



**INVESTMENT PORTFOLIO AND PROFITABILITY:
THE CASE OF THE ETHIOPIAN PRIVATE INSURANCE COMPANIES**

**A PROJECT PAPER SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF
BUSINESS AND ECONOMICS, DEPARTMENT OF MANAGEMENT IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF EXECUTIVE MASTERS
OF BUSINESS ADMINISTRATION**

**BY BERNABAS TEKLU
(ID NUMBER GSE/0551/08)**

**ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
ADDIS ABABA, ETHIOPIA
JUNE, 2018**

STATEMENT OF DECLARATION

I, Bernabas Teklu, declared that this paper entitled **Investment Portfolio and Profitability: The Case of the Ethiopian Private Insurance Companies** is offered for the award of Executive Masters of Business Administration from Addis Ababa University which was done independently with the advice and suggestions of my advisor, Ethiopia Legesse (PhD), Assistant Professor, is my original work and had not been previously submitted for degree at this or another university and that all reference materials contained therein have been duly acknowledged.

Name: **Bernabas Teklu**

Advisor Name: **Dr. Ethiopia Legesse**

Signature: _____

Signature: _____

STATEMENT OF CERTIFICATION

This is to certify that the project paper prepared by Bernabas Teklu entitled: **Investment Portfolio and Profitability: The Case of the Ethiopian Private Insurance Companies** and submitted in partial fulfillment of the requirements for the degree of Executive Master of Business Administration compiles with the regulations of the university and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Internal Examiner: _____ Signature _____ Date _____

External Examiner: _____ Signature _____ Date _____

Advisor: _____ Signature _____ Date _____

ABSTRACT

The insurance industry is important in an economy. The insurance business has stringent laws regarding investments. Previous researches have been conducted in Ethiopia on the determinants of insurance profitability focusing on internal factors and macroeconomic environment, which does not clearly show if there is a specific relationship between investment portfolio and profitability of the insurance industry. Hence, the objective of this study is to examine the relationship between investment portfolio and profitability of insurance companies in Ethiopia. The study adopted a descriptive and explanatory research design. The main source of data is secondary data from the National Bank of Ethiopia. The study used a panel data gathered systematically over a period of time in order to answer a research question. Nine private insurance companies are selected purposefully and others excluded since they are not involved in one or more of the variables under investigation. The study covers 9 years non-life insurance operation for the year 2008 to 2016. The study conducted a correlation and regression analysis using SPSS in order to determine the relationship between investment portfolio and profitability of private insurance companies in Ethiopia. The findings of this study is on the relationship between investment portfolio variables and the profitability of the insurance companies, therefore, the study concluded that there is a positive and significant relationship between investment in equity share and the profitability in the private insurance companies in Ethiopia, and it has a positive effect on the profitability of the private insurance companies in Ethiopia. Further, with regard to investment in bank deposit, the study concluded that it has a positive relationship with the Ethiopian private insurance companies profitability, and also an investment in bank deposit has a positive effect on the profitability of the private insurance companies in Ethiopia. Furthermore, the study also concluded that investment in real estate has a positive and significant relationship with the profitability of the insurance industry; however, an investment in real estate has an insignificant effect on the profitability of the private insurance companies in Ethiopia.

Key words: *Investment Portfolio and Profitability*

ACKNOWLEDGEMENTS

First and foremost, I want to thank the Almighty God for his guidance, protection, divine provision and brightened direction of my personal and academic journey. Next, I wish to extend my deepest gratitude to my advisor, Dr Ethiopia Largesse, for her invaluable comments, persistent help in doing this project paper.

Thirdly, financial support for my studies by my Company Awash Insurance Company s.cis gratefully acknowledged.

It is also my pleasure to thank the staff members of National Bank of Ethiopia particularly Ato Wondemeneh, who helped me while I compile the relevant data from the database that are very much valuable for this study.

Lastly, I am also grateful for my wife Wro.Fasika Regassa my sons Nati and Naol, my friends specially Ato Abay Ararsa , Wro Bethlehem Teshale, Ato Abdi Bulti and Ato Abebe Tadesse my mother Wro.Aselefech Challa and my father Ato Teklu Dadi my brothers and sisters and to all those who helped me for the accomplishment of my study.

Table of Contents

STATEMENT OF DECLARATION	I
STATEMENT OF CERTIFICATION	II
ABSTRACT.....	III
ACKNOWLEDGEMENTS.....	IV
LIST OF TABLES	VII
LIST OF ACRONYMS/ABBREVIATIONS.....	VIII
CHAPTER ONE	1
INTRODUCTION	1
Background of the Study	1
1.2 Insurance Industry in Ethiopia.....	3
1.3 Problem Statement.....	4
1.3 Research Questions.....	6
1.4 Research Objectives.....	6
1.4.1 General Objective	6
1.4.2 Specific Objectives	6
1.5 Scope of the Study	6
1.6 Limitation of the Study	7
1.6 Significance of the Study.....	7
1.7 Organization of the Study	7
CHAPTER TWO	9
LITERATURE REVIEW	9
2.1 Introduction.....	9
2.2 Theoretical Review	9
2.2.1 The Modern Portfolio Theory.....	9
2.2.2 Active Portfolio Management Theory	10
2.2.3 Arbitrage Pricing Theory	12
2.2.6 Pecking Order Theory.....	14
2.2.7 Dynamic Theory	15
2.2.8 Agency Theory.....	15
2.3 Empirical Review.....	16
Determinants of Profitability	16
2.3.1 Macroeconomic variables	16
2.3.2 Firm-Specific variables.....	17
2.3.3 Control Variables and Their Measurement.....	21
2.3.4 Profitability and its Measurement.....	22
2.4 Measurement of Variables Summary.....	22
2.5 Conceptual Framework.....	23
CHAPTER THREE	24
RESEARCH METHODOLOGY	24

Introduction.....	24
3.2Research Approach	24
3.3 Population	24
3.4 Data and Sampling.....	24
3.5 Method of Data Analysis	25
3.5.1 Unit of analysis	25
3.5.2 Model Specification	25
CHAPTER FOUR.....	27
PRESENTATION, ANALYSIS AND DISCUSSION.....	27
4.1 Descriptive Statistics Result	27
4.1.2 Correlation Analysis	28
4.2 Econometric Analysis	30
4.2.1 Model Specification Test	30
4.2.2 CLRM Assumption and Diagnostic Test.....	31
4.2.2.1 Heteroscedastic Test	31
4.2.2.2 Autocorrelation Test	32
4.2.2.3 The Normality Test.....	32
4.2.2.4 Multicollinearity Test.....	33
4.2.3 Econometric Result and Discussion.....	34
4.2.3.1 Regression Analysis of Bank Deposit at Interest on Return on Asset.....	37
4.2.3.3 Regression Analysis of Real Estate on Return on Asset.....	38
CHAPTER FIVE	40
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	40
5.1 Introduction.....	40
5.2 Summary of Findings and Discussion	40
5.3 Conclusion	40
5.4 Recommendations.....	41
5.5 Suggestions for Further Research	42
REFERENCES	43
Appendix.....	47

LIST OF TABLES

Table 2.1 Summary of Reviewed Literature.....	18
Table 2.2 Variable Measurement Summary.....	20
Table 4.1 Descriptive Statistics of Variables.....	24
Table 4.2 Correlation Matrix between ROA and Independent Variables.....	26
Table 4.3 Heteroskedasticity Test: White.....	28
Table 4.4 Durbin–Watson Statistical Test	29
Table 4.5 Skewness/Kurtosis Tests for Normality.....	29
Table 4.6 Multicollinearity Test.....	31
Table 4.7 Regression Analysis for Control Variables.....	31
Table 4.8 Regression Model Summary for Control Variables.....	32
Table 4.9 Regression Analysis for All Variables.....	33
Table 4.10 Model Summary for the All Variables.....	35
Table 4.11 Regression Table Independent Variables for Dependent Variable.....	35
Table 4.12 Model Summary for Explanatory Variables.....	37
Table 4.13 Analysis of Variance.....	38

LIST OF ACRONYMS/ABBREVIATIONS

CAPI - Canadian Agro-food Policy Institute

GDP - Gross Domestic Product

IBD- Investments in bank deposits

ICB-Investment Corporation of Bangladesh.

IEQS - Investments in equity share

IRE - Investments in real estate

ISB- Insurance Supervision

LVRG - Leverage

NBE - National Bank of Ethiopia

OECD - Organization for Economic Cooperation and Development

ROA - Return on Assets

ROE - Return on Equity

S.C - Share Company

UK-The United Kingdom

UWS- Underwriting Surplus

CHAPTER ONE

INTRODUCTION

Background of the Study

In the financial sense investment is the commitment of a person's fund to derive future income in the form of income, dividend premium, pension benefit, or appreciation, in the value of their capital. Examples include purchasing of shares, debentures, debt certificates, insurance policies etc are all investments in the financial sense such investment generates financial assets. Investment in the economic sense means the net addition to the economy's capital stock which consists of goods and services, that are used in the production of other goods and services. Examples include new constructions of plants and machines and inventories (Weebly, 2013).

According to the study by Harvey (2012) there are different types of investments that can be made by firms. Both individuals and companies can have investments. This may include stocks, mutual fund distributions, investment in Government securities, interest-bearing bank accounts, bonds, and other debt instruments. A firm may also opt to invest in rental property or real estate or other assets owned for investment purposes. Construction of an efficient investment portfolio enables the firm to diversify its risks, thereby improving the earning ability of the portfolio (Oyatoye and Arileserre, 2012).

