St. Mary's University, School of Graduate Studies, MBA Program

The Determinants Effect on Profitability of Non- Life Insurance Industry in Ethiopia

By Kalkidan Melkamu

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Sewale Abate (phD) . All sources of material used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institutions for the purpose of earning any degree.

_____ _____

Name Signature

St. Mary's University, Addis Ababa **January, 2017**

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate studies for examination with my approval as a university advisor.

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St. Mary's University, Addis Ababa January , 2017

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ABSTRACT

This research investigates the determinants effect on profitability of non-life insurance industry in Ethiopia. The study examines ten insurance companies which operate within 2008 to 2015 time frame work with total sample size of 80 populations. The data for the study was collected from secondary sources from financial statement and annual report of individual firms and annual report of national bank and MOFED reports. A purposive sampling technique was used to choose the study participants since the time framework only eight years and select ten companies which operate under this time frame. Descriptive statistics, correlation and regression analysis were used to examine the determinants effect of profitability on non-life insurance in Ethiopia. Size of companies, tangibility of asset, leverage, liquidity, loss ratio, and premium growth considered as internal variables, market concentration ratio as industry specific variables and inflation rate & real GDP growth rate as macro-economic variables. The study findings shows that internal variables size and tangibility affect profitability of non-life insurance industry in Ethiopia positively with significant level and loss ratio/ underwriting risk and premium growth has negative relationship with profitability significantly. However liquidity has insignificant and negative effect on profitability of non-life insurance industry. Market concentration ratio affects the non-life insurance industry profitability negatively at insignificant level. From external variables economic growth have significant & positive relationship with profitability of Ethiopian insurance market. This research clearly shows the determinants effect on profitability of non life insurance industry in Ethiopia. The implication of the study applies for managers, Owners, regulatory bodies and policy makers have been discussed.

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List of Abbreviations

LRM: linear regression models

CPI: Consumer price index

D-W stat: Durbin-Watson Statistics

DW: Durbin–Watson

EG: Economic growth

GDP: Growth domestic product

INF: Inflation rate

LV: Leverage

LR: Loss ratio

LQ: Liquidity

MC: Market concentration

ROA: Return on assets

TOA: Tangibility of asset

GDPGR; gross domestic product growth

TA: Tangibility

NIB; NIB Insurance Company S.C

EIC; Ethiopian Insurance Corporation

AIC; Awash Insurance Company S.C

NISCO; Nyala Insurance Company S.C

NICE; National Insurance company of Ethiopia S.C

MOFED: Ministry of finance and economic development

NBE: National bank of Ethiopia

ROE: Return on owner's equity

ROI: Return on investment

ROIC: Return on invested capital

VIF; Variance Inflation Factor

ICs; Insurance Companies

Chapter One

Introduction

1.1 Background of the study

The financial system comprises of financial institutions, financial instruments and financial markets that provide an effective payment, credit system and risk transfer and there by facilitate channelizing of funds from savers to the investors of the economy. (Rejda, 2008)

The insurance industry in particular is part of immune and repair system of an economy and successful operation of the industry can set energy for other industries and development of an economy. (Abate, 2012)

Insurance companies provide economic and social benefits in the society by prevention of losses, reduction in anxiousness and fear and increasing employment and not only providing transfer of risk but also helps to channel funds in an appropriate way from surplus economic units to deficit economic units so as to support the investment activities in the economy.(Dorfman, 2008)

Recent research, as surveyed by Naveed A. and etal (2011), shows that the efficiency of financial intermediation and transfer of risk can affect economic growth while at the same time institutional inefficiency can result in systemic crises which have unfavorable consequences for the economy as a whole.

According to Malik (2011) a well-developed insurance market paves way for efficient resource allocation through transfer of risk and mobilization of savings such as the US, Europe, Japan, and South Korea. Emerging markets are found throughout Asia, specifically in India and China, and are also in Latin America. In 2012, the global insurance market is forecast to have a value of $4,608.5 billion transaction and plays a pivotal role in the economic growth of an economy.

According to kasturi (2006) the most frequently used and best tools for measuring performance is profitability. Pandry (1980) defined the profitability; is the ability of the business to utilize its assets in order to generate revenues in an efficient manner. There has been a growing number of studies recently that test for measures and determinants of firm profitability. Financial industry's profitability has attracted scholarly attention in recent studies due to its importance in performance measurement.

In Ethiopia according to National Bank of Ethiopia report 2014/15, the insurance sector has enjoyed moderate growth in the last few years, driven by favorable economic conditions, expansion of the financial sector, privatization of large state-owned entities and foreign investments. However the contribution of insurance sector in the country for Gross Domestic Product (GDP) is insignificant for several years compared to other countries.

Hailu (2007) stated that GDP of Ethiopian economy grows at an increasing rate while the insurance industry remains almost stagnant over long period. This implies that the insurance industry is not growing in line with the growth of the Ethiopian economy.

Profitability is influence by both internal, industry specific and external factors. Internal factors focus on an insurer own specific attribute and external factors concern both industry features and macro economic variables.

Several variables have been found that determinants have significant effect & relationships with insurance companies' profitability.

Grace and Hotchkiss (1995) showed that a relation between insurance industry profitability and log run general economic condition using co integration technique. They documented that real GDP is negatively related to premium and interest rates have reverse effects on the underwriting profits. Browne et al. (2001) identified important economics and market factors and insurer specific characteristics related to life insurer performance.

On the focal point of internal determinates; Naveed Ahmed et al. (2011) on Pakistan life insurers, Adams and Buckle (2003) in the Bermudian insurance market, Shiu (2004) in UK general insurance companies, over the period 1986 to 199 and many others researchers investigate the determinants effect on profitability of insurance companies and founds that internal determinants have more influence on profitability of insurance companies.

Regarding industry specific determinants, market concentration assumption is that the degree of concentration in a market exerts a direct influence on the degree of competition among its firms. Highly concentrated markets will lower the cost of collusion and foster tacit and/or explicit collusion on the part of firms. As a result of this collusion, all firms in the market earn monopoly

rents. This theory was first used by researchers using manufacturing firm data and gained popularity among researchers in banking studies in the 1960s.

Many researches studies conducted on market concentration, Heggested (1979), in his survey of studies undertaken during 1961-1976, found that concentration had either a significant or a small effect on dependent variables such as profitability.

The most significant research studied on Ethiopian insurance industry profitability factor is a research of Abate Gashaw, 2012 who investigates the impact of firm level characteristics on performance of the insurance sector of Ethiopia over the period of nine years from 2003 to 2011. However this study excludes industry specific variables and we noted that the internal and macroeconomic determinant factors are well studied in this and different researches; however there are gaps of study on industry specific factors.

Knowledge of the underlying factors that influence the insurance sector's profitability is essential not only for the managers of the organizations, but also for Shareholders and numerous stakeholders such as the national banks, insurance associations, governments, and other financial authorities for formulation of future policies aimed at improving the profitability of the insurance sector which increase the contribution of the sector to economic development of the country.

1.2 Background of insurance company in Ethiopia

The work of Hailu (2007) explores the historical routes, examines its emergence and indicates the track that the insurance industry in Ethiopia has gone through ever since its inception in early twentieth century.

The history of insurance service is as far back as modern form of banking service in Ethiopia which was introduced in 1905. At the time, an agreement was reached between Emperor Menelik II and a representative of the British owned National Bank of Egypt to open a new bank in Ethiopia. IBID

According to a survey made in 1954, there were nine insurance companies that were providing insurance service in the country. With the exception of Imperial Insurance Company that was established in 1951, all the remaining of the insurance companies were either branches or agents of foreign companies. In 1960, the number of insurance companies increased considerably and reached 33.

The military government that came to power in 1974 put an end to all private enterprises. Then all insurance companies operating were nationalized and from January 1, 1975 onwards the government took over the ownership and control of these companies & merged them into a single unit called Ethiopian Insurance Corporation. In the years following nationalization, Ethiopian Insurance Corporation became the sole operator.

After the change in the political environment in 1991, the proclamation for the licensing and supervision of insurance business heralded the beginning of a new era. Immediately after the enactment of the proclamation in the 1994, private insurance companies began to establish. (Birritu Magazine, 2012)

According to the National Bank of Ethiopia (NBE, 2015), currently the total number of insurance companies operating in Ethiopia is seventeen. Out of these sixteen are owned by the private sector. And only one, that is Ethiopian Insurance Corporation (EIC), is owned by the state.

Ethiopian insurance industry includes primary insurers, reinsurer, and agency and brokerage firms. From the 17 insurance companies which are currently operating, 12 had composite insurance license which enables them to provide both general and life insurance service. Insurance is classified into two categories, life and non-life insurance. Life (long term) insurance deals with insurance of persons while, non-life (general) insurance focuses on insurance of property and liability.

Non-life insurance consists of those forms of insurance that are designed to provide protection against loss resulting from, damage to or loss of property and losses resulting from legal liability. By their nature, properties are exposed to a wide range of perils such as fire, theft, perils of the sea, and damage by persons caused accidentally or intentionally. Liability insurance protects the insured against legal responsibilities to losses of the person or properties of the others. Some insurance contracts such as automobile and aviation insurance permit the insured to purchase both property and liability insurance under one policy. There is no domestic reinsurance company in Ethiopia yet. But in order to spread risk and provide greater security, some insurers made reinsurance agreement with foreign insurance companies. (NBE)

From the insurance industry Ethiopian insurance company's share is approximately 41% of the total capitalization and 25% of the branch network. The total capital of insurance companies reaches Birr 2.3 billion in 2014/15. Private insurance companies accounted for 73.3 percent of the total capital while one public insurance company alone accounted for 26.7 percent. (NBE, report 2014/15)

As per Hailu (2007) and (Mezgebe 2010) survey, they identifies some features characterize the Ethiopian insurance industry. These include high market concentration and weak competition with the market controlled by one or two insurance companies, companies rely on undue rate-cutting , no product differentiation, industry lacks the capacity to exploit the benefits of information communication, technology and heavy dependence on the banking sector for both referral credit insurance business and returns on investment from shares held in banks.

The contribution of insurance sector in the country for gross domestic product is insignificant for several years and number of people employed in the sector is very few when compared to other countries. Hailu (2007) states that GDP grows at an increasing rate while the insurance industry remains almost stagnant over long period. This implies that the insurance industry is not growing in line with the growth of the Ethiopian economy.

Table 1; List of insurance companies operating in Ethiopia as on October 2016

S.N	Name of insurance companies	Type	Establishment year
1	Ethiopian Insurance Corporation	Life and General	1975
2	Africa Insurance company S.C	Life and General	1994
3	Awash insurance company S.C	Life and General	1994
4	National Insurance company of Ethiopia S.C	Life and General	1994
5	Nyala Insurance company S.C	Life and General	1995
6	Nile Insurance company S.C	Life and General	1995
7	The United Insurance S.C	Life and General	1997
8	Global Insurance Company S.C	General	1997
9	NIB insurance company	Life and General	2002
10	Lion Insurance Company S.C	General	2007
11	Ethio-Life and General Insurance S.C	Life and General	2008
12	Oromia Insurance Company S.C	General	2009
13	Abay Insurance Company	General	2010
14	Birhan Insurance company S.C	General	2011
15	Tsehay Insurance S.C	General	2011
16	Lucy insurance share company	General	2012
17	Buna insurance company	General	2013

Source; National bank of Ethiopia

1.3 Statement of the Problem

The presence of risk results undesirable social and economic effects and entails three major burdens on society ; the size of an emergency fund must be increased, loss of certain goods and services and worry and fear which limit the entrepreneurs' ideas and innovation. It is a normal practice that some economic units are in surplus while the others remain in deficit and in the other way risky businesses have not a capacity to retain all types of risk in current extremely uncertain environment. From the above expression it can be inferred that, the current business world without insurance is unsustainable. (Rejda , 2008)

Profitability plays an important role in the structure and development of firms because it measures the performance and success of the sector. Profitability is one of the most important objectives of financial management & the aim of financial management is to maximize the owner's wealth. Thus one of the objectives of management of insurance companies is to attain

profit as an underlying requirement for conducting any insurance business. Similarly insurer's key issues should focus on business profitability.

Many researchers in different countries have made investigation on the issue of profitability in insurance sector and its determinants. For instance research conducted by E. Boadi and etal (2013) and research conducted by Charumatli ,2012 using panel data and dynamic panel estimation investigate the determinants of profitability in Ghana sectors and India insurance sector respectively. However due to economic, financial, political systems and operating environments difference from countries to countries there is no universally accepted findings to the determinants of profitability of the financial sector.

In Ethiopia during the period of 2000-2010, annual reports of national bank regarding insurance company in Ethiopia shows that an increased number of companies and the performance progress of the sector are better than the past however the sector remains underdeveloped, small, low penetration rate, low underwritten premium and much less developed than African countries. According to Swiss re NKH report 2012 of insurance development in Africa, describes African countries insurance industry development in terms of underwrite premium and penetration rate. Southern African region has better developed than other regions of African. According to Swiss re South Africa developed more and underwrites 54,871 million USD premiums and penetration rate 14.28% and Egypt underwrite 1,818 million USD premium and penetration rate of 0.68%. From eastern Africa region Kenya has developed insurance market which contributes 3.2% of GDP and underwritten premium amount 1,290 million USD and penetration rate 3.17% and Tanzania underwritten premium amount 254.2 million USD and penetration rate of 0.9%. As per national bank of Ethiopia report Ethiopian underwritten premium in 2014/15 fiscal year was 250 million USD and penetration rate below 0.5%.This fact shows Ethiopian insurance industry less developed than from African even neighbors' countries. Therefore it requires detail empirical analysis so as to identify what are the factors affecting profitability of insurance companies. Very few studies are conducted on factors and determinants affecting profitability in Ethiopia. However the studies limited on internal factors and some researchers try to extend the study to macroeconomic factor i.e. inflation, interest rate and economic growth, they excludes industry specific factors which play major role on the industry pattern.

Therefore this study used panel data to examine the internal, industry specific and macro economic factors affecting profitability of insurance companies and this help concerned parties

to focus on the relevant factors. The aim of this study is to address this gap by identify and examine the determinants of profitability of non -life insurance firms in Ethiopia to help boost the insurance industry.

