9	Nib ins. Co. S.C.	15.0	8	23	17	8	25	151.8	207.3	36.5
10	Lion ins. Co. S.C.	11	5	16	14	6	20	52.7	83.4	58.45
11	Ethio-life ins. Co. S.C.	3.0	0	3	6	1	7	25.9	20.3	-21.9
12	Oromia ins. Co. S.C.	12	8	20	14	11	25	76.6	119.2	55.5
13	Abay ins. Co, S.C.	3	4	7	7	7	14	12.1	48.5	300.1
14	Berhan insu S.C.	6	1	7	6	1	7	15.5	22.4	45.0
15	Tsehay insu. S.c.	5	0	5	6	2	8	7.9	24.3	206.6
16	Lucy	0	0	0	2	1	3	8.4	16.8	100.4
17	Bunna insu. S.C.				4	0	4	0	8.6	-
	Total	146	127	273	182	150	332	1,489.0	2,034.1	36.6

Source: National Bank of Ethiopia 2013/14 report

Annex 2 – Regression result of all variables

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/05/15 Time: 14:10
Sample: 2005 2014
Periods included: 10
Cross-sections included: 9
Total panel (balanced) observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.022404	0.316229	-0.070849	0.9437
COMPANY_SIZE	0.004581	0.028037	0.163380	0.8707
LEVERAGE	-0.172331	0.058202	-2.960938	0.0042
LIQUIDITY	-0.029421	0.024194	-1.216024	0.2279
FIRM_GROWTH	0.001924	0.000635	3.027072	0.0034
AGE	0.001010	0.004337	0.232812	0.8166
TANGABILITY	-0.155174	0.065598	-2.365531	0.0207
VOLUME_OF_CAPITAL	0.041286	0.046229	0.893073	0.3748
INFLATION	-0.100014	0.038514	-2.596810	0.0114
GDP_GROWTH	-0.866209	0.621355	-1.394064	0.1676

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.674793	Mean dependent var	0.077328
Adjusted R-squared	0.598008	S.D. dependent var	0.044172
S.E. of regression	0.028007	Akaike info criterion	-4.135897
Sum squared resid	0.056475	Schwarz criterion	-3.635935
Log likelihood	204.1154	Hannan-Quinn criter.	-3.934283
F-statistic	8.788084	Durbin-Watson stat	1.904827
Prob(F-statistic)	0.000000		

E-view out put

Annex 3 – Regression result after excluding volume of capital

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/06/15 Time: 07:54
Sample: 2005 2014
Periods included: 10
Cross-sections included: 9
Total panel (balanced) observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.188579	0.209920	0.898339	0.3720
COMPANY_SIZE	0.012963	0.026383	0.491340	0.6247
LEVERAGE	-0.186863	0.055803	-3.348598	0.0013
LIQUIDITY	-0.021528	0.022491	-0.957182	0.3416
FIRM_GROWTH	0.001996	0.000629	3.171687	0.0022
AGE	0.003771	0.003037	1.241345	0.2185
TANGIBILITY	-0.143623	0.064221	-2.236392	0.0284
INFLATION	-0.104797	0.038087	-2.751507	0.0075
GDP_GROWTH	-0.857918	0.620424	-1.382793	0.1709

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.671190	Mean dependent var	0.077328
Adjusted R-squared	0.599123	S.D. dependent var	0.044172
S.E. of regression	0.027968	Akaike info criterion	-4.147103
Sum squared resid	0.057100	Schwarz criterion	-3.674917
Log likelihood	203.6196	Hannan-Quinn criter.	-3.956690
F-statistic	9.313315	Durbin-Watson stat	1.932024
Prob(F-statistic)	0.000000		

Eview out put