Oyatoye and Arilesere (2012) state that investments are crucial for the insurance industry to survive and develop; the insurance investment enables insurance companies to offset their possible underwriting losses and make a considerable profit. Mukati (2012) states that the risk faced by an insurance fund manager differs from what the typical fund manager faces because of the fact that the risk in insurance investment management must factor in the liability side of its balance sheet that includes benefit amounts for shareholder capital as well as the reserves that are necessary for the insurer future claims.

Most institutional investors around the globe such as insurance companies invest the money they receive in various sectors in order to receive returns. The most common investment opportunities that are pursued by most of these institutions world over include investment in real estate, equities, treasury bills and bonds, deposits with banks, and certificates of deposits. For instance, in the year 2012 alone, most institutional investors invested more than 80% of their portfolio in bonds and equities. However, there seems to be a trend where most organizations are now

moving away from bills and bonds and investing in other assets such as real estate so as to boost their financial performance. The income earned by the institutions from these investments is largely positive in many countries despite the economic pressures that lead to economic instability in some countries (OECD, 2013).

Investment plays a very significant role in the financial performance of an organization. Organizations invest their resources in order to earn returns that will enable them to enhance their financial performance. There is a position that has been confirmed by (Loof and Heshmat, 2008) who assert that there is a positive relationship between the investment and the level of financial performance achieved by an organization. However, they argue that the effect of investment on the financial performance of a firm may not be long-lasting but a temporary position that may last for some short time.

Financial performance is one of the oldest measures of organizational performance that have been used for several centuries around the globe. This traditional approach to organizational performance is, however, being replaced with other performance measurement tools such as the balanced scorecard. Financial performance refers to the processes of using various financial instruments to measure the performance or profitability of the organization. Financial performance is, therefore, more interested in the profitability of the firm than any other aspect (CAPI, 2009).

Measuring financial performance of an organization is very important since it determines whether the organization has been able to achieve its financial objectives or not. There are a variety of measures that organizations can use or adopt in measuring their financial performance. One such category of measures is the liquidity measures that determine the ability of the business to meet its financial obligations without disrupting any of its activities. These measures usually rely on the relationship between assets and liabilities of the organization. The other type of measures is solvency measures which determine the amount of borrowed capital used by the business relative the amount of owner's equity capital invested in the business (Ismailia, 2011).

Financial performance can also be measured using profitability measures such as Return on Assets (ROA) and Return on Equity (ROE). The profitability measures are important in

measuring the extent to which a business can be able to generate profits from the factors of production (Crane, n.d).

Investing in different investments improves a companies chance of earn a good return although not guaranteed because of the uncertainty facing the investments. Construction of an efficient investment portfolio enables the firm to diversify its risks thereby improving the earning ability of the portfolio which in turn increase its financial performance (Oyatoye & Arileserre,2012).Thus, the aim of this study is to identify how investment portfolio and insurance firms' profitability have a relationship.

1.2 Insurance Industry in Ethiopia

The Ethiopian insurance industry does not have a long history of development despite the Country's long history of civilization. Modern forms of insurance service which were introduced in Ethiopia by Europeans trace their origin as far back as 1905 when the bank of Abyssinia began to transact fire and marine insurance as an agent of a foreign insurance company. The number of insurance companies increased significantly and reached 33 in 1960. At that time insurance business like any business, undertaking was classified as trade and was administered by the provisions of the commercial code. This was the only legislation in force in respect of insurance except for the maritime code of Ethiopia that was issued to govern the operations of a maritime business and the related marine insurance.

According to Zeleke (2007), the first significant event that the Ethiopian insurance market observation was the issuance of Proclamation No. 281/1970 and this proclamation was issued to provide for the control and regulation of insurance business in Ethiopia. Consequently, it created an insurance council and an insurance controller's office, the controller of insurance licensed 15 domestic insurance companies, 36 agents, 7 brokers, 3 actuaries' and 11 assessors in accordance with the provisions of the proclamation immediately in the year after the issuance of the law.

The law required an insurer to be a domestic company whose share capital (fully subscribed) to be not less than Birr 400,000 for a general insurance business and Birr 600,000 in the case of long-term insurance business and Birr one million to do both the long-term and general insurance business.

However, the proclamation defined domestic company as a share company having its head office in Ethiopia and in the case of a company transacting a general insurance business at least 51% and in the case of a company transacting life insurance business, at least 30% of the paid-up capital must be held by Ethiopian national companies (Sambasivam and Ayele, 2013).

Four years after the enactment of the proclamation, the military government that came to power in 1974 put an end to all private entrepreneurship. Then all insurance companies operating were nationalized and from January 1, 1975, onwards the government took over the ownership and control of these companies and merged them into a single unit. The insurance sector during the command economic system was characterized by a monopoly of the sector by the government. The nationalization of private insurance companies, the restrictions imposed on private business ventures, and management of the insurance sector had a significant adverse impact on the development and growth of Ethiopian insurance industry (Sambasivam and Ayele, 2013).

However, following the change in the political environment in 1991, the proclamation for the licensing and supervision of insurance business number 86/1994 herald the beginning of a new era. Immediately after the enactment of the proclamation private insurance companies began to flourish. According to the latest directive of ISB/34/2014, any insurance company required to be a domestic company whose share capital (fully subscribed) to be not less than Ethiopian Birr 60m for a general insurance business and Ethiopian Birr 15m in the case of long-term (life) insurance business and Ethiopian Birr 75m to do both. There are seventeen insurance companies in operation. Ethiopian Insurance Corporation (EIC) is state-owned, while the rest are private (Zelege, 2007)

1.3 Problem Statement

Kozak and Hifza (2011) examined in their paper the disparity of profit between insurance companies over the years in a given country would result to suggest that internal factors or firm-specific factors and macroeconomic factors play a crucial role in influencing their profitability. It is therefore imperative to identify what are these factors as it can help insurance companies to take action on what will increase their profitability and investors to forecast the profitability of insurance companies in Ethiopia. To do so, it is better to see what factors were considered in previous times by different individuals in different countries.

Khan (2013) revealed that leverage, size, earnings volatility and age of the firm are significant determinants of profitability while growth opportunities and liquidity are not significant determinants of profitability. Malik (2011) examined in his paper, the determinants of Pakistan's insurance companies profitability proxies by ROA. The study used secondary data for the period of 2005-2009 and the sample was 34 insurance companies of Pakistan. The variables tested in the study are age, size, leverage and loss ratio.

Researches are conducted in few developing countries like Kenya ,Nigeria Bangladesh etc; investigating on the variables such as real estate development, certificate of deposit ,certificate of debt, government bond, government securities etc: but they did not controlled effect of moderating variables like leverage, firm size age and other factors.

Samina (2012) on his paper analyzes the structure of investment portfolio of different general insurance companies of Bangladesh and tries to focus to the cause-effect relationship between the structure of investment portfolio and profitability of insurance companies in Bangladesh.

Njiiri (2013) in his study established insurance companies in Kenya invest their funds in three popular areas. These include investments in real estate that holds the largest funds in terms of investments; investments in deposits with other financial institutions where the firms hold certificates of deposits and investment in government securities. The result showed that investments in real estate, certificates of deposit, Government securities, corporate bonds and stocks have a significant impact on the financial performance of the insurance companies.

The insurance industry is important in an economy. In Ethiopia, the contribution of the insurance sector to the GDP is less than 1% (NBE, 2017). The insurance business has stringent laws regarding investments following its long-term nature. National Bank of Ethiopia regulates the way in which such investments should be handled. As a result, insurance companies have to adhere to these rules and guidelines hence investing with caution which may affect their profitability.

In a case of the Ethiopian insurance sector, to the researcher's best knowledge, though different researchers such as (Gebremariam, 2014), (Sambasivam and Ayele, 2013)), (Rashid, 2014), and (Mehari and Aemiro, 2013) evaluated determinants of insurance companies' performance they did not show the relationship between investment portfolio and profitability of insurance firm in

Ethiopia. Therefore, this study intended to fill the above-explained gap by examining the relationship between investment portfolio and profitability of an insurance firm in Ethiopia using 9 years panel data.

1.3 Research Questions

The study sought to answer the following research questions:

- 1.What is the effect of bank deposit at interest on profitability of private insurance companies in Ethiopia?
- 2.What is the influence of real estate development on profitability of private insurance companies in Ethiopia?
- 3.What is the effect of equity investment on the profitability of private insurance companies in Ethiopia?

1.4 Research Objectives

1.4.1 General Objective

To establish the relationship between investment portfolio and profitability of private insurance companies in Ethiopia.

1.4.2 Specific Objectives

- 1.To identify the effect of bank time deposit at interest on profitability of private insurance companies in Ethiopia.
- 2.To find out what influence real estate development has on profitability of private insurance companies in Ethiopia.
- 3.To find out what effect equity share has on profitability of private insurance companies in Ethiopia.

1.5 Scope of the Study

This study was done on 8 private insurance companies found in Ethiopia. The study covered how the investment portfolio is related with private insurance companies' profitability.9 insurance companies are selected and others excluded since they are not involved in one or more of the variables investigation. The period of study is 9 years non life insurance operation for the year 2008 to

2016. The study sought to establish the relationship between investment portfolio and profitability of private insurance companies in Ethiopia.