1.4 Research Questions

In view of the problems, this research raises and examine central question of this study: what are the main determinants of profitability in insurance companies and what are their effects on profitability in Ethiopia Insurance Industry? Specifically, the following sub-questions are raised:

- What is firm specific or internal determinants effect on profitability of non- life insurance industry in Ethiopia?
- What is industry specific determinants effect on profitability of non- life insurance industry in Ethiopia?
- What is macroeconomic or external determinants effect on profitability of non- life insurance industry in Ethiopia?

1.5 Objectives;

With regard to the research question of this study, the researcher tried to address one broad general objective and some more specific objectives; these are presented below.

1.5.1 General objective

The main objective of the study is to examine the effect of firm-specific, industry-specific and macroeconomic determinants on Ethiopian non life insurance industry profitability.

1.5.2 Specific Objectives

Based on the above general objective, the researcher elucidates the following specific objectives.

- To determine the relationship between firm -specific (internal) determinant and profitability of Ethiopian non life insurance industry.

- To examine the relationship between industry-specific determinants and profitability of Ethiopian non life insurance industry.

- To determine the relationship between microeconomic determinants and profitability of Ethiopian non life insurance industry

- To measure the extents of determinants effect on profitability of insurance companies in Ethiopia.

1.6 Hypothesis

Profitability in non-life insurance companies could be affected by a number of determining factors. These factors, as explained above could be further classified as internal (firm specific), industry, and macroeconomic factors. In order to achieve the objective of the study, with the help of sufficient and appropriate empirical data on the determinants of profitability, this study test the following hypotheses.

Several researches conducted on the determinants of profitability in non-life insurance sector, bases on these studies finding, the researcher develop hypothesis to test the determinants effect on profitability.

According to Flamini (2009) the tangibility of asset in an insurance industry means the companies have reliability in providing the promising service of their clients. It leads to increase the market potentials. In addition the amount of fixed asset increases leads to higher investment to generate revenue from the investment, which creates the company's revenue option other than premium income. Therefore, most insurance companies focused on generating fixed asset like buildings and others property to make the business reliability which increases the confidence of their client to insure their property/asset. Therefore the researcher predicted that;

; **Hypothesis 1**: other things being equal, there is significant and positive relationship between tangibility and profitability.

According to Adams and Buckle (2003) determinants of operational profitability in the Bermudian insurance market, during 1993-1997, finding insurance companies with high leverage

have better operational performance than insurance companies with low leverage. On the contrary, The most significant research studied on Ethiopian insurance industry profitability factor is a research of Abate Gashaw, 2012 ,he found that leverage is negatively and significantly related with the performance of the insurance companies; Therefore the researcher predicted that;

Hypotheses 2: other things being equal, there is significant and negative relation between leverage and profitability

Flamini (2009) indicated that size is used to capture the fact that larger firms are better placed than smaller firms in harnessing economies of scale in transactions and enjoy a higher level of profits. However, for firms that become extremely large, the effect of size could be negative due to bureaucratic and other reasons. (Malik, 2011)

Swiss Re (2008) indicated that larger firms are found to grow faster than smaller and younger firms found to grow faster than older firms.

Curak et al (2011) examine the determinants of the financial performance of the Croatian life and non life insurers over the period of 2004 to 2009 and the finding indicated that company size, have significant influence on insurer's profitability. Therefore the researcher predicted that;
Hypotheses 3: other things being equal, the size of the companies have significant and positive effect on profitability of insurance companies

Eric kofi and et al, 2011 examine the effect of determinants on profitability in Ghana insurance industry and indicates that liquidity have negative relationship with profitability and Sambasivam , 2013 also stated that liquidity are identified significantly but negatively related with profitability. Therefore the researcher predicted that;

Hypotheses 4: other thing being equal, there is insignificant and negative relation between liquidity and profitability.

According to Charumathi , (2012) research there is a significant negative relationship between the premium growth and return on assets due to insurers with more premium growth will have low profitability due to increased underwriting risk and related provisioning for solvency margin.

On the other side , Kozak (2011) investigates that growth of written premium increase the market share of the company and wider the pool margin that can lead to profitability , therefore the researcher predicted that;

Hypotheses 5: There is significant and positive relation between premium growth and profitability.

Swiss Re (2008) study imply that Profits are determined first by underwriting performance (losses and expenses), which are affected by product pricing, risk selection, claims management. According to Pervan et al, 2012 study on bosinia Herzogoviania insurance sector studied the factors that affect insurance profitability between the periods of 2005 to 2010, demonstrates that significant & inverse influence of loss ratio on profitability. Therefore the researcher predicted that;

Hypotheses 6: There is direct negative and significant relation between loss ratio and profitability

Many researcher studied the effect of market concentration on profitability, including Emery (1971), Fraser and Rose (1971), Vernon (1971), Heggested (1977), Short (1979),Kwast and Rose (1982), Smirlock (1985), Bourke (1989), and Molyneux and Thornton (1992). While the findings of Heggested, Kwast and Rose, Short, Bourke, and Molyneux and Thornton indicated that market concentration had a significantly positive relationship with profits, a significant relationship, but in the opposite direction, was found in Vernon's study. The effect of concentration was insignificant in Emery's, Fraserand Rose's and Smirlock's studies; therefore the researcher predicted that;

Hypotheses 7: There is direct positive and significant relation between market concentration and profitability.

Higher economic growth encourages investments and enhances business activity which is the bases for insurance business that companies enable to increase their production in different class of business that permits them to get higher margins of profit, as well as improving the quality of their industry. (Athanasoglou et al. ,2005)

In Ethiopia, research conducted by Belayneh (2011) examined the determinants of Ethiopian commercial banks profitability. The researcher concluded that from macroeconomic determinants, the only significant factor of profitability is real GDP and have positive effect on profitability. Therefore the researcher predicted that;

Hypotheses 8: Economic growth has direct positive and significant relation with profitability

The inflation effects on insurers may be dramatically different. In effect, increases in retail prices and additional manufacturing costs as a result of product improvement, often brought about by technological advances.

High inflation may increase claims of insurers; the interaction with other economic and financial variables may lead to a more complex risk assessment. (Masterson (1968) cited by C. Ahlgrim and P. D'Arcy, 2012), therefore the researcher predicted that:

Hypotheses 9; Inflation has negative and significant relation with profitability

1.7 Limitation and scope of the study

This study focuses on overall determinants; firm specific, industry specific and macro determinants of profitability on Ethiopian nonlife insurance industry. According to swiss re report of 2010 the insurance company profitability determine by many factors like firm-specific factors i.e. size of the company, age/experience, volume of capital, premium growth, loss ratio, ownership structure, tangibility, leverage, liquidity, number of branches, product mix, reinsurance, industry specific factors are concentration ration, competition, underwriting cycle, regulation and macro economic factors are inflation, interest rate and economic growth.

Even if the determinants of profitability are more in number and wide, this study excludes some internal determinants such as number of branches, age of companies, product- mix and reinsurance and from industry specific regulation, ownership structure & competition. In Ethiopian insurance industry context except Ethiopian Insurance Corporation (EIC), all insurance companies are hold in private share holders and it is similar phenomena for all sample study companies except EIC. In addition all companies have similar product mix strategy and the same policy coverage and open their branch office at similar area, they have more or less similar no of branches in all over Ethiopia with stiff price competition environment. In addition they use

similar reinsurance procedure & companies. In addition as per many research findings, the effect of age of companies on profitability has insignificant effect therefore this research excludes the above stated determinants since they have similar phenomena for firms. Even though there are seventeen insurance companies in Ethiopia, the scope of study will only asses ten insurance companies, namely Ethiopian Insurance Corporation(EIC) , Africa Insurance company S.C , Awash Insurance company S.C, Nyala Insurance company S.C(NISCO) , Nile Insurance company S.C, Global Insurance company S.C , NIB Insurance company S.C National Insurance company of Ethiopia S.C (NICE) , The United Insurance S.C and Lion Insurance company S.C due to time frame of the study over the period of 2006 to 2016 and only the above listed ten companies was established and start operation up to 2007. As per NBE report, until 2007 the industry occupied by nine insurance companies only, after 2007 newly established insurance companies joined to the industry, therefore this time frame important for study since the industry shift to more competitive environment.

1.8 Significance of the study

The researcher attempts to discuss on such untouched but very important aspect of the industry through identify the determinants affect profitability of non-life insurance firms and examine its effect. This helps insurance managers and professionals, owners, regulators and policy makers to support the sector in achieving the excellence so that required economic outcomes could be obtained from the help of the sector. Furthermore, many parties would benefit from the results that will emerge from the results of the study and these parties are:

- It will help investors to measure the performance of their portfolios and proceed with readjustments as required.
- It will create common understanding among managers about which factors are highly associated with profitability to take the necessary actions to improve the performance of the company and choose the right decisions.
- It enables government particularly, national bank of Ethiopia enable to take necessary measures and policy to adjust systems and mechanisms to avoid crises of the bankruptcy for insurance firms and enable to increase their contribution to the economy development.
- This research does have significant role to play in shading light on to a better understanding for the readers. Moreover, the researcher also contributes and potentially

serves as a stepping stone for further research in the area since this research try to focus only on some selected determinants.

1.9 Organization of the study

The part of this paper is organized as follows:

Chapter one contain the introduction parts that explain the problems need to be study, an overview for Ethiopian insurance industry, the objective of the research ,significant and limitation of the study.

Chapter two presents the theoretical and empirical supported review which can help to address create awareness about the profitability and its determinant and examine its effect.

Chapter three presents the research design, methodology and related issues.

Chapter four presents the analysis, findings and results and the last chapter presents the conclusions and implications of the results

Chapter Two

Literature review

Various determinants influence insurance companies' profitability, recognizing the main concepts of the insurance sector profitability and its determinants are essential in order to provide evidence to support the practical result by the theoretical and empirical view. Hence, this chapter serves as a base for this study by describing determinants that could influence insurance profitability. Sub topics which build on this chapter are described here below. First, this chapter explains some theoretical and conceptual frameworks that are helpful in assessing the relationship between macroeconomic, industry-specific, firm -specific factors and profitability, and the, empirical review was discusses

2.1 Theoretical and Conceptual Review

2.1.1 Concepts of insurance

The various risks that we face in our day to day life cannot be totally avoided but its effect can be decreased. The ultimate victims of these risks cannot bear these consequences by themselves. As a result it is necessary an institution to give the needed help to these unfortunate individuals or organization which is insurance and the institution which provide this service is insurance company.

There is no single universal definition of insurance. Insurance can be defined from the point view of several disciplines including Law, Economics, History and Sociology. But at this point all possible definition will not be defined. The commission on insurance terminology of the American Risk and Insurance Association has defined Insurance as follow "Insurance is the pooling of fortuitous losses by transfer of such risks to insurers, who agree to indemnify insured for such losses to provide other pecuniary benefits on their occurrences or to render services connected with the risk.

Based on the definition, an insurance plan or arrangement includes pooling of losses, payment of accidental or unexpected losses, risk transfer and indemnification.

Insurance provides economic protection from identified risks occurring within specified period and it is a means of transferring risk from the insured to the insurer and it serves some social and economic benefits that is indemnification, reduction of uncertainty, encouraging saving, minimize business interruption, provides funds for investment, promotes financial stability to the society to stimulate international trade & investment. (Radja, 2008)

Type of insurance

Insurance is a unique product in that the ultimate cost is often unknown until long after the coverage period, while the revenue , premium payment by policy holder are received before or during the coverage period. Insurance is classified into two categories, life and non-life insurance. Life (long term) insurance deals with insurance of persons while, non-life (general) insurance focuses on insurance of property and liability. (Rejda, 2008)

Life insurance; Long term insurance business consists of insurance business of all or any of the following classes; namely life insurance business, annuity business, pension business, permanent health insurance business, personal accident and/or sickness insurance business. The main purpose of life insurance is to insure against loss of income due to death and can also be used for retirement planning and investing.

Non life insurance; - those forms of insurance that are designed to provide protection against loss resulting from, damage to or loss of property and losses resulting from legal liability. By their nature, properties are exposed to a wide range of perils such as fire, theft, perils of the sea, and damage by persons caused accidentally or intentionally. Liability insurance protects the insured against legal responsibilities to losses of the person or properties of the others. The products are motor insurance, fire & lightening, pecuniary insurance, marine insurance, engineering, burglary workmen's compensation, public liability, travel, Perceval accident and more. Some insurance companies provide both life and non-life insurance services. Such insurance companies are known as composite insurance.

2.1.2 The meaning of Profitability

The word 'profitability' is composed of two words, namely; profit and ability. Weston and Brigham define profitability as "the net surplus of a large number of policies and decisions.'' Profit is regarded as an absolute connotation as against profitability, which is regarded as a relative concept. Where profit is the residual income left after meeting all manufacturing, administrative expenses; profitability is the profit making ability of an enterprise. (Adams and Buckle, 2009)

Profitability is one of the most important objectives of financial management because one goal of financial management is to maximize the owner` s wealth. Profit can take either its economic meaning or accounting concept which shows the excess of income over expenditure viewed during a specified period of time. On one hand, profit is one of the main reasons for the continued existence of every business organization. On the other hand, profit is expected so as to meet the required return by owners and other outsiders. (Adams and Buckle, 2009)

Profitability is the ability to earn profit from all the activities of an enterprise. It indicates how well management of an enterprise generates earnings by using the resources at its disposal. In the other words the ability to earn profit e.g. profitability, it is composed of two words profit and ability. The word profit represents the absolute figure of profit but an absolute figure alone does not give an exact ideas of the adequacy or otherwise of increase or change in performance as shown in the financial statement of the enterprise. (Born, 2001). According to Hermenson and salmonson 2003, 'profitability is the relationship of income to some balance sheet measure which indicates the relative ability to earn income on assets employed.

2.1.3 Profitability related theories

There is no universal theory on the determinants of profitability. There are several useful Conditional theories that attempt to approach the determination of profitability.