1.6 Limitation of the Study

Even if the profitability is influenced by variables such as external factors such as GDP, inflation etc the perspective of this study confined merely on company specific factors like bank deposit at interest, equity share and real estate as an independent variable and firm size, age, leverage and underwriting surplus as a control variable which have direct relationship with insurers profitability based on the selected previous empirical works. Due to the unique accounting system used by life assurance business, the secondary data collection from income statement, balance sheet and revenue account was limited to only general insurance business, because income statement of life assurance business is not prepared at the end of each year. It may be prepared one time in two years or three years for some insurance companies due to difficulty to prepare income statement of life assurance business and it needs an actuary which is high cost and also not all insurance company in Ethiopia gives life assurance services.

1.6 Significance of the Study

The study would be valuable to future researchers and academicians in the area of finance and specially portfolio management. The findings of this study would act as a source of reference for future scholars besides suggesting areas for further research where they can extend knowledge on. The findings of this study would also be valuable to policymakers on the management of investment behavior and investment portfolio in the insurance industry in Ethiopia. Through the findings of this study, a key regulator in the insurance industry National Bank of Ethiopia would learn on the ways on how to develop rules and regulations governing the investment behavior of the insurance industry. The findings of this study would also be valuable to investment executives in the insurance industry as it would inform them about the different ways of forming a portfolio and how it can affect financial performance.

1.7 Organization of the Study

The study is organized under five chapters. The first chapter dealt with introduction and background of the study; and rests of the chapters are organized as follows; the second chapter deals

with a review of both theoretical and empirical literatures related to the study. The third chapter deals with methods of the study, which is about description and design of the research, source of data, and methods of data analysis. The fourth presents the results and discussions which summarize the results/findings of the study, and interpret and/or discuss the findings. Finally, chapter five that comprise four sections which include a summary of findings, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with the concepts and definition of few terms and reviews the literature on investment portfolio holding and firm performance. From this review broad categories will be derived which will help easily identify the critical relationship between investment portfolio and profitability of insurance companies. Specifically, the chapter addresses the theoretical framework guiding the study and empirical literature.

2.2 Theoretical Review

Basically portfolio management involves, a proper investment decision making of what to buy and sell, proper money management in terms of investment in a basket of assets so as to satisfy the asset preferences of investors, reduce the risk and increase returns. (Rubinstein, 2006) argues that the other auxiliary aspects are as per the needs of investors, namely: regular income or stable return, appreciation of capital, marketability and liquidity, safety of investment and minimizing of tax liability. Portfolio management is a process encompassing many activities of investment in assets and securities. It is a dynamics and flexible concept and involves regular and systematic analysis, judgment and actions. For instance, portfolio management deals with selection of securities from the number of opportunities available with different expected returns and carrying different levels of risk and the selection of securities is made with a view to provide the investors the maximum yield for a given level of risk or ensure minimum risk to a level of return (Campbell,2002). Several theories have been compounded to show the effects of portfolio management on financial performance.

2.2.1 The Modern Portfolio Theory

Modern Portfolio Theory (MPT) proposes that investors expect to be compensated for taking additional risk, and that an infinite number of "efficient" portfolios exist along a curve defined by three variables: standard deviation, correlation coefficient, and return. The efficient-frontier curve consists of portfolios with the maximum return for a given level of risk or the minimum risk for a given level of return. The algorithm used to generate the curve is known as mean variance optimization (MVO), since what is being optimized is return versus standard deviation (Markowitz, 1952). MPT is a mathematical formulation of the concept of diversification in

investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. That this can be seen instinctively because different types of assets often change in value in opposite ways. For example, to the extent prices in the stock market move differently from prices in the bond market, a collection of both types of assets can in theory face lower overall risk than either individually. But diversification lowers risk even if assets' returns are not negatively correlated—indeed, even if they are positively correlated (Bhalla, 2010).

According to MPT, an investment bears two types of risk: systematic and unsystematic (Markowitz, 1952; Sharpe, 1964). Systematic risk is the risk inherent in the instability of the entire capital market, while specific (unsystematic) risk is associated with the instability of an individual security. Investors may assemble portfolios in such a way that the specific risk carried by any individual security within the portfolio is offset by the specific risk carried by another. This is referred to as diversification. Sharpe (1964) holds that efficient capital markets reward investors for bearing systematic risk, but because diversification is possible, investors are not rewarded for bearing specific risk. That is, when a fund carries specific risk, it fails to reach the efficient frontier, wherein the risk/return tradeoff is optimized.

Despite its theoretical importance, Brodie et al. (2009) indicate that critics of MPT question whether it is an ideal investing strategy, because its model of financial markets does not match the real world in many ways. Efforts to translate the theoretical foundation into a viable portfolio construction algorithm have been overwhelmed by technical difficulties stemming from the instability of the original optimization problem with respect to the available data. Murphy (1977) noted that realized returns appear to be higher than expected for low-risk securities and lower than expected for high-risk securities implying that the risk-reward relationship was far weaker than expected. He concludes that there often may be virtually no relationship between return achieved and risk taken; and that high volatility unit trusts were not compensated by greater returns.

2.2.2 Active Portfolio Management Theory

Also called active investing refers to a portfolio management strategy where the manager makes specific investments with the goal of outperforming an investment benchmark index. Investors or mutual funds that do not aspire to create a return in excess of a benchmark index will often invest

in an index fund that replicates as closely as possible the investment weighting and returns of that index; this is called passive management (Fama, 1992).

Evaluation of the portfolio is done by a continuous overview of the market conditions, company's performance, and investor's circumstances, (Campbell, 2002). According to Merton (1973) portfolio management process entails a six-stage process, that is: Determine optimal investment mix followed by creating a customized investment policy statement and then selecting an investment, after which monitoring of progress is necessary. These processes are explained and identify goals and objectives as the stage under which several questions like, when will investors need the money from his/her investments? How much does the investor have in terms of saving? Among other questions that may be of relevance. This is necessary as it will assist in proper identification and determination of optimal investment mix (Merton, 1973) argues that it involves asset allocations which eventually create an optimal mix. This step represents one of the most important decisions in a portfolio construction, as asset allocation has been found to be the major determinant of long-term portfolio performance (Campbell, 2002). The third stage, which is creating a customized investment policy statement, which is necessary after the optimal investment mix, is determined. This helps to formalize the goals and objectives in order to utilize them as a benchmark to monitor progress and future updates (Campbell, 2002). After all the above is done, selection of investment is done so as to customize portfolio with a view of matching the optimal investment mix. For this to succeed there is a need for monitoring the progress so that the mix of asset classes stays in line with the investor's unique needs, the portfolio will be monitored and balanced back to the optimal investment mix (Fama, 1992).

This help to formalize the goals and objectives in order to utilize them as a benchmark to monitor progress and future updates (Campbell, 2002). After all the above is done, selection of investment is done so as to customize portfolio with a view of matching the optimal investment mix. For this to succeed there is need for monitoring the progress so that the mix of asset classes stays in line with investor's unique needs, the portfolio will be monitored and rebalanced back to the optimal investment mix (Fama, 1992). Risk and return is a key element in evaluating a portfolio. Risk refers to the probability that the return and therefore the value of an asset or security may have alternative outcomes (William, 1964). Return-yield or return differs from the nature of instruments, maturity period and the creditor or debtor nature of the instrument and a host of other

factors. The efficiency of the profitability position or operating activities can be identified by studying the following factors. Gross profit margin ratio: Dividend policy is determined in the general body meeting of the company, for equity shares at the end of the year. The dividend payout ratio is determined as per the dividend paid. Dividend policies are divided into two types (Tobin, 1958); Stable dividend policy, unstable dividend policy. Capital structure of a company that necessitates portfolio management. Portfolios or combinations of securities are thought of as helping to spread risk over many securities may specify only broadly or nebulously. Auto stocks are, for examples, recognized as risk interrelated with fire stocks, utility stocks display defensive price movement relative to the market and cyclical stocks like steel, and so on. This is not to say that traditional portfolio analysis is unsuccessful. It is to say that much of it might be more objectively specified in explicit terms. They are: Determining the objectives of the portfolio and Selection of securities to be included in the portfolio. Normally this is carried out in four to six steps (Fischer, 1972). Before formulating the objectives, the constraints of the investor should be analyzed within the given frame work of constraints, objectives are formulated. Then based on the objectives securities are selected. After that risk and return of the securities should be studied. The investor has to assess the major risk categories that he or she is trying to minimize. Compromise of risk and non-risk factors has to be carried out. Finally relative portfolio weights are assigned to securities like bonds, stocks and debentures and the diversification is carried out.

2.2.3 Arbitrage Pricing Theory

Arbitrage Pricing Theory (APT) was proposed by Stephen Ross in 1976. APT agrees that though many different specific forces can influence the return of any individual firm, these particular effects tend to cancel out in large and well diversified portfolio. This is the principle of diversification and it has an influence in the field of insurance. An insurance company has no way of knowing whether any particular individual will become sick or will be involved in an accident, but the company is able to accurately predict its losses on a large pool of such risk. However, an insurance company is not entirely free of risk simply because it insures a large number of individuals. Natural disaster or changes in health care can have major influences on insurance losses by simultaneously affecting many claimants (Cummins, 1994).