2.1.3.1 Traditional theory

This theory suggests that minimizing the cost of capital when the optimal level of debt capital is employed maximizes the value of the firm (Brealey and Myer as cited in Kaguri 2013). It's based on the argument that at low levels of debt, increased leverage doesn't increase the cost of debt hence; the replacement of an expensive source of capital (equity) with a cheaper source

(debt) translates to an increase in the value of the firm. This creates borrowing incentives to firms. The main reasons behind investors who hold debt are informed of the increased risk at 'moderate' debt levels and will continue demanding the same return on debt. The Second reason is that debt funds are cheaper than equity funds carries it implies that the cost of debt plus the cost of equity together on weighted basis will be less than the cost of equity, (Brealey A. as cited in Kaguri 2013).

2.1.3.2 Resource based theory

This theory addresses performance differences between firms using asymmetries in knowledge. At the corporate strategy level, theoretical interest in economies of scope and transaction costs focus on the role of corporate resources in determining the industrial and geographical boundaries of the firms' activities. At the business strategy level, explorations of the relationships between resources, competition and profitability include the analysis of competitive imitation, appropriability of returns to innovations, and the role of imperfect information in creating profitability differences between competing firms. A firm's ability to earn a rate of profit in excess of its cost of capital depends upon the attractiveness of the industry in which it is located and its establishment of competitive advantage over rivals. The implication being that strategic management is concerned primarily with seeking favorable industry environments, locating attractive segments and strategic groups within industries and moderating competitive pressures by influencing industry structure and competitors behavior. Thus, a resource based theory of the firm entails a knowledge based perspective. (Chen as cited in Kaguri 2013).

2.1.3.3 Pecking order theory

Pecking order refers to a hierarchy of financing beginning with retained earnings followed by debt financing and finally external equity financing. The theory basically suggests that companies with high profitability may use less debt than other companies because they have less need to raise funds externally and because debt is the 'cheapest' and most 'attractive' external option when compared to other methods of capital raising (Kaguri , 2013).

First, internal financing of investment opportunities is preferred because it avoids the outside

Scrutiny of suppliers of capital and also there no floatation costs associated with the use of retained earnings. Secondly, straight debt is preferred. Floatation costs are less than with other types of external financing. Finally the least desirable security to issue is straight equity. The

investors are the most intrusive, floatation costs are highest and there's likelihood to be an adverse signaling effect

2.1.4 The concept of Profitability

2.1.4.1. Accounting Profitability

Profitability is a measure of evaluating the overall efficiency of the business. The most effective tool of analysis of profitability is ratio analysis/ profitability ratios. (Hampton, 2009)

The best possible course for evaluation of business efficiency may be input-output analysis. Profitability can be measured by relating output as a proportion of input or matching it with the results of other firms of the same industry or results attained in the different periods of operations. Profitability of a firm can be evaluated by comparing the amount of capital employed i.e. the input with income earned i.e. the output. This is popularly known as return on investment or return on capital employed. That is:

Return on Investment = Net Profit Ratio x Turnover Ratio

Or, **Return on Investment** = Operating Profit / Sales

Return on Investment = Operating Profit /Capital Employed

The return on investment is calculated by multiplying the profit margin on sales with investment turnover. Profitability on the basis of return on investment can be analyzed and interpreted under following categories : - (Hampton, 2009)

A. Return on Capital employed.

B. Return on Shareholders' equity/Net Worth

C. Return on Paid-up share capital.

A. Return on Capital Employed.

The term investment refers to total assets or at times net assets. Net assets are the term used for the fixed assets in addition to current assets less current liabilities (without bank loan). The funds employed in net current assets are mostly known as capital employed.

The concept of, return J. Batty has explained return on capital under two concepts, namely; gross capital employed and net capital employed

1. **Return on Gross Capital Employed**; - consists of the total assets i.e. the total of fixed assets and current assets employed in the business, it is the amount of shareholder's equity and total liabilities. It may be expressed by way of formula

Return on Gross Capital Employed = Net Profit before Interest and Taxes X 100

Gross Capital Employed

The term net profit here is the quantum of profit earned by the business before any deductions in respect of interest (on long and short term borrowings) and taxes have been made. While gross capital employed constitutes of amount of fixed assets less depreciation and current assets.

2. **Return on Net Capital Employed; -** is the total of fixed assets plus current assets less current liabilities. In other words it is the quantum of permanent capital expressed as non-current liabilities plus shareholders equity. Therefore,

Return on Net Capital Employed = Net Profit before Interest and Taxes x 100

Net Capital Employed

The fixed assets forming a part of net capital employed are taken into account only after deducting the amount of depreciation.

(B) Return of Shareholders Equity/Net Worth; - One of the objectives of operating a company is to seek benefit of its shareholders. Return on shareholders' equity calculates the profitability of owner's investment. So, the formula derived is:

Return on Net Worth = Net Profit after Interest and Taxes x 100
Total Shareholders 'Equity

This ratio is expressed in terms of percentage of net profit (after interest and taxes) earned on owner's equity. Shareholder's equity includes equity share capital, preference share capital, share premium, revenue and surplus less accumulated losses.

(C) Return on Paid-up Share Capital

This ratio is obtained by dividing the net profit (after subtracting the amount of tax and dividend on preference share capital) by the paid-up amount of equity share capital. (John J. Hampton, 2009)

$$\text{Return on Equity capital} = \frac{\text{Net Profit after Interest and Taxes x Capital}}{\text{Paid-up Equity Capital}}$$

The amount of net surplus in hand after deducting the tax expressed as a percentage to the equity capital points out the degree of current profits available in the form of return to the equity shareholders.

This method is increasingly accepted as an indicator of performance and capability. This is the reason for viewing operational and financial performance in relation to the scale of resources of funds required in production. Moreover, "the return on capital used depicts the effectiveness of all the operating decisions from the routine to the critical, made by the management at all levels of the organization.

2.1.4.2 Social Profitability

Along with the economic objective of earning profits, a business is also required to perform a large number of social objectives. Besides providing better quality of goods and services, it provides big employment opportunities to the people, better condition of work, fulfill community needs, conserves resources etc. Cardiner rightly observed, some objectives aids in enhancing profitability by attracting customers like in case of providing quality goods. Whilst other may be counteractive such as elimination of pollution may cost the company and reduce its profitability, but it creates social profitability. In other words of Earnest Dale, these social objectives "appear lo urge the executive to assume an infinitely broad-gauge burden of responsibilities to all the various public with whom he clears that makes it an obligation on the part of the company to disclose its financial, marketing, personnel and social objectives.

2.1.4.3 Value Added Profitability

Value added profitability indicates the wealth generated (net value earned) as a result of manufacturing process during a specified period. Wealth generation is the very essence for survival or growth of a business. An enterprise may survive without making profit but would cease to do so without adding value. Profit forms a part of value added. Thus, value added is a broader concept. The concept of value added can be related to the concept of social profitability of an enterprise. The investment of an enterprise comprises of the investment of shareholders, debenture holders, creditors, financial institutions etc. (Hampton, 2009)

If an enterprise fails to generate growth or add anything as value added, it would simply mean that the enterprise is misusing public funds

2.1.5 Profitability in Insurance Companies

Every firm concerned profitability. In the case of insurance, companies provide economic and social benefits in the society by prevention of losses which increase social welfare.

Insurance is an economic institution that allows the transfer of financial risk from an individual to a pooled group of risks by means of a two-party contract. The insured party obtains a specified amount of coverage against an uncertain event for a smaller but certain payment. Insurers may offer fixed, specified coverage or replacement coverage, which takes into account the increased cost of putting the structure back to its original condition.

The most significant contribution of insurance to society is the provision of risk sharing, risk pooling and risk transfer abilities and loss prevention measures and insurance companies stimulates investment and consumption by reducing the amount of capital bound in relatively un productive area. Therefore, being profitable means that insurance companies are earning more revenues than being disbursed as expenses. (Adams and Buckle, 2003)

According to Swiss Re (2008) Profits are determined first by underwriting performance (losses and expenses, which are affected by product pricing, risk selection, claims management, and marketing and administrative expenses); and second, by investment performance, which is a function of asset allocation and asset management as well as asset leverage. The first division of the decomposition shows that an insurer RA is determined by earnings after taxes realized for

each unit of net premiums (or profit margin) and amount of capital funds used to finance and secure the risk exposure of each premium unit (solvency). That is why most researchers use ROA as a measure of profitability in financial institutions.

2.1.6 Profitability Ratio

The measurement of profitability for a concern is as important as the earning of profits. Measure of profitability is the overall measure of efficiency. The most effective tool of analysis of profitability is ratio analysis/ profitability ratios. (Hampton, 2009)

There are many measures of profitability. As a group these measures enable analysts to evaluate the companies' profit with respect to a given level of sales. A certain level on assets or investments. The ratios are: -

1. Profit Margin

2. Return on asset

3. Return on equity

1. Profit Margin; - is a measure of overall profitability. These measures also referred to as the net income percentage or the return on sales. Profit margin is the return generated by the company's assets and represents the difference between revenues and total expenditure.

The best way of calculating net profit margin is to express them as a percentage of net sales i.e. sales minus sales returns, discount and rebates etc. **as Net sale/ sale**. Net profit margin indicates the net margin earned in a sale .Net profit is obtained after deducting amount of operating expenses, interest and taxes from the gross profit amount.

2. Return on Asset; - Measure of profitability is the technique of relating net income output with the total asset.

The return on asset is calculated by net income with total asset which consists of the total assets i.e. the total of fixed assets and current assets employed in the business

It may be expressed by way of formula

Return on Asset = Net Income before Interest and Taxes X 100

Total Asset

3. Return on Equity/Net Worth; - One of the objectives of operating a company is to seek benefit of its shareholders. Return on shareholders' equity calculates the profitability of owner's investment. So, the formula derived is:

Return on = Net Profit after Interest and Taxes x 100

Net Worth Total Shareholders 'Equity

This ratio is expressed in terms of percentage of Net income (after interest and taxes) earned on owner's equity. Shareholder's equity includes equity share capital, preference share capital, share premium, revenue and surplus less accumulated losses.

2.1.7 Determinates of Profitability

According to Olaosebi (2012) Profitability in insurance companies could be affected by a number of determining factors. These factors classified as internal (firm specific), industry, and macroeconomic factors.

Internal factors affecting profitability and most of the factors considered are age of company, size of company, leverage ratio, growth rate, volume of capital, tangibility of assets and liquidity ratio. Now let us see empirical evidences for each variable independently.

2.1.7.1 Firm Specific Determinants;

The internal determinants of insurance company's profitability are those management controllable factors which account for the inter-firm differences in profitability, given the external environment. (Olaosebi, 2012)

Internal determinants can be broadly classified into two sub-categories namely financial statement variables and non-financial statements variables. The financial statement variables are determining factors which are directly driven from items in a balance sheet and profit & loss accounts of the insurance companies, which is such as size, leverage, liquidity, tangibility of assets, volume of capital, and premium growth. (Athanasoglou and Delis , 2008)

The non-financial statement variables are those factors which are not directly displayed on the financial statements accounts. According to Yuqi Li (2007) financial institutions‟ non-financial statements variables are classified as management quality, efficiency and productivity, age and number of branches

Firm age

Newly established companies may not particularly profitable in their first years of operation, as they place greater emphasis on increasing their market share, rather than on improving profitability growth. According to Flamini, 2009 the length of time an insurance provider has been operating in the market could influence period profits. For example, established operatives are expected to have better local knowledge and a more dedicated sales force than new entrants to the market. Therefore, selling at reduced price without reducing product quality using economies of scale, customer targeting capacity, proper and intensified product/service advertising capacity, good personal contacts and networks, sound industry reputation and sufficient information regarding existing market and capacity to exploit more market opportunities. Other things being equal, the length of time in the insurance market is likely to be positively related to profitability.

Firm size: Adams and Buckle (2003) suggest that large insurers are likely to have better financial performance than small insurers because they can realize scale economies through increasing output and economizing on the unit costs of technology and product development. Large insurers can also more efficiently diversify assumed risks and so reduce the unit cost of risk in the management of their underwriting portfolios. However, they also point out that the profitability of large insurers could be adversely affected by the enhanced information asymmetries and agency costs that often arise when organizations get bigger.

Liquidity;- from the context of insurance companies is the probability of an insurer to pay liabilities which include operating expenses and payments for losses/benefits under insurance policies, Liquidity is the ability of the insurers to fulfill their immediate commitments to policyholders without having to increase profits on underwriting and investment activities and/or liquidate financial asset.

The cash and bank balances are to be kept sufficient to meet the immediate liabilities towards "claims due for payment but not paid". This comfortably covers the incurred but not reported portion of claims liability. Liquidity measured as the ratio of current assets to current liabilities. (Adams and Buckle , 2009).

Leverage

Insurance leverage could be defined as reserves to surplus or debt to equity. The risk of an insurer may increase when it increases its leverage. The degree of financial leverage reflects insurance companies' ability to manage their economic exposure to unexpected losses. This ratio represents the potential impact on capital and surplus of deficiencies in reserves due to financial claims. (Adams and Buckle , 2003)

Adams and Buckle (2003) define financial leverage in the context of insurance markets as the ability of an insurer to effectively fulfill their contractual commitments to policyholders and other fixed claimants without having to increase profits on underwriting and investment activities. However, high leverage can reduce period profitability as insurers are likely to retain free cash flows (reserves) in order to minimize the risks of financial distress and bankruptcy. To the extent that many insurance companies (particularly life insurers) invest a substantial proportion of their premiums in assets (such as bonds) that match the size and duration of their policy liabilities, profitability could further be adversely affected by increases in market rates of interest. Leverage measured as total debts divided by total assets

Tangibility; - The concept of tangibility in insurance companies in most studies is measured by the ratio of fixed assets to total assets. Insurance firms have assets that can be used for more than one accounting year to generate revenue that enable to generate profit over a long period.

Most insurance companies focused on generating fixed asset like buildings and others property to make the business reliability which increases the confidence of their client to insure their property/asset.

Premium Growth; - The Premium growth of life insurers is measured as a year to year change in the new premium of insurance companies. The new premium comprises of first year

premium and single premium policies procured in a particular year in comparison with new premium of previous year.

. **Loss ratio; -** As George, 2008 defines loss Ratio it is the ratio of total losses paid out in claims plus adjustment expenses divided by the total earned premiums.