Cummins (1994) states that insurance companies are corporations and insurance policies can be interpreted as specific types of financial instrument or contingent claim thus it is natural to apply

financial models to insurance pricing. The models are designed to estimate the insurance prices that would pertain in a competitive market. Charging a price at least as high as the competitive price (reservation price) increases the market value of the company. Charging a lower price would reduce the company's market value. Thus, financial models and financial prices are among the key items of information that insurers should have at their disposal when making financial decisions about tariff schedules, reinsurance contract terms, investments, etc.

2.2.4 Expected Utility Theory (EUT)

It makes sense that the explanations in human and social psychology would help in advancing our understanding of stock market behavior. The latest research has made great strides in explaining the persistence of anomalies by adopting a psychological perspective. In psychology literature reveals that individuals have limited information processing capabilities, exhibit systematic bias in processing information, are prone to making mistakes, and often tend to rely on the opinion of others. Rabin and Thaler (2001) discusses the explanation of risk aversion in the EUT is not plausible by providing examples of how the theory can be wrong and misleading. They call for a better model of describing choice under uncertainty. It is now agreed that the failure of EUT is based on the fact that the psychological principles governing decisions were not fully recognized and as a consequence it wasn't successful.

2.2.5 Financial Intermediation Theory

Intermediaries provide services: this is clear because intermediaries issue "secondary" financial assets to buy "primary" financial assets. If an intermediary provided no services, investors who buy the secondary securities issued by the intermediary might as well purchase the primary securities directly and save the intermediary's costs. To explain the sorts of services that intermediaries offer, it is useful to categorize them in terms of a simplified balance sheet. Asset services are those provided to the issuers of the assets held by an intermediary, e.g., to bank borrowers. An intermediary that provides asset services is distinguished by its atypical asset portfolio. Relative to an intermediary that provides no asset services, it will concentrate its portfolio in assets that it has a comparative advantage in holding (Allen, 1998).

The existence of financial intermediaries needs to be justified in economic terms because in the financial world, the financing of firms (and governments) by households occurs via financial markets in a frictionless manner - there are no transactions costs - which leaves no role for

financial intermediaries. There are no transactions costs and there exists a full set of contingent markets in which all can participate. Credit markets also being perfect, individuals do not face credit rationing. Allocation of resources is Pareto optimal and there is no role for intermediaries to add value. In addition, (employing Modigliani-Miller), financial structure is irrelevant as in a world such as that described; households can construct portfolios which offset the actions of an intermediary and intermediation cannot add any value (Fama, 1980). As noted by Allen and Santomero (1998) the traditional theory of financial intermediation is focused on the real-world market features of transactions costs and asymmetric information.

These are central to the activity of banks and insurance companies. The idea of transactions costs, first developed in the context of the theory of the firm by Coase 1937, was introduced as a key form of friction in financial markets by Gurley and Shaw in 1960. Economies of scale which benefit intermediaries result from indivisibilities and non-convexities in transactions technology which restrict diversification and risk sharing under direct financing. Examples include fixed costs of evaluating assets, and declining average trading costs which mean intermediaries may diversify more cheaply than individuals. The “liquidity insurance” banks provide to depositors and borrowers whereby deposits can be cashed on demand while banks' assets are mainly long-term and illiquid.

2.2.6 Pecking Order Theory

Myers & Majluf (1984) introduced very influential pecking order theory saying; manager prefers to finance deficit of capital by issuing safe security. The theory states that, in the event where retained earnings and other internal source of financing will be low to invest then manager will issue debt and only issue new equity with possibility of issuing junk debt (financial distress possibility).

This theory emerges as a result of asymmetric information existing in the financial markets, that is, corporate managers often have better information about the health of their companies than outside investors. Apart from the transaction costs of issuing new securities, companies have to accept the information costs arising from asymmetric information. In this way, new securities issued on the financial market could be infra-valued because of informational asymmetries, and this is especially true in the case of new equities.

2.2.7 Dynamic Theory

According to Clark (cited by Reshid, 2015) profit accrues because the society is dynamic by nature. Since the dynamic nature of society makes future uncertain and any act, the result of which has to come in the future, involves risk. Thus the profit is the price of risk taking and risk bearing. It arises only in a dynamic society which means in a society where changes do occur. If it is static by nature the risk element disappears and hence the profit element does not exist there. A society is said to be dynamic when there is a change in its population, change in trends of the people, change in stock of the capital, change in the supply of entrepreneurs among others. When all these factors become constant, the future also becomes certain and the risk element disappears from the society.

According to Clark (as cited by Rashid, 2015), profit is the result of an adjustment, which is brought about by the entrepreneurs themselves. They may find new techniques of production by inventing new machines. Their use reduces the cost of production and reduces the course of time as well and gives the entrepreneur higher profits. But when the use of machinery and production becomes common and used by the other entrepreneur operating in the economy, the supply of goods increase and the prices fall. Hence the profit margin also goes down. Under this situation the profit is determined by the demand and supply of enterprise at a point where they are equal. This theory is also known as windfall theory of profits. This theory treats profits as a residue in price after deducting costs; hence it is a residual theory of profits.

2.2.8 Agency Theory

Agency theory states that management and owners have different interests (Jensen and Meckling as cited in Kaguri 2013). According to this theory agency costs arise from conflicts of interest between shareholders and managers of the company. Agency costs are defined as the sum of monitoring costs incurred by the principal, bonding costs incurred by the agent, and residual loss. Lower agency costs are associated with better performances and thus higher firm values, all other things being equal.

Companies that separate the functions of management and ownership will be susceptible to agency conflicts (Lambert as cited in Kaguri 2013). They show that regardless of who makes the

monitoring expenditures, the cost is borne by stake holders. Debt holders, anticipating monitoring costs, charge higher interest. The higher the probable monitoring costs, the higher the interest rate and the lower the value of the firm to its shareholders all other things being the same.

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

2.3 Empirical Review

Determinants of Profitability

The disparity of profit between insurance companies over the years in a given country would result to suggest that internal factors or firm-specific factors and macroeconomic factors play a crucial role in influencing their profitability. It is therefore imperative to identify what are these factors as it can help insurance companies to take action on what will increase their profitability and investors to forecast the profitability of insurance companies in Ethiopia. To do so, it is better to see what factors were considered in previous times by different individuals in different countries.

2.3.1 Macroeconomic variables

Kozak (2011) in his paper indicated increases of the GDP growth and the market share of foreign-owned companies positively impact the profitability of non-life insurance companies during the integration period.

Gebremariam (2014) examined in her paper, the determinants of Ethiopian insurance companies profitability. The study used secondary data of 2008-2013 and the variable tested for macroeconomic factors were inflation, and economic growth and they are not significant determinants of profitability based on the test obtained from the data using multiple regression mathematical model.

Chen-Ying Lee (2014) investigates the relationship between macroeconomic factors on profitability in Taiwanese property-liability insurance industry using the panel data over the 1999 through 2009 time period tested economic growth rate. The results show that it has a significant influence on profitability in the operating ratio model, but an insignificant influence on profitability in ROA model.

2.3.2 Firm-Specific variables

Shiu (2004) analyzed the determinants of the performance of the UK general insurance companies, over the period 1986–1999, by using three key indicators: investment yield, a percentage change in shareholders' funds and return of shareholders' funds. Based on a panel dataset, the author empirically tested 12 explanatory variables and showed that the performance of insurers has a positive correlation with the interest rate, return on equity, solvency margin and liquidity, and a negative correlation with inflation and reinsurance dependence.

Malik (2011) examined in his paper, the determinants of Pakistan's insurance companies profitability proxies by ROA. The study used secondary data for the period of 2005-2009 and the sample was 34 insurance companies of Pakistan. The variables tested in the study are age, size, leverage and loss ratio. Descriptive statistics and multiple regression analysis were performed to describe the profitability among Pakistani insurance companies. The result showed that there is no relationship between profitability and age of the company and there is a significantly positive relationship between profitability and size. The result also shows that volume of capital was a 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.

Kozak (2011) examined determinants of profitability of non-life insurance companies in Poland during integration with the European financial system for the period of 2002–2009. The results indicated that the reduction in the share of motor insurance in the portfolio, with a simultaneous increase of other types of insurance, has a positive impact on profitability and cost-efficiency of insurance companies. However, offering too broad spectrum of classes of insurance negatively impacts its profitability and cost efficiency. Companies improve profitability and cost efficiency with an increase of their gross premiums and a decrease of total operating expenses.

Sambasivam and Ayele (2013)) examined the internal factors affecting the profitability of insurance companies as measured by ROA. The sample in the study included nine of the listed insurance companies in Ethiopia for years (2003- 2011). The results of regression analysis reveal that leverage, size, the volume of capital; growth and liquidity are the most important determinant of performance of the life insurance sector whereas ROA has an insignificant relationship with, age, and tangibility. As the findings show that liquidity does have a negative impact on profitability and it provides further implication on the effective risk management practices in the companies.

Lee (2014) investigated in his study the relationship between firm specific-factors and macroeconomics on profitability in Taiwanese property-liability insurance industry using the panel data over the 1999 through 2009 time period. Using operating ratio and return on assets (ROA) for the two kinds of profitability indicators to measure insurers' profitability. The results show that underwriting risk, reinsurance usage, input cost, return on investment and the financial holding group has significant influence on profitability in both operating ratio and ROA models.

Mehari and Aemiro (2013) in their paper evaluated determinants of insurance companies' the performance in Ethiopia over the period of 2005 to 2010. The results revealed that firm size, leverage, loss ratio and tangibility of assets were statistically significant to explain performance of insurance companies in Ethiopia. The result of the study also showed that insurers' size, leverage and tangibility of assets were positively related to insurance performance, while loss ratio was negatively related to performance (ROA). Firm age, liquidity and growth in written premium have no a statistically significant relationship with the performance of insurers.

Insurance companies invest their equity capital, technical reserves and other temporally available financial resources. Investment earnings made by insurance firms make a valuable contribution to their operating results and enable them to reduce premiums and increase dividends and bonuses, thereby improving their competitiveness (Gordon, 1983; Alile and Anao 1986).

Different insurance companies have an investment in different sectors to get income from their investment. Copeland (1988) focuses on the economic significance of insurance as "insurance business contributes to the formation of national income by creating value-added role in providing indemnification and role as the institutional investor". Hirshleifer (1983) states that as it is crucial

for the insurance industry to survive and develop, the insurance investment enables insurance companies to offset their possible underwriting losses and make a considerable profit.

Different researchers tried to analyze investment factors that could affect the profitability of insurance companies among them (Samina, 2012;Njiiri, 2013) can be mentioned.

Njiiri (2013) in his study established insurance companies in Kenya invest their funds in three popular areas. These include investments in real estate that holds the largest funds in terms of investments; investments in deposits with other financial institutions where the firms hold certificates of deposits and investment in Government securities. The result showed that investments in real estate, certificates of deposit, Government securities, corporate bonds and stocks have a significant impact on the financial performance of the insurance companies since they explain more than 50% of the variance in financial performance. There however other factors those are outside this study that accounts for the remaining 47.6% of the remaining variance on the financial performance of the insurance companies. Samina (2012) on his paper analyzes the structure of investment portfolio of different general insurance companies of Bangladesh and tries to focus to the cause-effect relationship between the structure of investment portfolio and profitability of insurance companies in Bangladesh. To fulfill the objectives the paper considers cases of 13 general insurance companies operating in Bangladesh. The data has been collected from the annual report of the sample companies and from the yearbook published by the Bangladesh Insurance Association. The findings show that the general insurance companies mainly concentrate toward share investment where usually they make the investment through private placement and also they invest in government securities which they usually do as a part of statutory requirement and safety purpose.

Investment plays a very significant role in the financial performance of an organization. Organizations invest their resources in order to earn returns that will enable them to enhance their financial performance. The is a position that has been confirmed by Loof and Heshmat (2008) who assert that there is a positive relationship between investment and the level of financial performance achieved by an organization. However, they argue that the effect of the investment on the financial performance of a firm may not be long-lasting but a temporary position that may last for some short time.

Author/s	Variables		Data and Sampling	
	Independent	Dependent	Sampling	Data
Quazi Sagota Samina	Govt. Sec. Corporate Debt Instruments Minority Ownership Share ICB Debenture	ROA	Convenience	Panel
Veronica Njiiri	Real estate Gov't securities Cert. of deposit Stocks Corporate bonds	ROA	Census	Secondary Data
Mehari, D., & Aemiro, T.	Age Size Leverage Loss ratio Tangibility of Assets Premium Growth	ROA	Census	Secondary Data
Fama, E. F. & French, .	Book to market Size Bond return	Average stock	Random Sampling	Secondary Data
Malik, H.	Age Size Leverage Loss ratio Volume of capital	ROA	Random Sampling	Secondary Data
Gebremariyam, M. M.	Firm Size Leverage Firm Growth Tangibility of asset Managerial efficiency Loss ratio	ROA	Purposive sampling	Panel
Sambasivam & Ayele	Firm Size Leverage Firm Growth Tangibility of asset Loss ratio	ROA	Purposive sampling	Secondary Data

Table 2.1 Summary of Some Reviewed Literature

2.3.3 Control Variables and Their Measurement

From the above literature review, the under mentioned variables are selected as a control variable so as to show clearly the relationship of the variable under the excrement and profitability.

Leverage was taken as most important and significant determinant of profitability in previous studies. Al-Shami (2008) calculated it by using the debt to equity ratio. Ahmed et al. (2011) measured it as total debts divided by total liabilities. The proxy used in this study for leverage is debt ratio. Previous research findings show an inverse association between leverage and profitability of the firm.

Another significant determinant of profitability is the age of the firm in most of the studies. The proxy used for the age in this study is same as used in recent studies on insurance sector (Ahmed et al., 2011; Al-Shami, 2008). Age of the firm has a direct relationship with firm's profitability.

Shiu (2014) in his study suggested that company size is positively related to profitability. The main reasons behind this can be summarized as follows. First, large insurance companies normally have a greater capacity for dealing with adverse market fluctuations than small insurance companies. Second, large insurance companies usually can relatively easily recruit able employees with professional knowledge compared with small insurance companies. Third, large insurance companies have economies of scale in terms of the labor cost, which is the most significant production factor for delivering insurance services. Company size is computed as the natural logarithm of total assets of the insurance company.

The possibility that the underwriting surplus from different lines of insurance is correlated negatively isolated decision making giving rise to risk reduction effects of diversification. The choice of insurance product lines should be determined simultaneously with the investment portfolio due to a possible correlation between underwriting and investment income (Kahane, 1977a).

Underwriting surplus calculated as the difference between net premiums earned and the sum of claims or benefits incurred (inclusive of adjustment expenses or surrenders), underwriting expenses and policyholder dividends. Almost all countries monitor this indicator as a basic measure of underwriting profitability and all those that do use this indicator consider it to be critical or important for supervisory and/or market surveillance. Seventeen countries also consider net underwriting income as a critical or important indicator from the perspective of macro-prudential surveillance (OECD, 2013)

2.3.4 Profitability and its Measurement

Several financial profitability measures have been adopted in financial statement analysis and long-term planning (Ross, Westerfield, Jafee, & Jordan, 2008). In this study, ROA shall be adopted. Return on Equity (ROA), a measure of profitability which divides the net income by the amount of its assets. ROA measures how well a fund is doing. It indicates how well the fund's assets have been invested used to generate optimal returns. In their study Kosmidou, Pasiouras, & Tsaklanganos, (2007) points out; the ROA has emerged as a key ratio for the evaluation of profitability and has become the most common measure of profitability in the literature. Most studies in the field of insurance stated that the key indicator of a firm's profitability is ROA defined as the before tax profits divided by total assets. Sambasivam and Ayele (2013) Gebremariam (1999), Hafiz, Malik (2011) are, among others, who have suggested that although there are different ways to measure profitability it is better to use ROA.

2.4 Measurement of Variables Summary

The type of variables, the measurement taken in the analysis and the expected influence is summarized in the following table.

Table 2 .2 Variable measurement summary

Variables	Measurements Used	Variable specification
Bank deposit at interest	Natural log (Cash amount deposited at interest	Independent
Equity share	Natural log (Amount of share purchase)	Independent
Real estate dev't	Natural log Building cost less Depreciation	Independent
Age	Number of years from date of establishment	Control
Company Size	Natural log(Total assets)	Control
Leverage	Total Debt/Total Asset	Control
UW surplus	Net premiums earned less the sum of claims	Control
Return on Asset	Net Income before tax/Total asset	Dependent

2.5 Conceptual Framework

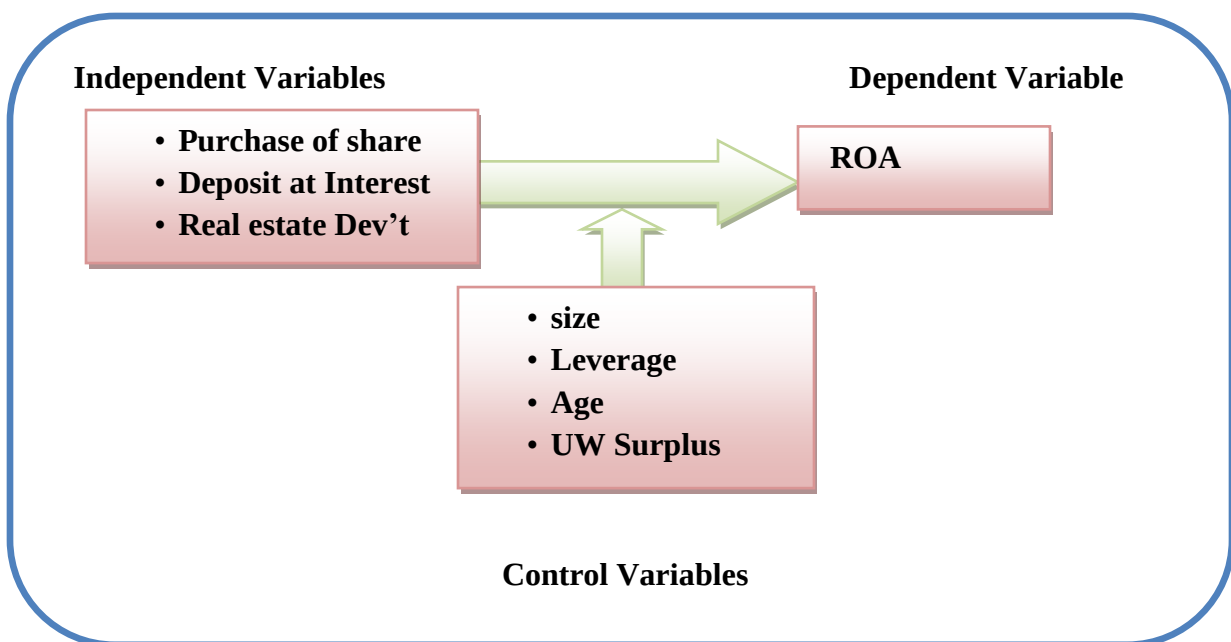
The researcher identified from the above literature review and included in the study firm-specific factors such as bank deposit at interest, real estate development and equity share as an independent variable by considering leverage, age, size, firm growth and underwriting surplus as a control variable in this study. This conceptual framework that is the relationship between profitability in terms of return on asset (ROA) and firm-specific factors together with the identified control variables are illustrated in a model below.