The ratio of premiums paid to an insurance company and the claims settled by the company. Loss ratio is the total losses paid by an insurance company in the form of claims. The losses are added to adjustment expenses and then divided by total earned premiums. (Raymond, 2012)

A loss ratio is a term that is important for insurance companies. It enables insurance companies to determine the overall profitability of the policies that they are issuing. The loss ratio compares the amount of money that an insurance company spends on insurance to the amount of money that the insurance company takes in through premium payments.

The ratio of the estimated ultimate claims cost to the estimated ultimate premium for a given underwriting year. In addition to providing insurance companies with an accurate measure of the relationship between their premiums and claims, loss ratios also enable insurance companies to make very simple calculations when considering a change in premiums. (Mark, 2008)

A Loss Ratio is a single number that can be used to identify performance: the lower the number, the better the performance.

Product-mix: Abdul Kader and etal (2010) report that the operational efficiency, and profitability of insurance firms could be affected by their product-mix as multi-product insurers are likely to benefit not only from economies of scale but also from economies of scope in the use of shared inputs (e.g., labor, technology, and so on). Mathewson (1983) also acknowledges that in multi-product insurance firms managers can spread assumed risks across different lines of insurance by imposing different underwriting criteria in order to realize economic gains in particular market segments while concomitantly keeping overall underwriting risk within acceptable bounds.

2.1.7.2 Industry Specific Determinants

Those are external variables are those factors that are considered to be beyond the control of the management of a firm. External variables are like competition, regulation, concentration, market share, ownership, inflation. (Athanasoglou and Delis, 2008)

Competition;- one of the important determinants of profit for insurance firms, debate in this area has not been fully resolved, it depend on public regulation, private organization and institutional market characteristics.

Regulation;- Insurance industry is among one of the most heavily regulated industries in the world. The main reason for regulation through central bank or regulation authorities is to provide a sound, stable and healthy financial system and for maximize social value.

It is not surprising that insurance industry is highly regulated and monitored because in society insurance serves as essential purpose. In state insurance companies perform a various activities to make sure that insurance consumers have access to insurance and treated fairly by insurer and their agents, and that insurance companies are financially practicable (Mc Carran Ferguson Act 1945, cited by Malik, 2011)

Historically the forms of insurance regulations include laws related to the formation, operations of insurer, and terms of insurance contract and licensing. These laws also include surplus and minimum capital requirements restrictions on the investment on statutory reserves and prescribed methods for calculation of reserves. IBID

The profitability of insurance companies varied across different a legal and regulatory measures that reveals that these environments were supposed to protect the insurance contract that may have had reverse effect if they created a significant constrained on the activities of the insurance companies (Adams and Buckle , 2003)

Ownership: A relationship between profitability and ownership may exist due to spillover effects from the superior performance of privately-owned insurance firms compared with publicly-owned insurance firms, which do not always aim at profit maximization.

Prior studies e.g., Thomas and Worrall, 2002 and Pal and Wiseman, 2011 suggest that local mutual/cooperative-type organizations are particularly in the context of insurance in developing countries. This is because mutual forms of organization provide close ex-ante control over the entry policyholders to the insurance pool (e.g., through the application of strict underwriting criteria) and introduce ex-post controls to minimize aberrant behavior by policyholders and managers (e.g., in the form of contractual mechanisms). Therefore, mutual forms of insurance organization can be especially effective in mitigating adverse selection and moral hazard problems, and reducing the agency cost of ex-post monitoring and contractual enforcement.

In the present study the effect of a continuum of shareholding-types in reducing information asymmetry and agency problems is the focus of analysis. The ownership structures examined include: closely-held private insurers, widely-held (often publicly listed) investor-owned insurance companies and private insurers closely-held by owner-managers. Insurers that are closely-held tend to be privately owned subsidiaries of banks.

Mayers and Smith (1994) argue that for closely-held stock firms, tighter monitoring and control of managerial activities by owners reduces information asymmetry and agency costs thus increasing the market value of the firm. However, for widely-held stock insurers less stringent monitoring and control of managers by shareholders leads to higher agency and information asymmetry costs compared with closely-owned entities

Concentration; Morris (1984) defines market concentration as the extent or degree to which a relatively small number of firms account for a relatively large percentage of the market.

Measures of market concentration are intended to reflect the potential for firms within a specific market to exercise market power by raising prices. Market concentration is typically measured by analyzing market shares of firms that supply a specific good or service within a particular geographic area. If firms are identical in terms of market shares, with n firms, each firm has 1/n market share, thus concentration is inversely related to the number of firms. Firms though hold unequal market shares; the number of firms is not likely to capture concentration.

There are several measures of market concentration, but the most common measures the concentration ratio (CR). Concentration ratio is the combined market share of the largest m firms in the market. (Morris, 1984)

The commonly used CR is the largest four firms CR in the relevant market (Industry) that consists of market share as the percentage. But if there are a large number of firms in the industry, it is reasonable to calculate the largest eight or twenty firms CR to examine the situation. A wide market tends to reduce the calculated CR while narrow market has the opposite impact.

2.1.7.3 Macroeconomic Profitability Determinants

Economic growth (GDP); is among the most commonly used macroeconomic indicators, as it is a measure of total economic activity within an economy. The gross domestic product growth (GDPGR), calculated as the annual change of the GDP, used as a measure of the macroeconomic conditions. GDPGR expected to have an effect on numerous factors related to demand for insurance market Kosmidou (2008). The GDP per capita growth is expect to have a positive impact on insurance performance.

Athanasoglou et al., 2005 states higher economic growth encourages investments and enhances business activity which is the bases for insurance business that companies enable to increase their production in different class of business that permits them to get higher margins of profit, as well as improving the quality of their industry.

Inflation

Labonte (2011) defines inflation as a sustained or continuous rise in the general price level or, alternatively, as a sustained or continuous fall in the value of money.

Several things should be noted about this definition. First, inflation refers to the movement in the general level of prices. It does not refer to changes in one price relative to other prices. These changes are common even when the overall level of prices is stable. Second, the prices are those of goods and services, not assets. Third, the rise in the price level must be somewhat substantial and continue over a period longer than a day, week, or month. Inflation measured by a percentage change in CPI is one indicator of price increases.

Interest rates:

Insurers are major investors of funds. These funds generate substantial investment income up on which insurers depend. Variability in interest rate also has to be taken in to account in premium computation.

Doherty and Garven (1995) suggest that profit margins reflect the average price of traded insurance policies and that in competitive markets insurance prices follow, and are inversely related to, the movement of average annual interest rates in the economy (which in Nigeria are currently at roughly 8% per annum according to the World Bank (2010)). This reasoning implies an inverse relation between profitability and interest rates. On the other hand, high interest rates can improve yields on investments' such as cash deposits and bonds (Smith, 1989). This suggests that there will be a positive linkage between the profitability of insurance schemes and the level of interest rates in the economy (Cummins, 1991).

2.2 Empirical review on the effect of determinant on profitability

Profitability is influence by both internal, industry specific and external factors. Internal factors focus on an insurer own specific attribute and external factors concern both industry features and macro economic variables.

Several variables have been found determinants have significant effect & relationships with insurance companies' profitability.

Grace and Hotchkiss (1995) showed that a relation between insurance industry profitability and log run general economic condition using co integration technique. They documented that real GDP is negatively related to premium and interest rates have reverse effects on the underwriting profits. Browne et al. (2001) identified important economics and market factors and insurer specific characteristics related to life insurer performance. Chen and Huang (2001) confirmed that a relationship exists among macroeconomic factors and premium receipt in the life insurance industry, the analysis outcome showed that economic growth increases a firm's premium growth so that the growth source could be attributed to underwriting premium.

Adams and Buckle (2003) examines the determinants of operational profitability in the Bermudian insurance market, during 1993-1997, Insurance companies with high leverage, low liquidity have better operational performance then insurance companies with low leverage and liquidity. In addition insurance companies that carry out risky business and the diversification of underwriting risks help to reduce disclosure to underwriting losses and improve operational profit. Lower expected losses/ loss ration may lead to better performance because the controlling and claim handling costs are low.

After accounting for differences across insurers, taking market and economic factors, Browne, et al (2003) found that portfolio returns on bond and disposable personal income per capita were positively related and unanticipated inflation was negatively related to performance of US life insurers.

Shiu (2004) analyzes the determinants of the performance of UK general insurance companies, over the period 1986 to 199, using investment yield percentage change in shareholders' funds and return on shareholders' funds indicates that the performance of insurers have a positive relationship with the interest rate, return on equity, solvency margin and liquidity and a negative association with inflation and reinsurance dependence.

The U.S. property liability insurance industry from 1992 to 1998 found the concentration is positively related to profit. In addition, Gatzlaff (2009) tested that operational performance was negatively related to loss ratios, underwriting expense ratios, premium growth and premium to surplus ratios, whereas positively correlated with return on investment and realized capital gains.

Naveed Ahmed et al. (2011) investigate the determinants of profitability on Pakistan life insurers found that performance of life insurance companies is determined by size, risk and leverage. According to this study size, underwriting risk and leverage are important determinants of performance of life insurance companies of Pakistan. According to their study Return on Asset (ROA) has statistically insignificant relationship with growth, profitability, age and liquidity. In addition leverage and liquidity had a positive relationship with profitability while as tangibility had a negative relationship with profitability.

Malisu Curak et al (2011) examine the determinants of the financial performance of the Croatian life and non life insurers over the period of 2004 to 2009 using both internal & external factor.

The finding indicated that company size, underwriting risk/loss ratio, inflation and return on equity have significant influence on insurer's profitability.

According to Malik (2011), investigation regarding insurance industry of Pakistan shows that there is no relationship between profitability and age of the company and there is significantly positive relationship between profitability and size. Result also shows that volume of capital was significantly and positively related to profitability. On the other hand the analysis suggests that a reverse and significant relationship between leverage ratio and loss ratio as independent variables and profitability. Hence it is concluded that ROA is affected positively by size, volume of capital and negatively by leverage and loss ratio.

Kozak (2011) examine the determinants of the profitability of 25 general insurance companies from Poland from the period of 2002-2009 indicates that the reduction of motor insurance(which have high loss ratio) leads to operating cost reduction and increase of profitability.

Cummins (2012) in his research of determinants of profitability in Indian insurance industry found that larger firms are more cost and revenue efficient, and which implies that larger firms may experience greater premium growth and profitability.

Pervan etal (2012) studied Bosnia- Herzegovinian insurance sector in terms of performance and identify the factors that affect the profitability of the insurance companies sector is examined in terms of performance over the period of 2005 to 2010.The empirical analysis demonstrates a significant and inverse influence of the loss ratio on profitability and a significant and positive influence of age, market share and past performance on current performance.

The market concentration assumption is that the degree of concentration in a market exerts a direct influence on the degree of competition among its firms. Highly concentrated markets will lower the cost of collusion and foster tacit and/or explicit collusion on the part of firms. As a result of this collusion, all firms in the market earn monopoly rents. This theory was first used by researchers using manufacturing firm data and gained popularity among researchers in banking studies in the 1960s.

Many researches studies conducted on market concentration, Heggested (1979), in his survey of studies undertaken during 1961-1976, found that concentration had either a significant or a small effect on dependent variables such as profitability. Many have studied the effect of concentration

on profitability, Molyneux and Thornton (1992 indicated that concentration had a significantly positive relationship with profitability, a significant relationship, but in the opposite direction, was found in Vernon's study.

Doumpos and Gaganis (2012) estimated the performance of non life insurers and found that macro economic variables such as GDP growth, inflation and income inequality influence the over performance of insurers.

In the Ethiopian case, very limited researches were done concerning the determinants of profitability in financial sector even if most of it done in banking industry.

The most significant research studied on Ethiopian insurance industry profitability factor is a research of Abate Gashaw, 2012 who investigates the impact of firm level characteristics on performance of the insurance sector of Ethiopia over the period of nine years from 2003 to 2011. The researcher selected explanatory variables internal factors like size, volume of capital, age, leverage, liquidity; growth and tangibility are selected as explanatory variables while ROA is taken as dependent variable.

Abate concluded from his finding leverage, size, volume of capital, growth and liquidity are most important determinant of performance of life insurance sector whereas ROA has statistically insignificant relationship with, age and tangibility .Moreover he found that leverage is negatively and significantly related with the performance of the insurance companies and positive and significant relationship between volume of capital and economic growth with profitability.

From the above studies overview, we noted that the internal and macroeconomic determinant factors are well studied in different researchers; however there are gaps of study on industry specific factors.