Accordingly, the following hypotheses shall be tested by the study.

H1. Cash Deposit at interest has a positive and significant impact on profitability of insurance.

H2. Purchase of shares has a positive and significant impact on profitability of private insurance companies in Ethiopia.

H3. Real estate development has a positive and significant impact on profitability of private insurance companies in Ethiopia.



Model| Developed by Researcher Based on Literature Reviews

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

The specific areas covered in this chapter include research design, population, data and sampling, data analysis and analytical model.

3.2 Research Approach

The study applied a descriptive and explanatory research design. Rick (2014) asserts that descriptive research gathers quantifiable information that can be used for statistical inference on the target audience through data analysis. This research design was appropriate for this study since it focused on the financial performance of insurance companies in relation to investment over duration of time.

The study is a research designed to conduct quantitative research analysis. The study established the relationship between investment portfolio and profitability of private insurance companies in Ethiopia. The data necessary for the quantitative research are determined based on the variables to be analyzed.

3.3 Population

The population of the study is non life insurance of all private insurance companies in Ethiopia.

3.4 Data and Sampling

This study employed secondary data sources, which are annual report of insurance companies obtained from National Bank of Ethiopia (NBE). Currently there are seventeen insurance companies operating in Ethiopia and 9 insurance companies are selected and others excluded since they are not involved in one or more of the variables investigation. Hence, sampling technique is purposive sampling. The period of study is 9 years non life insurance operation for the year 2008 to 2016. Accordingly Awash Insurance Company S.C, Africa Insurance Company S.C, National Insurance Companies of Ethiopia (NICE), Nyala Insurance Company S.C, Nile Insurance Company S.C, The United Insurance Company S.C, Global Insurance Company S.C, NIB Insurance Company S.C and Lion Insurance Company S.C are selected.

3.5 Method of Data Analysis

The researcher conducted a multiple regression analysis using SPSS in order to determine the relationship between investment portfolio and profitability of private insurance companies in Ethiopia using a panel data.

3.5.1 Unit of analysis

The unit of analysis in this study in general is insurance industry in Ethiopia and private insurance companies in Ethiopia in particular.

3.5.2 Model Specification

The researcher will use the following multiple regression model:

$$\text{ROA} = \beta_0 + \beta_1 \text{IEQS}_{it} + \beta_2 \text{IRE}_{it} + \beta_3 \text{IBD}_{it} + \beta_4 \text{SIZE}_{it} + \beta_n \text{LVRG}_{it} + \beta_n \text{AGE}_{it} + \beta_n \text{UWS}_{it} + e$$

Where:

ROA= profitability of private insurance companies in Ethiopia. (Return on Assets)

β_0 = Constant

IEQS = Investments in equity share

IRE = Investments in real estate

IBD = Investments in bank deposits

SIZE = Firm size (control variable)

LVRG = Leverage (control variable)

AGE = Firm age (control variable)

UWS = Underwriting surplus

i is the number of sampled private insurance companies in Ethiopia 1...9

t is the number of years the number of years 1 ...9

e =Error Term

The data on above variables was collected from secondary data contained in private NBE's annual financial reports.

To test the strength of the model and the relationship between investment portfolio and profitability of private insurance companies in Ethiopia, the researcher conducted an Analysis of

Variance (ANOVA). On extracting the ANOVA statistics, the researcher has looked at the significance value. The study has been tested at 95% confidence level and 5% significant levels.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Descriptive Statistics Result

Table 4.1 presents the outcomes of the descriptive statistics for main variables involved in the regression model. The dependent variable is return on asset. The remaining are the independent variables such as: bank deposit at interest, equity investment, real estate, control variables are total asset, leverage, underwriting surplus and age including mean, standard deviation value were reported. This was generated to give overall description about data used in the model and served as data screening tool to spot an unreasonable figure.

Table 4.1 Descriptive summary statistics

Variables	Observation	Mean	Standard dev.	Min	Max
Bank deposit at interest	81	48	16.29	11.24	127.27
Equity investment	81	4.3	1.39	1.73	8.02
Real estate	81	0.3	.04	0.68	.90
Return on asset	81	4.3	1.29	1.75	10.61

Based on table 4.1, all variables comprised 81 observations which are three explanatory variables of nine insurance companies and the profitability measure used in this study, namely; return on asset indicates that the Ethiopian private insurance companies attained, on average, a positive before tax profit over the last nine years. For the total sample, the mean of return on asset was 4.3 with a minimum of 1.75 and a maximum of 10.61. That means the most profitable insurance company among the sampled insurance companies earned 10.61cents of profit before tax for a single birr invested per year in the assets of the firm. On the other hand, the least profitable insurance company of the sampled insurance companies earned 1.75 cents of profit before tax for each birr invested in the assets of the firm. And also private insurance companies earn on average 4.3 cents for each birr invested in asset of the firm. The standard deviation statistics for return on asset was (1.29) above (100% variability) which indicates that the profitability variation between the selected insurance companies is large. The result implies that these private insurance companies need to optimize the use of their assets to increase the return on their assets.

Bank deposit at interest indicates that the Ethiopian private insurance companies attained, on average, a positive before tax profit over the last nine years. For the total sample, the mean of insurance deposit at interest was 4.8 with a minimum of 11.24 and a maximum of 127.27. That means the most profitable private insurance company among the sampled insurance companies earned 127.2 cents of profit before tax for a single birr invested in a bank deposit. On the other hand, the least profitable private insurance company of the sampled private insurance companies earned 11.24 cents of profit before tax for each birr invested in a bank deposit. And also private insurance companies earn on average 48 cents for each birr invested in bank deposit at interest. The standard deviation statistics for insurance deposit at interest was (16.29) which indicate that the profitability variation between the selected insurance companies is large.

Equity investment indicates that the Ethiopian private insurance companies attained, on average, a positive before tax profit over the last nine years. For the total sample, the mean of equity investment was 4.3 with a minimum of 1.73 and a maximum of 8.02. That means the most profitable private insurance company among the sampled insurance companies earned 8.02 cents of profit before tax for a single birr invested in the equity. On the other hand, the least profitable private insurance company of the sampled insurance companies earned 1.73 cents of profit before tax for each birr invested in the equity. And also private insurance companies earn on average 4.3 cents for each birr invested in equity invested. The standard deviation statistics for equity investment was (1.39) which indicates that the profitability variation between the selected private insurance companies is large which is more than hundred percent in percentage terms.

Table 4.1 also shows that the mean of real estate growth in Ethiopia for the last nine years was 0.3 with a maximum of 0.90 and a minimum of 0.68, with a standard deviation of (0.04). This indicates that real estate is not the issue in Ethiopian private insurance companies.

4.1.2 Correlation Analysis

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The most widely used bi-variant correlation statistics is the Pearson Product-movement coefficient, commonly called the Pearson correlation which was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. A perfect positive relationship)

to -1 (i.e. A perfect negative relationship). The sample size is the key element to determine whether or not the correlation coefficient is different from zero/statistically significant.

Table 4.2 Correlation Table

Correlations					
	Bank Deposit at Interest	Equity Investment	Real estate	Return on Asset	
Bank Deposit at Interest	1				
Pearson Correlation					
Sig. (2-tailed)					
N	81				
Equity Investment	.786**	1			
Pearson Correlation					
Sig. (2-tailed)	.000				
N	81	81			
Real estate	.397**	.657**	1		
Pearson Correlation					
Sig. (2-tailed)	.000	.000			
N	81	81	81		
Return on Asset	.185	.148	.132	1	
Pearson Correlation					
Sig. (2-tailed)	.000	.000	.000		
N	81	81	81	81	81

** Correlation is significant at the 0.01 level (2-tailed).

The above table shows the correlation coefficient between the dependent variables and independent variables. The correlation statistics states whether there is evidence for a linear relationship between the two variables or not and those movements in the two are on average related to an extent given by the correlation coefficient.

The results in the above table indicate that, there is statistically positive and significant relationship between bank deposit at interest and return on asset ($r = .185^{**}$, $p < 0.01$), equity

investment and return on asset have a statistical significant relationship with ($r = .148^{**}$, $P < 0.01$), real estate and return on asset have a statistical significant relationship at ($r = .132^{**}$, $P < 0.01$). The finding on table above further indicates that the highest significant relationship is found between bank deposit at interest and return on asset ($r = .185^{**}$, $P < 0.01$), however the lowest statistically significant relationship is found between real estate and return on asset ($r = .132^{**}$, $P < 0.01$).