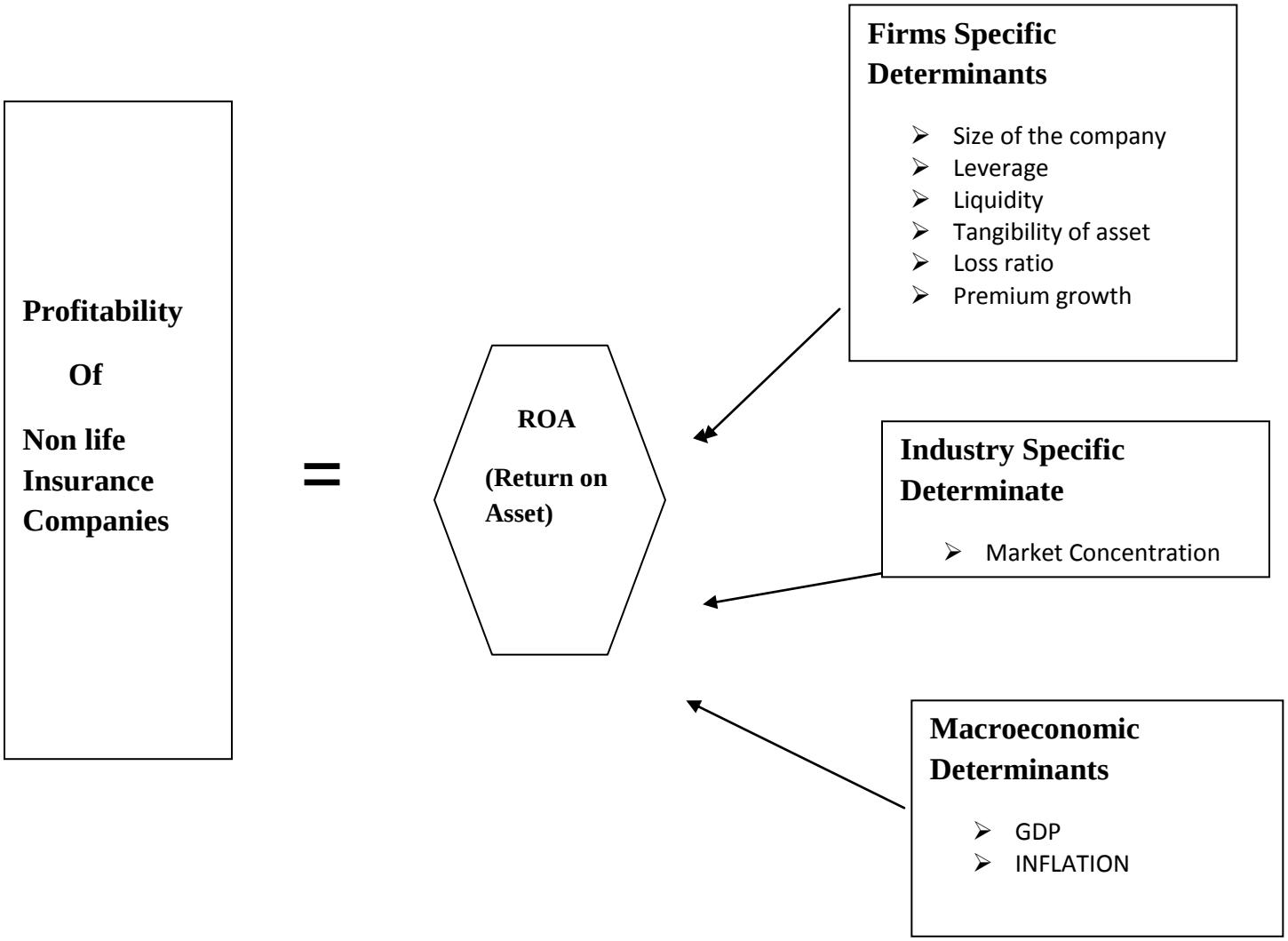
This research significance emerges from the fact that the study carry out a comprehensive analytical examining the determinants effect on profitability of insurance industry in Ethiopia, it will be a base for detail studies serve as reference for further studies.

2.3 Conceptual Framework

Conceptual framework means that concepts that relate to one another were used to explain the research problem. Profitability is influenced by internal, industry specific and macroeconomic determinant, the internal factors include sizes of the firm, leverage, liquidity, tangibility, loss ratio/ underwriting risk and growth of premium which can controllable through indentifies their effect on companies profit and monitor to ensure growth. Industry specific factor explained by market concentration, which shows the potential of firms to exercise the market power and finally macroeconomic determinants include GDP and inflation rate, that the firm profitability but it is noteworthy that the management has no (little) control over them. Nevertheless, the factors must be closely monitored to ensure that stringent measures are taken within the best time to either take advantage of the opportunities or combat the threats found in the external environment.

This conceptual frame work describes the relationship of profitability with firm-specific, industry-specific and macroeconomic determinants based on the theoretical and empirical perspective and the empirical results are described from the following diagram

Figure 1; Conceptual framework



Chapter Three

Research Methodology

From the previous chapter the researcher discussed about the theoretical and empirical facts of the selected dependent and independent variables. Consequently, this chapter describes the methodology that is used in the empirical analysis to test the different hypotheses.

3.1 Research Design

The research design of this study is descriptive type as it investigates the effect of determinants on profitability in Ethiopian non life insurance industry. The researcher tries to examine the relation between profitability and its' determinants based on the result that found by multiple regression and explain by descriptive type.

Considering the nature of research problem and the research perspective, this study mainly employs quantitative research approach to examine the relationship between the determinants and profitability on non life insurance companies in Ethiopia over the period of 2008-2015. Since the data are in the form of numbers and statistics the researcher apply statistical models in to examine the relationship between dependent and independent variables.

In terms of investigative study there are two common approaches to business and social research: one is deductive approach that develops theories and hypotheses followed by a research strategy to test the hypotheses; and second inductive approach that finds data and develops theories as a result of the data analysis Saunders et al, (2003) as cited by Yuqi Li (2007).

The deductive approach introduces a high level of objectiveness in research through external observation in so far as the choice of questions and subsequent phrasings are not subjective. In contrast, the inductive approach provides a high level of subjectiveness and a number of theoretical possibilities based on the context of the individual research situation.

As Creswell (2003) noted, quantitative research employs a review of the existing literature to deductively develop theories and hypotheses to be tested. Therefore this study applies a deductive approach by constructing an empirical model and hypothesizing its relationship between determinants and profitability of insurance companies in Ethiopia through examines the previous research findings.

3.2 Sample and sampling techniques;

Currently, seventeen insurance companies are operating in Ethiopia. There is no need of sampling from the seventeen insurance companies as they are already few in numbers. However the total studied population limited by sample time frame, since the study incorporated and analyses eight year financial statement of ten insurance companies which operates over the period of 2008 to 2015. The other seven insurance companies omitted from the sample size because they were established in later years of the sample period. The main reason for this time frame is to increase the sample size from the total population which is 59%, otherwise the sample size reduced from 50%. In addition it has an advantage to get and provide recent findings.

This research apply purposive sampling to include all insurance companies established and serving with in the specified period of time from June 2008 to June 2015.

The study cover ten insurance companies from the total population namely Ethiopian Insurance Corporation , Africa Insurance company S.C , Awash Insurance company S.C, Nyala Insurance company S.C , Nile Insurance company S.C, Global Insurance company S.C , NIB Insurance company S.C National Insurance company of Ethiopia S.C , The United Insurance S.C and Lion Insurance company S.C); those are engaged in non life insurance activities for more than seven years since the study will cover the sample period of eight years (2008 - 2015).

This study has 80 total samples from ten insurance companies sample size and eight years time frame over the period of 2008 to 2015.

Table 2; List of insurance companies established and serving from June 2008 to June 2015

S.N	Name of companies	Year of establishment
1	Ethiopian Insurance Corporation	1975
2	National Insurance Company of Ethiopia S.C	1994
3	Awash Insurance Company S.C	1994
4	Africa Insurance Company S.C	1994
5	Nyala Insurance Company S.C	1995
6	Nile Insurance Company S.C	1995
7	Global Insurance Company S.C	1997
8	The United Insurance S.C	1997
9	NIB Insurance Company	2002
10	Lion Insurance Company S.C	2007

Source; National Bank of Ethiopia report, 2015

3.3 Source and type of data;

The main data sources are the annual financial statements of insurance firms and economic and financial data were collected from annual report of National bank of Ethiopia. The study conducted based on secondary data.

The data for the empirical analysis derived mainly from the annual financial statements of ten insurance companies in Ethiopia operating over the last eight years. The book value based yearly financial data were used and collected from the audited financial statements of insurance companies. Those data include cross- sectional data and time series data separated by year for analysis to look at the relationships between basic determinants on profitability of insurers over the study period.

Myers (1984) argued that managers focus on book value information because financial markets fluctuate a great deal and managers are said to believe that market value numbers are unreliable as a guide to corporate financial policy.

Overall financial information about individual insurance companies and economic data of the country collected from NBE (National Bank of Ethiopia) annual reports, statistical bulletin of government office and database system. Moreover, related books, journals articles and various manuals were also be used as sources of data.

To increase the credibility and value of the research, the financial data only collected from audited financial statements of each insurance company which included in the sample frame.

3.4 Method of data analysis

Data analysis of this study is based on descriptive analysis, correlation analysis and regression analysis.

The research used descriptive analysis to presents a data overview of all variables uses mean, minimum, maximum, standard deviation and ranges.
According to Malhotra (1997) using descriptive statistics methods helps the researcher in picturing the existing situation and allows to brief relevant information.
Using correlation analysis the study show how dependent and independent variables are related with each other. The results of this analysis represent the nature, direction and significant of the correlation of the variables.
The regression analysis also applied to examine the effect of determinant variables such as Tangibility, size of companies, leverage, loss ratio, premium growth, liquidity, market concentration, inflation and economic growth on profitability of Ethiopian insurance companies.

According to Davidson and et al (1985) as cited by Swiss Re (2008) specification test should be applied with results that supported the use of the linear function; so before going to perform multiple regressions, the investigator first has done various specification tests such as normality, autocorrelation and multicolliniality to accurate the data output and help to remove impact of certain forms of omitted variables bias in regression results. Correlation matrix has been used to identify the relationship of each variable among them and with dependant variables.

Multiple linear regression analysis was adopted to measure the effect of determinants on insurance companies' profitability by using statistical software package for social sciences (SPSS) to test the causal relation between the companies profitability and determinants and to determine the most significant and influential explanatory variables affecting the profitability of non-life insurance industry in Ethiopia.
Finally the results of a regression analysis were presented by appropriate graphs and tables.

3.5 Variable Definition and Measurement

This research is concerned on profitability of non-life insurance companies in Ethiopia as a financial performance and the internal, industry and external factors which determines profitability.

The study construct financial statements variables as determinants of profitability incorporate: Tangibility, size of companies, leverage, loss ratio, premium growth, liquidity from firm specific determinant, market concentration from industry specific factors and economic growth and inflation from macroeconomic determinant respectively by measuring profitability in term of Return on Asset. Hence, six variables are used as internal determinants and one, market concentration and two external determinants of performance.

Referring to previous studies, the use of ratio in measuring leverage, liquidity, claim ratio, tangibility and profitability performance is common in the literature of finance and accounting practices.

Hafiz Malik (2011) used ratio in measuring insurance companies financial performance for advantage of using ratio index in measuring performance is that it compensates disparities created by size.

According to Swiss Re survey (2008) the main reason for measuring profitability in terms of return on asset is insurers ROA is determined by earnings after taxes realized for each unit of net premiums (or profit margin) and amount of capital funds used to finance and secure the risk exposure of each premium unit (solvency).

The study used multiple regression models to measure the effect of nine determinant of profitability such as tangibility, size of companies, leverage, loss ratio, premium growth, liquidity, market concentration and economic growth and inflation on profitability of Ethiopian non life insurance companies since regression model enable to measure the effect of determinants on profitability and to identify relationships among multiple numbers of independent variables.

According to Shane (2013) multiple regression analysis is an advanced statistical technique that uses more than one predictor, or independent variable, to examine the effects on a single outcome, or dependent variable.

The research follow variables model specification of Malik (2011) for the internal determinant for insurance industry and Belayneh Tsehay (2012) for external determinant model specification

from research conducted in bank industry of Ethiopia which much more similar insurance industry since both are financial institution.

Profitability

There are many different ways to measure profitability, as shown in literature. In this study; Net Income before Tax to Total Assets (ROA) is used to measure profitability, because most of the studies regarding the subject used this ratio to determine the profitability of insurance companies.

Size of the company;-Most of the researchers use the log value of total assets as a measure of size in such area. Therefore, company size is measured by total assets in log value.

Premium growth; - is measured by the percentage change in current year premium with previous year premium or as a year to year change in the new premium.

Liquidity;- in the context of insurance companies liquidity is probability of an insurer to pay liabilities which include operating expenses and payments for losses/benefits under insurance policies, therefore, measured by total current assets to total current liabilities.

Leverage; - is defined as total debts divided by total assets. A company with significantly more debt than equity is considered to be highly leveraged.

Claim/Loss ratio/ Underwriting risk; ratio of premiums paid to an insurance company and the claims settled by the company. Loss ratio is the total losses paid by an insurance company in the form of claims over received premium amount

Tangibility of Asset; the existence of fixed asset compare to total asset and measured as the ratio of fixed assets to total assets.

Market Concentration; a degree to which a relatively small number of firms account for a relatively large percentage of the market . Athanasoglou et al. (2009).

It is typically measured by analyzing market shares of firms that supply a specific good or service within a particular geographic.

Economic Growth; mostly it is Real GDP (Gross Domestic Product) as it is a measure of total economic activity within an economy. The gross domestic product growth (GDPGR), calculated as the annual change of the GDP. Kosmidou .M (2008)

Inflation; measured by a percentage change in CPI is one indicator of price increases

3.6 Design of Empirical Model

The regression model is used to identify the relationship between the profitability of insurance companies and size of company, leverage ratio, premium growth, tangibility, liquidity, loss ratio, market concentration and economic growth.

For estimation purposes, the following general linear model is used:

$$\Pi it = \alpha + \Sigma\, \beta k\, Xnit + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where: Πit is the profitability of insurance company i *at* time *t*,

α is a constant term,

β is coefficients for the respective variables,

Xit are k explanatory variables, superscript n denote both internal and External determinants of profitability

εit is the disturbance term

The explanatory variables Xit are grouped into firm-specific, industry-specific and macroeconomic variables.

The general specification of model (1) with the Xits separated into these three groups of determinants of profitability as follows;

$$\prod it = \alpha + \sum Jj{=}1 \beta kjXitj + \sum Ll{=}1\ \beta klXitl + \sum Mm{=}1 \beta kmXitm + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where; The Xits with superscripts *j*, *l* and *m* denote firm-specific, industry-specific and macroeconomic determinants of profitability respectively .

The Equation that account for individual explanatory variables which are specified for this particular study is given as follow;

$$\Pi it = \alpha + \beta 1(TA)it + \beta 2(LQ)it + \beta 3(LV)it + \beta 4(SZ)it + \beta 5(PG)it + \beta 6(LR)it + \beta 7(MC)it + \beta 8(GDP)it + \beta 9\,(INF)it\ .. + .\ \varepsilon it\ (3)$$

Where; β1 – β9 is coefficients for the respective explanatory variables, from this β1 – β6; represent coefficient of firm specific variables and β7; represent coefficient of industry specific variable, β8- β 9 also represent coefficient of macroeconomic variables.