4.2 Econometric Analysis

4.2.1 Model Specification Test

The important issue from the panel model adopted is not specified whether fixed effects or random effects models appropriate in analyzing the output. So the research tests whether individual effects are fixed or random. Because, there are broadly two classes of panel data estimator approaches that can be employed in empirical research: fixed effects models and random effects models.

The first issue is the choice between fixed effects (FE) and a random effect (RE) model based on the Hausman test. According to this test null hypothesis says that random effects model is more appropriate than the fixed effects model (Brooks, 2008). As indicated by the Hausman test the difference in coefficients between FE and RE is systematic, providing evidence in favor of a FE model. The p -value for the test is less than 1%, indicating that the random effects model is not appropriate and that the fixed effects specification is to be preferred, since the null hypothesis is rejected at 1% significant level.

This indicates that reject the null hypothesis of random effects model is more appropriate than the fixed effects model at 1% significant level. One can conclude that the p -value for the test from the above table is less than 1%, indicating that the random effects model is not appropriate and that the fixed effects specification is to be preferred. So, the cross-section fixed effects model is the most appropriate for this study.

4.2.2 CLRM Assumption and Diagnostic Test

4.2.2.1 Heteroscedastic Test

It has been assumed so far that the variance of the errors is constant, σ^2 - this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be Heteroscedastic. This theoretically expressed as by Brooks (2008) ' $\text{var}(u_t) = \sigma^2 < \infty$ '; it has been assumed that the variance of the errors is constant- σ^2 , this is known as the assumption of homoscedasticity. If the errors do not have constant variance, they are said to be Heteroscedastic.' White (as cited by Brooks, 2008) is the most popular test of homoscedasticity.

Table 4.3. Heteroscedasticity Test

Cameron & Trivedi's decomposition of IM-test

Source	chi ²	Df	P
Heteroscedasticity	55.00	54	0.4365
Skewness	12.54	11	0.3244
Kurtosis	1.14	1	0.2857
Total	68.68	66	0.3866

Notice that the White test automatically presents the null hypothesis that homoscedasticity is present and alternative hypothesis that heteroskedasticity is present. The researcher found the test yields a high Chi squared statistic, you can reject with high confidence that homoscedasticity exists within your model. In other words, there is strong indication that heteroskedasticity is present. The most popular remedy is the inclusion of heteroskedasticity-corrected, or robust, standard errors. Robust standard errors are calculated to avoid the consequences of heteroskedasticity, and generally (although not always) produce a larger standard error in comparison to models where homoscedasticity is assumed. Larger standard errors which correct for heteroskedasticity, consequently, reduce the Type II error bias. So the researcher used heteroskedasticity corrected robust standard error.

4.2.2.2 Autocorrelation Test

According to Chris Brooks (2008), the CLRM's disturbance terms are the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another. In addition he said that, if the errors are correlated with one another, it would be stated that they are "auto correlated" or that they are "serially correlated". To test this assumption the Durbin–Watson (DW) statistical test was applied. The test for autocorrelation was made by using Durbin and Watson. Durbin Watson (DW) is a test for first order autocorrelation, i.e. it tests only for a relationship between an error and its immediate previous value.

Table 4.4 D.W test for autocorrelations

	ROA
DW STATISTIC	2.19

Source result from SPSS

As Table above indicates that the DW test result was 2.19, for the profitability measure; return on asset. This indicates that there was no serious evidence of autocorrelation in the data since the DW test result is not far from two, because there is no autocorrelation problem if the DW is near to 2 (Chris Brooks, 2008). i.e. if DW test lies between= 1.75 and=2.25 we can say that there is no auto correlation.

4.2.2.3 The Normality Test

Another important diagnostic test conducted in this paper is the normality assumption (i.e. the normally distributed errors). Brooks (2008) stated that the normality assumption is required in order to conduct single or joint hypothesis tests about the model parameters. One of the most commonly applied tests for normality is the Bera-Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments, the mean and the variance (Brooks, 2008). In case of this study, the researcher used BJ normality test to test the null hypothesis of normally distributed errors assumptions.

As shown in table since, the Bera-Jarque statistic is not significant. This means that the *p*-value given at the bottom of the normality test screen should be bigger than 0.05 to not reject the null of

normality at the 5% level so, the residuals are normally distributed in this study, and concluded that there is no problem of normality on the model.

Table 4.5 Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj chi2(2)	Prob>chi2
Residual	81	0.0001	0.4163	12.83	0.0016

Source: Result from SPSS

4.2.2.4 Multicollinearity Test

This assumption is concerned with the relationship exist between explanatory variables. If an independent variable is an exact linear combination of the other independent variables, then we say the model suffers from perfect collinearity, and it cannot be estimated by OLS Brooks (2008). Multicollinearity condition exists where there is high, but not perfect, correlation between two or more explanatory variables (Cameron and Trivedi,2009;Wooldridge,2006). According to Churchill and Iacobucci (2005), when there is multicollinearity, the amount of information about the effect of explanatory variables on dependent variables decreases. As a result, many of the explanatory variables could be judged as not related to the dependent variables when in fact they are.

This assumption does allow the independent variables to be correlated; they just cannot be perfectly correlated. If we did not allow for any correlation among the independent variables, then multiple regressions would not be very useful for econometric analysis. How much correlation causes multicollinearity however, is not clearly defined. Hair *et al* (2006) argue that the correlation coefficient below 0.9 may not cause serious multicollinearity problem; Malhotra (2007) stated that the multicollinearity problem exists when the correlation coefficient among variables is greater than 0.75. Kennedy (2008) suggests that any correlation coefficient above 0.7 could cause a serious multicollinearity problem leading to inefficient estimation and less reliable results. This indicates that there is no consistent argument on the level of correlation that causes multicollinearity.

We can also test this assumption by looking at the coefficients table. As explained by Muijs (2010,) Tolerance and Variance Inflation Factors (VIF) do exactly the same thing, tolerance is the amount of

variance in the individual variable not explained by the other predictor variables. It varies from 0 to 1; a value close to 1 indicates that the other predictors do not explain the variance in that variable. A value close to 0 implies almost all the variance in the variable is explained by the other variables. This permits us to more formally check that our independent variables are not too highly correlated. To meet multiple regression assumptions we need a tolerance score above 0.2 and VIF scores below 10.

As we see from the table 4.6 below of analysis of collinearity statistics show the assumption has been met, as no relationship of predictors equals or above the coefficient value of 0.8 and VIF scores shown below 10, and tolerance scores above 0.2.

Table 4.6 Multicollinearity Test

Dimensions	Collinearity Statistics	
	Tolerance	VIF
Bank deposit at interest	.754	1.829
Equity investment	.637	1.218
Real estate	.827	1.899

Source: Secondary data, 2018

4.2.3 Econometric Result and Discussion

In this section regression analysis for insurance profitability measures; return on asset, control variables such as firm size, leverage, underwriting surplus, age and predictor variables such as bank deposit at interest, equity share and real estate development have been undertaken to understand the relationship between investment portfolio management and profitability.

Table 4.9 Regression analysis for all Variables

Model	Unstandardized Coeff.		Standardized Coeff	t	Sig.
	B	Std. Error	Beta		
(Constant)	.449	.158		1.915	.004
Bank Deposit at Interest	.003	.013	.044	-.233	.016
Equity Investment	.036	.070	.119	-.511	.011
Real estate	.001	.025	.009	.057	.055
Total asset (firm size)	.121	.052	.140	2.342	.020
Leverage	.004	.060	-.004	-.064	.949
Underwriting surplus	.104	.058	-.101	1.797	.074
Age	.269	.067	.256	3.990	.000

Source: Secondary data 2018 from SPSS

The results of multiple regressions, as presented in the table above, revealed that bank deposit at interest has a positive and significant effect on return on asset with a beta value (beta =.044), at 95% confidence level ($p < 0.05$). This implies that, if bank deposit at interest increases by 1 percent, return on asset will increase by .044. Therefore, the researcher accepts that bank deposit at interest has a positive and significant effect on return on asset.

The results of multiple regressions, as presented in the table above, revealed that equity investment has a positive and significant effect on return on asset with a beta value (beta =.119), at 99% confidence level ($p < 0.05$). This implies that, if equity investment increases by 1 percent, return on asset will increase by .119. Therefore, the researcher may accept that, equity investment has a positive and significant effect on return on asset.

The results of multiple regressions, as presented in the table above, revealed that real estate development has insignificant effect on return on asset with a beta value (beta = .009), at 95% confidence level ($p > 0.05$).

The results of multiple regressions, as presented in the table above, revealed that total asset has a positive and significant effect on return on asset with a beta value (beta = .140), at 99% confidence level ($p < 0.01$). This implies that, if total asset increases by 1 percent, return on asset will increase by .140.

The results of the above given table showed that the standardized coefficient beta and p-value of leverage has negative and insignificant effect with (beta = -.004, $p > 0.01$). This implies that, if leverage decreases by 1 percent, return on asset will decrease by -.004. Leverage has a negative and insignificant effect on return on asset. Therefore its contribution to return on asset is insignificant.

The result of the given table showed that the standard coefficient of beta and p-value of underwriting surplus has negative and insignificant effect at (beta = - .101, $p < 0.01$). This implies that, if underwriting surplus increases by 1 percent, return on asset will decrease by .101.

The given table further shows that, age has a positive and significant effect on return on asset with a beta value (beta = .256), at 99% confidence level ($p < 0.01$). This implies that, if age increases by 1 percent, return on asset will increase by .256.