Wherea

SZ = Size of the company

TA = Tangibility of asset

LV = Leverage

LQ= Liquidity

LR = Loss/claim ratio

PG = Premium growth

MC = Market Concentration

GDP = Gross Domestic Product (Economic Growth)

INF = Inflation Rate

The study was used the commonly used ratio to describe insurance company profitability: the average return on assets (ROAA)

So can drive **ROAA Model: -** Return on Assets Average as dependant variable

$$ROAit = \alpha + \beta 1(SZ)it + \beta 2(TA)it + \beta 3(LV)it + \beta 4(LQ)it + \beta 5(LR)it + \beta 6(PG)it + \beta 7(MCON)it + \beta 8(GDP)it + \beta 9\ (INF)it + \varepsilon it \ldots\ldots\ldots\ldots (4)$$

To summarize, this chapter deals the approach adopted to examine the effect of main determinants on profitability, the type of data used and the techniques employed to collect the data, the sampling mechanism, the methods utilized to manage and analyze the data, and the process of constructing empirical model with identification and measurement of its components.

Chapter Four

4. Data Analysis and Interpretation

This chapter presents the empirical test results based on the linear regression to test the outcomes of the analysis for ten insurance companies in Ethiopia during the period of 2008 to 2015. The investigation is with regard to the relationship between profitability as dependent variable and size of non-life insurance companies, leverage ratio, premium growth rate, underwriting risk (loss ratio) , tangibility of company assets ,liquidity ratio, interest rate, inflation rate and real GDP as independent variables.

This chapter is divided into five sections. The first section provides descriptive analysis of the data and variables for the study; the second section discusses the correlation analysis between dependent and independent variables and correlation coefficient between variables followed by testing the hypothesis in the third section; the fourth section describe regression analysis and the fifth and final section explain the results of regression analysis that constitute the main findings of this study.

4.1 Descriptive statistics

Descriptive analysis of all the variables in this study is represented as in the following table. In this section, the study presents the empirical test results that include the descriptive analysis. It explores and presents an overview of all variables used in the study.

Table 3; **Descriptive Statistics**

	Observation	Minimum	Maximum	Mean	Std. Deviation
ROA	80	.0570	.1280	.091750	.0270647
Tangability	80	.1270	.1689	.144600	.0160211
Liquidity	80	.9480	1.0130	.973125	.0223699
Leverage	80	.7210	1.0000	.803500	.1222047
Size of company	80	9.2920	9.8510	9.579125	.2108916
Premium Growth	80	.1600	.5300	.271125	.1219900
Market Concentration ratio	80	.6101	.8600	.7343	.09244
Loss ratio	80	.3000	.4000	.345000	.0338062
Annual Inflation rate	80	.0280	.3640	.185625	.1227296
Real annual GDP	80	.0880	.1100	.102286	.0073872
Valid N (listwise)	80				

Source: SPSS descriptive statistics out put

The table 3 indicates the mean values of all the variables ranges from minimum of 0.09 for ROA to a maximum of 9.57 for size. The average profitability as measured by ROA for Ethiopian non-life insurance companies during the study period is about 0.09 which means 9% average of profitability and the value of the standard deviation for ROA is 0.04 which implies the presence of moderate variations among the values of profitability across the insurance companies included for this study.

the mean value for tangibility of assets is 0.1446 and the standard ;deviation is 0.016 which implies 14.46 percent of total asset of non-life insurance company is fixed asset and the presence of moderate variation among the values of tangibility of assets in insurance companies.

Similarly the mean value of liquidity ratio is 0.97 with the value of standard deviation 0.02237 which also shows us the existence of moderate difference among the values of liquidity ratio for non-life insurance companies under consideration.

The mean value of leverage is 0.8035 implies that there were moderate differences among the values of leverage as measured by liability to asset ratio across the sample non-life insurance companies under this study and is because the value of standard deviation is 0.1222.

The mean value of size is 9.57. Therefore, with regard to size as shown in the table above, there exists significant variation across the sample non-life insurance companies for the reason that the value of the standard deviation is 0.2108. Hence size of companies highly vary among Insurance

companies may have significant impact on profitability of non-life insurance companies that we are going to see in the regression results.

From table 4.1 above, the mean value of premium growth is 0.271 and the value of standard deviation for the same variable is 0.1219 which shows that there were significant variations among the values of premium growth as measured by the current year premium over the previous year's across the sample non-life insurance companies.

Similarly the mean value of underwriting risk (loss ratio) is 0.345 with the value of standard deviation 0.033 which also shows us the existence of moderate difference among the values of loss ratio for non-life insurance companies under consideration.

The average (mean) value for market concentration ratio has become 0.734 with a standard deviation of 0.092. Therefore, which shows that there were moderate significance variations among company included in this study.

The average (mean) value for real GDP growth rate has become 0.102, which means the Ethiopian GDP growth by 10.2% over the studied years with a standard deviation of 0.007. Therefore, this shows that there is very little significance variation for the studied period.

The mean value of annual inflation rate is 0.1856 averages of 18.5% Therefore, with regard to inflation as shown in the table above; there exists moderate significant variation across the sample non-life insurance companies for the reason that the value of the standard deviation is 0.1227.

Therefore, this study is conducted to what extent; the variations in factors affect the profitability of insurance companies in Ethiopia. Profitability measured by ROA for different insurance companies considered for this study for eight consecutive years is different. Identification of the internal and macro economic factors that affect the profitability of these companies is the task of the researcher for this study.

4.2 Correlation Analysis

4.2.1 Correlation analysis between ROA and independent variables

The correlation coefficient represents the linear relationship between two variables. The most widely-used type of correlation coefficient is Pearson r, also called linear or product-moment correlation. The significance level calculated for each correlation is a primary source of

information about the reliability of the correlation. The significance of a correlation coefficient of a particular magnitude will change depending on the size of the sample from which it was computed. Dancey and Reidy's (2004)

Categorize value of the correlation coefficient and strength of correlation like 1 value of correlation coefficient means perfect, 0.7-0.9 value of correlation coefficient means strong, and 0.4-0.6 value of correlation coefficient means moderate and 0.1-0.3 value of correlation coefficient means weak.

Here, the analysis is with regard to significant correlations between the dependent variable and each independent variable separately, to decide whether to accept or reject the hypotheses.

Table 4 shows us correlations between ROA and independent variables. Return on assets is negatively correlated with premium growth (PG) and inflation rate (IR). The coefficient estimates of correlation -0.126 and -0.660 for premium growth and inflation rate respectively. The result suggests that premium growth and inflation rate is independent of return on assets.

Table 4; Correlation matrix between ROA and independent variables

	ROA	TA	LQ	LEV	SZ	PG	MC	LR	INF	GDP
ROA	1.00	0.410	-0.123	0.571	0.855	-0.254	-0.716	0.709	-0.654	0.269
TA	0.410	1.000	-0.317	0.860	0.558	-0.538	-0.608	0.786	-0.543	0.393
LQ	-0.123	-0.317	1.000	-0.454	-0.576	-0.224	0.651	-0.261	-0.346	0.383
LEV	0.571	0.860	-0.454	1.000	0.782	-0.364	-0.836	0.621	-0.403	-0.031
SZ	0.855	0.558	-0.576	0.782	1.000	-0.096	-0.960	0.655	-0.376	-0.016
PG	-0.254	-0.538	-0.224	-0.364	-0.096	1.000	-0.045	-0.546	0.281	-0.550
MC	- 0.716	-0.608	0.651	-0.836	-0.960	-0.045	1.000	-0.557	0.332	0.133
LR	- 0.709	-0.786	0.261	-0.621	-0.655	0.546	-0.557	1.000	0.672	-0.621
INF	-0.654	-0.543	-0.346	-0.403	-0.376	0.281	0.332	-0.672	1.000	0.637
GDP	0.269	0.393	0.383	-0.031	-0.016	-0.550	0.133	0.621	-0.637	1.000

Source: SPSS Output

Table 4 shows us correlations between ROA and independent variables. Return on assets is negatively correlated with premium growth (PG), liquidity (LQ), and loss ratio, market concentration ratio (MC) and inflation rate (IR). The coefficient estimates of correlation -0.254, -0.123, -0.709, -0.716 and -0.654 for premium growth (PG), liquidity (LQ), loss ratio, market

concentration ratio (MC) and inflation rate (IR) respectively. The result suggests that premium growth, liquidity, market concentration ratio and inflation rate are have negative correlation with of return on assets.

The higher correlation value exist on size of companies, market concentration ratio and underwriting risk/loss ratio with 0.855, -0.716 and -0.709 respectively.

Return on assets is also positively correlated with tangibility of asset (TA), leverage (LV), size of companies (SZ), and economic growth rate (GDP). The coefficient estimates of correlation 0.410, 0.571, 0.855, and 0.269 respectively.

As per the above table, the correlation coefficient between ROA and liquidity -0.123, which is the smallest correlation coefficient as compare to other variables, this mean that liquidity has small association with profitability

The significance level of this result is indicated in the table 5. The highest positive percentages are size as measured by log of total assets. The coefficients of correlations are 89.6%, and they are positively correlated with profitability as measured by ROA with significant level. This means that as these variables increase ROA also will increase.

The table 5 also shows that, leverage and tangibility of asset. are correlated positively 61.1% and 51.1% respectively but it is not statistically significant at 1% and 5% significance level. Therefore, profitability is independent of leverage and tangibility of assets.

Similarly underwriting risk (loss ratio) and market concentration ratio 79% and 76% correlated negatively with ROA at a significant level. Which implies these variables increase ROA will decrease and annual inflation rate has correlated negatively. Inflation rate and premium growth also correlated negatively but it is not at significant level.

coefficient Correlations

Table 5: Coefficient correlations between ROA and independent variables

Dependent and independent variables		Observation	Correlation	P-Value
Pair 1	ROA & Tangability , fixed asset by total asset	80	.517	.190
Pair 2	ROA & Liquidity, Current asset by current liability	80	-.142	.738
Pair 3	ROA & Leverage, total liability by total asset	80	.611	.107
Pair 4	ROA & Size of company, log of total asset	80	.896	.003
Pair 5	ROA & PG, ratio of current yr premium by Prevoius Yr premium	80	-.126	.766
Pair 6	ROA & Market Concentration ratio	80	-.762	.028
Pair 7	ROA & Loss ratio	80	-.790	.020
Pair 8	ROA & CPI	80	-.660	.751
Pair 9	ROA & Real annual GDP	80	.269	.560

Source: SPSS output

Categorize value of the correlation coefficient and strength of correlation like 1 value of correlation coefficient means perfect, 0.7-0.9 value of correlation coefficient means strong, and 0.4-0.6 value of correlation coefficient means moderate and 0.1-0.3 value of correlation coefficient means weak

As per the above table information we try to see the correlation relationship of each independent variable with ROA and analyses the predicted hypothesis of each independent variables.

Test for hypothesis 1

Table 6; Correlation between ROA and Tangibility

	Correlation coefficient (r)	Sig
Tangibility	0.517	0.190

Source: SPSS output

Form the table above, we found that there is positive but insignificant relationship between tangibility and profitability as measured by ROA. Therefore, we do not accept the H1.

Test for hypothesis 2

Table 7 ; Correlation between ROA and Leverage

	Correlation coefficient (r)	Sig
Leverage	0.611	0.107

Source: SPSS output

From the table above we can see that there is positive and moderate significant relationship between ROA and leverage. Therefore, we do not accept the H2

Test for hypothesis 3

Table 8 ; Correlation between ROA and Size

	Correlation coefficient (r)	Sig
Size	0.896	0.03

Source: SPSS output

The results from table 8 above show that there is a strong correlation, significant and positive relationship between size of the company and ROA and therefore H3 is accepted.

Test for hypothesis 4

Table 9; Correlation between ROA and Liquidity

Correlation coefficient (r)		sig
Liquidity	-0.142	0.738

Source: SPSS output

The results from table 9 show that there is a negative correlation; however there is in significant relationship between liquidity and ROA. Hence H4 is accepted

Test for hypothesis 5

Table 10; Correlation between ROA and Premium growth

Correlation coefficient (r)		sig
Premium Growth	-0.126	0.766

Source: SPSS output

The results from table 10 show that there is a negative but in significantly relation with strong ROA. Hence H5 is not accepted

Test for hypothesis 6

Table 11; Correlation between ROA and Loss ratio (Underwriting risk)

Correlation coefficient (r)		Sig
Loss ratio	-0.790	0.020

Source: SPSS output

The results from the table 11 show that there is a negative and significant relationship between

underwriting risk and ROA. Hence H6 is accepted.

Test for hypothesis 7

Table 12; Correlation between market concentration ratio and ROA

Correlation coefficient (r)		P-value
market concentration ratio	-0.762	0.028

Source: SPSS output

The results of the table 12 show that there is significantly negative correlation between market concentration ratio and ROA. Hence H7 is accepted

Test for hypothesis 8

Table 13; Correlation between ROA and Real GDP growth

Correlation coefficient (r)		Sig
Real GDP growth	0.269	0.560

Source: SPSS output

The result from the table 13 shows that there is a positive but moderate relationship between real GDP growth and ROA. Hence H8 is not accepted.

Test for hypothesis 9

Table 14; Correlation between ROA and Inflation

Correlation coefficient (r)		Sig
Inflation	-0.66	0.751

Source: SPSS output

The results from the table 14 show that there is negative but no significant relationship between inflation and ROA. Hence hypothesis 9 is not accepted.

4.2.2 Correlation analysis between independent variables

The correlation between explanatory variables; size, leverage, liquidity, tangibility of asset, loss ratio/ risk, premium growth, market concentration ratio, inflation and economic growth included in this study are presented and analyzed.

According to table 15 below, tangibility of asset negatively correlated with liquidity, market concentration, underwriting risk and inflation rate and positively correlated with size of companies, leverage, and GDP, However tangibility of asset highly & negatively correlated with leverage.

Liquidity of asset also negatively correlated with tangibility of asset, leverage, size of companies, premium growth, loss ratio and inflation rate and positively correlated with market concentration

& GDP. Size of company positively correlated with tangibility of asset, leverage, premium growth and loss ratio and negatively correlated with market concentration ratio and liquidity.

Leverage positively correlated with tangibility of asset, size of companies and loss ratio and negatively correlated with market concentration ratio, premium growth, and inflation, liquidity and GDP growth. In addition premium growth negatively correlated with tangibility, liquidity, leverage, market concentration, loss ratio. Market concentration ration negatively correlated with tangibility of asset, leverage, size of companies, premium growth, loss ratio and inflation rate and positively correlate with liquidity and GDP growth. Loss ratio negatively correlated with tangibility of asset, leverage, premium growth, market concentration ratio and inflation. Real economic growth positively correlated with tangibility of asset, liquidity, loss ratio and inflation.

Correlation matrix between independent variables

Table 15; **Correlation between independent variables**

	TA	LQ	LEV	SZ	PG	MC	LR	INF	GDP
TA	1.000	-0.199	0.817	0.454	-0.430	-0.485	-0.774	-0.363	0.309
LQ	-0.199	1.000	-0.449	-0.695	-0.104	0.742	0.105	-0.414	0.362
LEV	0.817	-0.449	1.000	0.656	-0.283	-0.745	-0.345	-0.059	-0.256
SZ	0.454	-0.695	0.656	1.000	0.287	-0.928	0.180	-0.488	-0.598
PG	-0.430	-0.104	-0.283	0.287	1.000	-0.312	-0.432	0.201	-0.540
MC	-0.485	0.742	-0.745	-0.928	-0.312	1.000	-0.088	-0.246	-0.541
LR	-0.774	-0.105	0.345	0.180	-0.432	-0.088	1.000	-0.327	0.692
INF	-0.363	-0.414	-0.059	0.488	0.201	-0.246	-0.327	1.000	0.635
GDP	0.309	0.362	-0.2560	-0.598	-0.540	0.541	0.692	-0.635	1.000

Source; Source: SPSS Output

According to table 15 above, the size of company with market concentration ratio , tangibility of asset with leverage and loss ration with tangibility of asset highly correlated as compared to other independent variables included in this study with the coefficient of -0.928, 0.817 and 0.774 respectively. Since their coefficient is more than 0.70 we can conclude that there is multicolinarity problem as supported with empirical evidence.

4.3 Diagnosis tests

The study was testing the Linear Regression Models (LRM) assumptions. The researcher finds

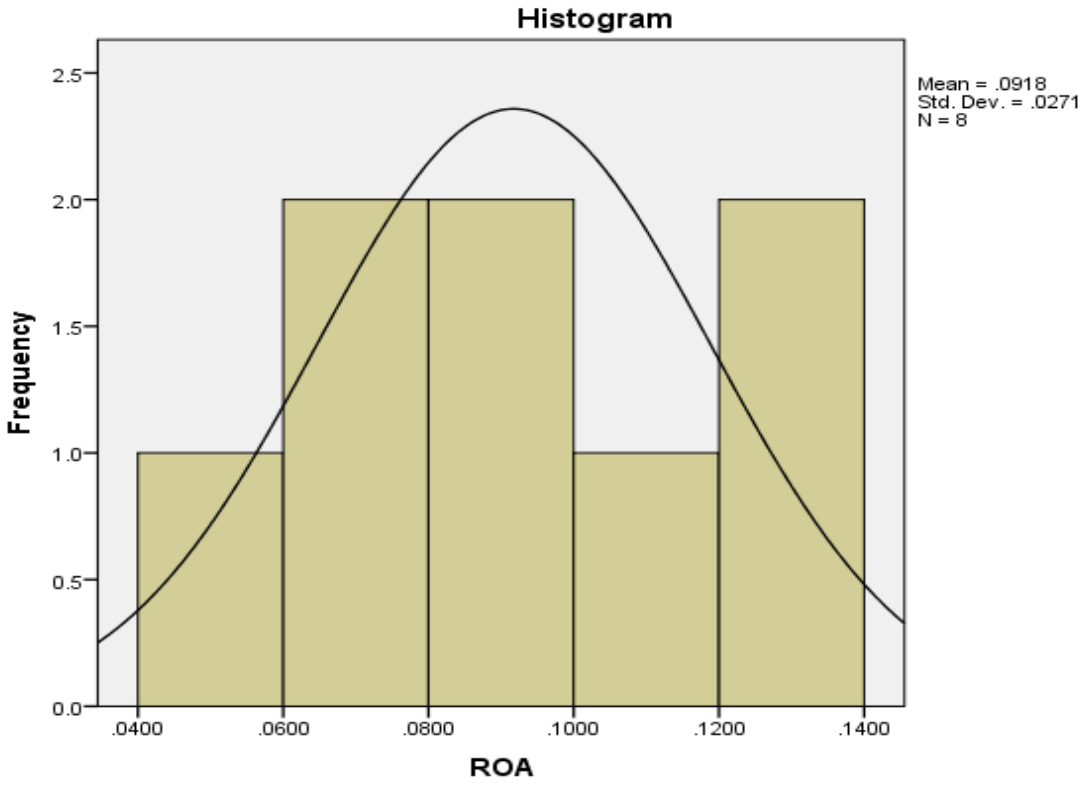
that the characteristics of the model and proposed variables of this research are not violating the classical assumptions. These are checked by testing each assumption

4.3.1 Normality of Data

Chris Brooks (2008) also noted that in order to conduct hypothesis test about the model parameter, the normality assumption must be fulfilled. The normality assumption is about the mean of the residuals is zero. Therefore, the researcher used graphical methods of testing the normality of data as shown below.

From figure 2 below, it can be noted that the distribution is normal curve, indicating that the data confirms to the normality assumption. In addition, the normal probability plots were used to test the normality of data as shown below in figure 2.

figure 2 ; Histogram for normality test

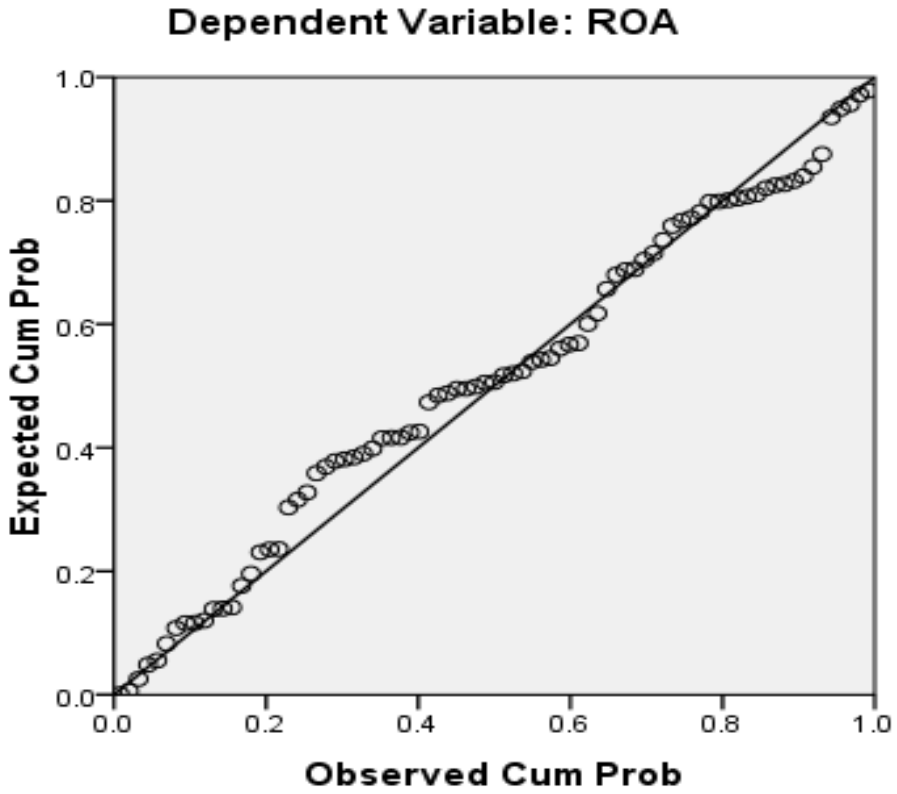


Source: SPSS regression output

The above figure shows the normal distribution of residuals around its mean of zero. Hence the normality assumption is fulfilled as required based on the above figure, it is possible to conclude

that the inferences that the researcher will made about the population parameter from the sample is somewhat valid.

Figure 3; Normal P-P plot of regression standardized residual



Source: SPSS regression output

4.3.2 Autocorrelation

According to Chris brooks, 2008 it is assumed that the error is uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are auto correlated. To test this assumption the Durbin- Watson (DW) statistical test was applied.

Table 16 ; Durbin- Watson statistical test

Model	DW statistic
ROA	1.86

Source; E-views output from financial statement of insurance companies and annual report of National Bank.

From the above table, indicates that the DW test result was 1.86 which is approaching to 2,

This indicates that there is no autocorrelation in this study. Therefore no evidence for the

presence of autocorrelation.

4.3.3 Multi-Collinearity test/statistics

The correlation analysis shows that ROA is significantly correlated with size of company, market concentration ratio and loss ratio. The correlation analysis also indicates that size of company with market concentration ratio, tangibility of asset with leverage and loss ration with tangibility of asset highly correlated. For instance tangibility of asset is positively correlated with leverage and underwriting risk/ loss ratio. This observation indicates that special attention should be given to the possible problem of multi collinearity when regression analysis is executed.

Before conducting regression analysis, multi-collinearity needs to be checked. There are two major methods utilized in this study, in order to determine the presence of multi collinearity among independent variables. These methodologies involved calculation of both a Tolerance test and Variance Inflation Factor (VIF) (Kleinbaum et.al, 1988, Menard (1955) suggested that a tolerance value less than 0.1 almost certainly indicates a serious collinearity problem. Furthermore, Myers (1990) also suggested that a VIF value greater than 10 calls for concern

An insignificant tolerance value indicates that the variable under consideration is almost a perfect linear combination of the independent variables already in the equation and that it should not be included to the regression equation. Tolerance ranges from zero to one. The closer the tolerance value to zero indicates a level of multi-collinearity.

Table 17 ; Collinearity (model 1)

Model 1	coefficients				Collinearity statistics	
standardize coefficient			t	Sig	Tolerance	VIF
Beta		std error				
Constant	-0.395	.116	-3.415	.001		
TA	.181	.091	1.999	.049	.778	2.485
LQ	-.005	.001	1.215	.000	.098	4.530
LEV	.001	.007	3.936	.228	.008	29.391
SIZE	.026	.006	-5.154	.000	.419	3.367
PG	-.030	.022	4.746	.000	.811	4.263
MC	-.067	.046	1.409	.163	0.016	17.867
LR	-.104	.029	-1.716	.000	.866	1.562
INF	-.069	.002	1.351	.210	.502	2.623
GDP	.067	.001	1.566	.186	.376	5.321

Source: Random effect regression output of SPSS

From table 17 the model shows that leverage and market concentration ration have high VIF value with VIF accepted value of 10 and tolerance value also less than 0.1, which is 0.016 and

0.008 these values confirms that there is high multi collineality between the independent variables.

4.5 Regression Analysis

In this section regression analysis for insurance profitability measures; ROA have been undertaken to understand the relation between insurance profitability and determinants of insurance profitability. there are two way of panel data estimator approaches; fixed effect model and random effects models, selection is based on hausman test since the p-value is insignificant at 5% level of significance random effect was selected

Hausman test

Table 18; Hausnam test for panel regression

Hausman test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.639047	8	0.9998

Source ; Random effect results of E-views

To conduct regression on random effects models the variables should free from multi-collinearity. From table 17 model the results show that VIF value is 29.391 and 17.867 for leverage and market concentration ratio and respectively. It indicates that this model is not free from multi-collinearity between the independent variables in this model. The correlation analysis made here in this paper shows that leverage correlated with market concentration ratio. Hence the model will be tested for the second time by dropping out of the leverage form list of repressors

Table 19 Collinearity (model 2)

Model 2	coefficients				Collinearity statistics	
standardize coefficient			t	Sig	Tolerance	VIF
Beta t		std error				
Constant	-0.395	.116	-3.415	.001		
TA	.035	.091	1.999	.049	.778	1.285
LQ	.001	.001	1.215	.228	.383	3.230
SIZE	.062	.007	3.936	.000	.259	3.867
PG	.012	.006	-5.154	.000	.419	2.387
MC	-.093	.054	-4.325	.073	.567	1.256
LR	-.104	.022	4.746	.000	.811	1.233
INF	-.062	.046	1.409	.163	.719	1.391
GDP	.058	.046	1.409	.163	.719	1.391

Source: Random effect regression output of SPSS

From the table above, the results show that VIF value for all variables becomes less and the tolerance value for all variables is not near to zero. It indicates that this model is free from multi-collinearity after exclude leverage. Hence, there is no problem of multi-collinearity between the variables in this model. Therefore regression analysis is done by excluding leverage from the model

Table 20; Model summary

Model	R	R2	Adjusted R2	Standard Error of the estimate
2	0.692a	0.452	0.412	0.0318967

Source: Random effect results of E-views

Hypothesis testing and interpretation of the results based on random effect panel

Shown below in table 21 the empirical result of the study by using random estimators of panel data using SPSS.

Table 21; panel random effect estimation result after excluding LEV

Dependent variable: ROA Independent Variables		Panel random effect estimation result	
Variable	Coefficient	Std.error	Sig.
C	-0.5402		
TA	0.0591	0.116	0.049**
LQ	-0.0012	0.001	0.228
SIZE	0.1321	0.007	0.000*
PG	-0.0021	0.006	0.000*
MC	-0.0201	0.022	0.075
LR	-0.1315	0.046	0.030 **
INF	-0.0006	0.065	0.423
GDP	0.0113	0.077	0.043**
Observations = 80		*= Significant at 1%	
R2 = 0.692		**= Significant at 5%	
Adjusted R_2 = 0.452			
F-statistics = 9.937 *			
DW statistics = 1.86			

Source: SPSS Random effect regression output

The results of regression for six independent variables on ROA in model 2 are presented in Table 21. This table shows the independent variables entered into the regression model. When all the inter-correlation the variables are taken into account, the R square is 0.692, it means that on average 69.2% of the variation in ROA can be explained by the independent variables under the model above. However, t test shows that two of the independent variables namely market concentration ratio, liquidity and interest rate are not significant with (P=0.075) , (p=0.228) and (p=0.423) respectively. Hence this result is consistent with the correlation analysis

Table 22 ANOVA (a)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.071	7	.010	9.937	.000a
Residual	.074	73	.001		
Total	.145	80			

Predictors: (Constant),TA, LQ, SIZE, PG, MC, LR, IR, GDP

b. Dependent Variable: ROA

Source: Random effect results of E-views

The ANOVA table above shows that the F value is significant at p=0.000 when the eight variables are entered together. The model explains the relationship between the independent variables and the dependent variable, moreover this model is significant and use five independent

variables are predictors of the ROA.

The main purpose of observing the adjusted value of R square is to apprehend the best model that can explain ROA in the Ethiopian insurance companies. It is noted from the regression result that the adjusted R square in the second model is 0.439. This indicates the model is the best to explain ROA of insurance companies in Ethiopia. Which means on average 43.9 % of the change in profitability as measured by ROA can be explained by the variables in the model. Hence the function for regression equation for second model is

ROA = -0.540+0.159 TA-0.001 LQ +0.1321 SZ -0.002 PG -0.13LR 0.02MC-0.0006 INF +0.0113 GDP +ε

Table 23; Model Summary

Model	R	R^2	Adjusted R^2	Std.	Durbin-Watson
3	.706[a]	.478	.420	.0315891	1.868

Source: Random effect results of E-views

From the above table we can conclude that size of company is one of the important determining factors of profitability of non-life insurance companies in Ethiopia. The regression results show a regression coefficient of 0.1321, t-statistics of 4.150 and p-value of 0.000. Hence size of company significantly and positively affects profitability of non life insurance companies in Ethiopia and this result is consistent with the hypothesis of the study.

The result implies that a 1% increase in volume of capital will result in a 13.21 % increase in profitability. The coefficient of volume of capital is positive and highly significant, meaning that higher size of insurance companies experience higher returns of assets and hence higher profits

4.6 Summary of Findings

Discussion of findings is more depending on model two above and it is because the R square for the second model is to some extent more than the third model. Hence model two explains the study better than model three.

4.6.1 Tangibility of assets

The regression results concerning tangibility of assets show that there is significant relationship between tangibility of assets and profitability of insurance companies in Ethiopia. The regression coefficient is 0.059, t-statistics 4.746 and p-value of 0.049. Hence the result is consistent with the hypothesis of the study and consistent with the correlation analysis. it can be concluded that

tangibility of assets still positively explains profitability of insurance companies in Ethiopia. Regarding the effect of tangibility of assets of companies on their financial performance, empirical evidences by Hafiz Malik (2011) in Pakistan revealed that there exists a positive and significant relationship between tangibility of assets and profitability of insurance companies and argued that the highest the level of fixed assets formation, the larger the insurance company is and leads to profitability Hence tangibility of assets is also part of the size of the company

4.6.2 Liquidity

The results of the random effect regression regarding liquidity show that there is no significant relationship between liquidity ratio of insurance companies and their profitability in Ethiopia. As Shown above in table 4.8, the regression coefficient of liquidity is -0.0012 with a t-statistics of -0.243 and significance value of 0.228.

From the result we can be conclude that liquidity ratio negatively affects profitability of insurance companies and it is consistent with the hypothesis of the study. Although the results show no statistical significance between these variables, it can be concluded that the liquidity ratio of a firm still explains the variation in profitability of insurance companies negatively.

The larger the liquidity ratio shows more current assets are held which would have been invested in profitable business hence the more the liquidity ratio the lower is the profitability. Hence the result of the regression output is in consistent with the hypothesis of the study.

4.6.3 Size

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. The regression results by different researchers indicated that there exists a positive relationship between size and profitability of firms. Swiss Re (2008) indicated that larger firms are found to grow faster than smaller firms. In addition, Hafiz Malik (2011) in his Pakistan study found that there is significantly positive association between size of the company and profitability.

Similar to most of the researchers mentioned above, in this study, the panel random effect estimation result revealed that there exist a significant and positive relationship between size and profitability of insurance companies in Ethiopia with a regression coefficients of 0.132, t-statistics of 3.936 p-value of 0.007. Hence, the variables have statistically significant positive relationship. Hence the result of the regression output is consistent with the hypothesis of the study.

4.6.4 Premium Growth;

The regression results of the study show that there is a statistically significant and negative relationship between premium growth ratio of insurance companies and their profitability in Ethiopia with a regression coefficient of -0.0021, t-statistics of -5.154 and P-value of 0.000. Hence, the results are consistent with the hypothesis of the study.

Literatures confirm that a insurance firm's gain earning as premium from insured parties to cover the claim or compensate at the time of losses; so the premium is an income for those companies.

Premium amount mostly for enable companied to produce other incomes, as a result premium increases from year to year makes the companies profitable, on the other side premium amount collection increase means the company have more insured liabilities that may lead to reduce profitability**.**(Raymond , 2012)

Using the standardized coefficient and keeping all the other variables constant, if the premium grows by 100, return on assets will decrease by 0.21%. Thus, it can be concluded that the insurers with more premium growth will have low profitability due to increased underwriting risk and related provisioning for solvency margin.

4.6.5 Underwriting risk/ loss ratio

Underwriting Risk reflects the adequacy, or otherwise, of insurers' underwriting performance (Adams and Buckle 2003). Sound underwriting guidelines are pivotal to an insurer's financial performance.

Empirical evidences with regard to loss ratio/ risk indicates statistically significant but negative relationship between Loss ratio/ risk and profitability of insurance companies. For instance Malik (2011) found Loss ratio (risk) as important determinant of profitability of insurance companies and it having statistically significant and negatively related with ROA.

The underwriting risk depends on the risk appetite of the insurers. This study has taken the ratio of claim Paid to Net Premium as a measure of underwriting risk. The regression result clearly shows that there is a significant and negative relationship between the return on assets and the underwriting risk in Ethiopia insurance industry with regression amount of -0.1315, t-statistics of -5.154 and P-value of 0.03. Hence, the results are consistent with the hypothesis of the study.

4.6.6 Market Concentration

The regression results of the study show that there is a statistically in significant and negative relationship between market concentration ratio of insurance companies and their profitability in Ethiopia with a regression coefficient of -0.0201, t-statistics of -5.154 and P-value of 0.075. Hence, the results are in consistent with the hypothesis of the study.

From empirical researches, Heggested (1979), in his survey of studies undertaken during 1961-1976, found that concentration had either a significant or a small effect on dependent variables such as profitability. Many have studied the effect of concentration on profitability, Molyneux and Thornton (1992) indicated that concentration had a significantly positive relationship with profitability, a significant relationship, but in the opposite direction, was found in Vernon's study.

4.6.7 Inflation

The regression results of the study show that there is a statistically insignificant and negative relationship between inflation rate of and profitability of insurance companies in Ethiopia with a regression coefficient of -0.0006, t-statistics of -5.154 and P-value of 0.423. Hence, the results are inconsistent with the hypothesis of the study.

The result of previous studies was also inconsistent Sufian and Chong (2008) study results suggest that inflation has a negative and insignificant impact on profitability. In addition Birhanu Tsehay (2012) suggested inflation as important factors that determine insurance companies' profitability and have negative effect on insurance companies' profitability respectively.

4.6.8 Economic growth

The regression results of the study show that there is a statistically significant and negative relationship between premium growth ratio of insurance companies and their profitability in Ethiopia with a regression coefficient of 0.0113, t-statistics of -5.154 and P-value of 0.043. Hence, the results are consistent with the hypothesis of the study.

The researches indicated that economic growth has significant and positive relationship with insurance company's profitability.

As similar with the finding of this research, Emperical evidence by Naveed Ahmed et al (2011) in his investigation of Pakistan insurance companies found a positive and statistically significant

relationship between growth and profitability of insurance companies.

Birhanu Tsehay (2012) suggested economic growth as important factors that determine insurance companies' profitability and those have positive effect on insurance companies' profitability.

In contrast, Sufian and Chong (2008) study results suggest that the impacts of economic growth on profitability of insurance companies not significantly.

1. The regression coefficient at 0.0591 of tangibility of asset indicate that as tangibility of asset increase by 1% ROA will also increase by 5.9%

2. The regression coefficient at -0.0012 of liquidity ratio indicate that as liquidity of companies increase by 1% ROA will also decrease by 0.12%

3. The regression coefficient at 0.1321 of size indicate that as size increase by 1% ROA will also increase by 13.21%

4. The regression coefficient at 0.1321 of premium growth indicate that as premium growth by 1% ROA will also decrease by 0.21%

5. The regression coefficient of MC at 0.02 indicates that when market concentration Increases by 1% the ROA will decrease by 2%.
6. The regression coefficient of LOS at -0.1315 indicates that when loss ratio/ risk increases by 1% the ROA will decrease by 13.15%.

7. Regression coefficient of inflation at -0.0006 indicates that inflation rate increases by 1% the ROA will decrease by 0.06%.

8. Regression results of economic growth indicate that as real GDP increase by 1% ROA will also increase by 1.13%

Chapter Five

5. Conclusion and Recommendation

5.1 Conclusion

The objective of this study is to examine the internal, industry specific and macro economic factors affecting profitability of non life insurance companies as measured by ROA. This study used secondary data during the period 2008-2015 and the sample of ten insurance companies that were operating.

Using descriptive statistics and regression analysis, this research examines the effects of determinants profitability of non life insurance companies in Ethiopia.

As per finding among studied determinants size of companies, tangibility of asset, premium growth, underwriting risk found a significant effect on profitability of non life insurance companies in Ethiopia. The result show that 1% increase of size of companies and tangibility of asset will 13.21% and 5.9% increase of profitability of non life insurance companies in Ethiopia respectively. When we support the research finding with theoretical views, an insurance company with bigger size and more capital create gain of economies of scale, more exposure to the market, arises of confidence of customers and revenue from investment activities which leads to better performance and profitability of nonlife insurance companies.

On the contrary, this research confirms 1% increase of underwriting risk and premium growth will reduce profitability of non life insurance companies in Ethiopia respectively. Particularly on insurance market cases, insurance companies collect revenue as premium income from sell of insurance policy that increase the liability of insurance companies and raise of reserve amount. In addition, insurance companies have a legal obligation to fulfill their client's compensation needs and incur claim cost during accident for compensation of their clients which make the insurance companies exposed to more loss ratio. Therefore as per the finding loss ration and premium growth have negative effect on profitability of non life insurance companies in Ethiopia.

Regarding external variable the study show that Ethiopian nonlife insurance industry is more concentrated, high market concentration ratio, means less number of insurance companies hold

larger share of the industry market which leads to negative effect but insignificantly on profitability of nonlife insurance industry. From literature point of view less number of companies control the larger share of market create a monopolist market structure and narrow market.

The results of regression analysis reveal that economic growth has a positive and significant effect on of profitability of non-life insurance sector whereas ROA has statistically insignificant relationship with liquidity, market concentration ratio and inflation.

5.2 Implications of the Results

- The adjusted value of R square (0.43) indicates that performance of insurance companies is nearly 69.2% dependent on independent variables i.e. size, leverage, tangibility, premium growth, loss ration and economic growth. Therefore, it implies that internal factors are more important determinants of profitability of insurance companies in Ethiopia than the external determinants.
- From the internal determinants, the coefficient of variable size is higher, positive and statistically significant at 1% level. This predicts that the size of companies have greater effect on profitability of insurance firms. The performances of large size insurance companies are better than small size companies. The positive relationship between size and ROA implies that **s**ize is used to capture the fact that larger insurance companies are better placed than smaller once in harnessing economies of scale in transactions and enjoy a higher level of profits.

- Tangibility of asset is positively and moderately significant with the profitability of the insurance companies. This predicts that those companies have more total asset will have more profitability. The positive and statistical significant relation between tangibility of asset and profitability of insurance companies in Ethiopia implies that insurance companies with high terms of their total assets are also in a better position of being profitable.

- Negative coefficient of internal variable liquidity, premium growth, and loss ratio specifies the negative relationship. The relationship between profitability of insurance firms with premium growth and loss ratio/underwriting risk statistically significant. Hence, insurance companies having higher premium growth rate leads to expose for

more liability and higher loss ration also mean that the company leads for payment of higher claim amount for the insured of pool of insurance these lead to reduce profitability of the firms. From this study, the findings shows that liquidity and do have negative impact on profitability but statistically insignificant.

- The industry specific variable, market concentration ratio specifies the negative relationship and statistically insignificant at 1% and 5% significant level. From this research we noted that the Ethiopian insurance industry more concentrated which means on the less number of companies control the larger share of the market of the industry. E.g 68% of the industry market share hold by five insurance companies Hence, insurance market more concentrated lead to reduction of profitability of non-life insurance companies. As the findings shows that market concentration and profitability have negative and insignificant relationship.

- From explanatory variables of inflation and economic growth we observe that economic growth have positive and significant relationship with profitability of Ethiopian non-life insurance industry. More economic activities create opportunities for insurance companies to increase demand for insurance product. On the contrary inflation rate has negative and insignificant relationship with profitability of Ethiopian non-life insurance companies.

5.3 Recommendations

- ✓ Overall these empirical results provide evidence that the profitability of Ethiopian insurance companies is shaped and more affected by firm-specific factors that are affected by firm-level management. Management bodies of insurance companies should strive to give an emphasis to firm specific factors like size, tangibility of asset, premium growth and loss ratio/underwriting risk. Because, those firm specific factors have significant effect on profitability of the company.
- ✓ The management teams should give emphasis for design better risk assessment procedures to reduce the underwriting risks effects to enable to be profitable through increase revenue from premium payment.

- ✓ Owners/ Share holder of insurance companies should give more focus to increase the size of their companies and the amount of fixed asset which leads to higher investment to generate revenue from the investment, which create the company's revenue option other than premium income to be more profitable.

- ✓ Regulatory bodies, National bank of Ethiopia should extend technical support to fulfill insurance firm ion mechanism s gaps especially on risk prevention and reduction mechanism to boost the insurance industry profitability that lead to more contribute to economic growth of the country.

5.4 Areas for Future studies

- ➢ The objective of this study was to examine the internal, industry specific and external factors affecting profitability of insurance companies as measured by ROA for the period of 2008-2015. The study finds significant effect on industry specific factor which means, market concentration. Most researches focused on internal & macro economic variables, however industry specific variable need attention for future study since its effect more significant, as a result other variables of industry specific i.e competition, regulation, and risk management and so on needs to be studied.
- ➢ This study focused on non life insurance for the period of 2008 to 2015, I recommended for future study of life insurance for longer period of observation to adequately investigate the effects of variables on profitability of life insurance business companies that would provide better insight for determinants of insurance company profitability**.**

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