Table 4.10 Model Summary for the Overall Variables

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Sig
	.612 ^a	.575	.564	.84887	.000

In overall, the table above revealed that all independent variables except the underwriting surplus and leverage accounted for 57.5% of the contribution for return on asset ($R^2 = 0.575$). Thus, 57.5% of

the variation in return on asset can be explained by the six variables and other factors may limit contribution of to the return on asset which accounts for about 42.5%.

Table 4.11 Regression Table Independent Variables for Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.6576	1.5996		1.661	.101		
Bank Deposit at Interest	.003	.013	.044	-.233	.016	.754	1.829
Equity Investment	.036	.070	.119	-.511	.011	.637	1.218
Real estate	.001	.025	.009	.057	.055	.827	1.899

Dependent variable: Return on asset

4.2.3.1 Regression Analysis of Bank Deposit at Interest on Return on Asset

The results of multiple regression, as presented on the table above, revealed that bank deposit at interest has a positive and significant effect on return on asset with a beta value (beta =.044), at 99% confidence level ($p < 0.05$). This implies that, if bank deposit at interest increases by 1 percent, return on asset will increase by .044. Therefore, the researcher may accept hypothesis1 and it is accepted that, bank deposit at interest has a positive and significant effect on return on asset.

4.2.3.2 Regression Analysis of Equity Investment on Return on Asset

The results of multiple regression, as presented in the table above, revealed that equity investment has a positive and significant effect on return on asset with a beta value (beta =.119), at 99% confidence level ($p < 0.05$). This implies that, if equity investment increases by 1 percent, return on asset will increase by.119. Therefore, the researcher may accept hypothesis 2 and it is accepted that, return on asset has a positive and significant effect on return on asset.

4.2.3.3 Regression Analysis of Real Estate on Return on Asset

The results showed that the standardized coefficient beta and p-value of real estate has positive and significant effect with (beta =.009, $p > 0.05$). Thus, the researcher rejects the null hypothesis 3 since real estate has insignificant effect on return on asset.

Bank deposit at interest, equity investment, and real estate positively affect return on asset of private insurance companies at 5% significant level. Hence, insurance companies should focus on those factors to boost its profitability. The result is consistent with the findings of Njiiri (2006) and Samina (2012). Increase in the above variable leads to increase in profitability of insurance.

According to the above result bank deposit at interest affect return on asset positively at 0.1 significant level, it can be explained that existence of bank deposit at interest motivates insurance companies to invest return on asset of profitability. Equity investment and real estate positively affect return on asset. The researcher found that Bank deposit at interest, equity investment, and real estate has a positive and significant effect on return on asset. The result is consistent with the findings of (Njiiri, 2006 and Samina, 2012).

Table 4.12 Model Summary for the Independent Variables

Model Summary ^b									
R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					D.Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.151 ^a	.33	.016	8.475976	.023	.592	3	76	.622	1.972

R-square measure the goodness of fit of the explanatory variables in explaining the variations in the Ethiopian private insurance companies' profitability measure that is return on asset. As clearly described in the above table R-square value for the regression model was 0.33. This indicates the explanatory variables in this study jointly explain about 33 percent of the variation in the profitability measure, return on asset. The remaining 67 percent of the variation in the profitability of insurance companies explained by other variables which are included in the model as a control variable and variables which are not included in the model. Therefore, these

explanatory variables together, are good explanatory variables of the profitability of insurance companies in Ethiopia.

Table 4.13 Analysis of Variance (ANOVA)

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.276	3	4.253	.592	.002 ^a
	Residual	5.460	76	7.184		
	Total	5.588	79			
Predictors: (Constant), Real estate, Bank Deposit at Interest, Equity Investment						
Dependent Variable: Return on Asset						

The significance value is 0.002 which is less than 0.05 thus the model is statistically significant in predicting how bank deposit at interest, equity investment and real estate development influences the profitability of private insurance companies in Ethiopia.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of key data findings, conclusions drawn from the findings highlighted and recommendations that were made on the objective of the study, which was to establish the relationship between investment portfolio and profitability of private insurance companies in Ethiopia.

5.2 Summary of Findings and Discussion

The purpose of the study was to establish the relationship between investment portfolio and profitability of private insurance companies in Ethiopia. The study applied a descriptive, explanatory and quantitative research design. The study data gathered systematically over a period of time in order to answer a research question. Nine private insurance companies are selected purposefully and others excluded since they are not involved in one or more of the variables under experiment. The period of study is 9 years non life insurance operation for the year 2008 to 2016.

Data was obtained from secondary sources such as the financial statements of the insurance companies which are found in National Bank of Ethiopia (NBE). A multiple regression model was employed. From the regression model, the study found out that investments in equity share, investments in real estate and investments in bank deposit influenced the profitability of the private insurance companies'. Investments in equity share, investments in real estate and investments in bank deposit influenced the profitability of the insurance companies positively. The study found out that the intercept was 2.6576 for all the nine years considered in the study. The three independent variables that were studied (investments in equity share, investments in real estate and investments in bank deposit) explain a substantial 33% of profitability of private insurance companies in Ethiopia as represented by adjusted R^2 is 0.33.

5.3 Conclusion

The objective of the study was to establish the relationship between portfolio management and the profitability of private insurance companies.

With regard to investment in bank deposit, the study concluded that there is statistically positive and significant relationship between an investment in bank deposit and profitability and also has a positive impact on the profitability of the insurance industry. An increase in investment in bank deposit leads to increased profitability of the insurance industry.

The study concluded that there is statistically positive and significant relationship between investment in equity share and the profitability in the insurance industry and profitability and also has a positive impact on the profitability of the insurance industry. An increase in investments in equity share leads to increased profitability of the insurance industry.

Further, the study concludes that investment in real estate has statistically positive and significant relationship with the profitability of the insurance industry and also has an insignificant impact on the profitability of the insurance industry.

Accordingly, the study concludes that there is a positive and significant relationship between investment portfolio and profitability of private insurance companies in Ethiopia.

5.4 Recommendations

The study recommends that companies should have a well-maintained portfolio in order to achieve success; companies should also determine an asset allocation that best conforms to a company investment goals and strategies. The portfolio should meet the expected future needs for capital. Insurance companies should be very clear about their investment objectives when considering switching funds because their operation can be directly affected due to liquidity problems. The study recommends that the insurance companies should invest in liquid assets that are diversified, have residual maturities appropriate for the institution's specific cash flow needs, assets that are readily marketable or convertible into cash because insurance by its very nature requires being more liquid. It is also recommended that insurance firms should reduce their holdings in real estate to safeguard their liquidity.

Based on the vitality of this sector in the economy, this study recommends that the policy makers should enact policies that create an environment which facilitates the operations of the industry. The policy makers should come up with policies that support the investment efforts made by the insurance industries.

Corporate managers of insurance companies should especially focus on exploring opportunities for growth and diversification and management of investment portfolios in view of changing equity market conditions.

5.5 Suggestions for Further Research

The study sought to investigate the relationship of insurers' profitability and investment portfolio in Ethiopia. However, the variables used in the statistical analysis did not include all factors that can affect Ethiopian insurers' profitability. Thus, future research should be conducted on the issue like impact of financial and non- financial determinant of insurance profitability. This paper also considered the case of only 9 general insurance companies out of 17 private insurance companies. So the sample size may be a limitation of the study. So to overcome this limitation more companies can be taken into consideration and a vast analysis can be done in this regard.

REFERENCES

- Ahmed, N., Ahmed, A., & Usman, A. (2011). Determinants of Performance: A Case of Life Insurance Sector of Pakistan. *International Research Journal of Finance and Economics*
- Allen, F. and Santomero, G. (1998). Portfolio Performance Rankings in Stock Market Cycles. *Financial Analysts Journal*, vol.51, No.2, pp.79-87.
- Al-Shami, H. A. A. (2008). Determinants of Insurance Companies Profitability in UAE. Masters of Science in Finance, University Utara Malaysia. Unpublished
- Bhalla, V. K. (2010). *Investment Management*. New Delhi: S. Chand & Co. Ltd. ISBN81-219-1248-2.
- Brodie, De Mol, Daubechies, Giannone & Loris (2009). Sparse and stable Markowitz portfolios. *Proceedings of the National Academy of Sciences*, 106 (30).
- Brooks, C. (2008). RATS Handbook to accompany introductory econometrics for finance. *Cambridge Books*.
- Campbell, J. Y., & Viceira, L. M. (2002). Strategic asset allocation: portfolio choice for long-term investors. *Clarendon Lectures in Economics*.
- CABI (2009) Measuring Farm Profitability and Financial Performance. Canadian Agri-food Policy Institute, *Farm Profitability Report*.
- Crane, L. (n.d) Measuring Financial Performance: A Critical Key to Managing Risk. *National Crop Insurance Services, Inc*.
- Coase, R. H. (1937). The Nature of the Firm. *Economical*, 4, 386-405.
- Cooper, D. R., & Schindler, P. S. (2006). *Business Research Methods* 8th Edition, McGraw-Hill Companies, Inc.
- Copeland, T. E. and J. F. Weston ;(1988) *Financial Theory and Corporate Policy*, (3rd Ed), Addison- Wesley,
- Cummins, J. D., & Grace, E. (1994). Tax management and investment strategies of property-liability insurers. *Journal of banking & finance*, 18(1), 43-72.
- Churchill, G. A. (2005). Dawn IACOBUCCI. *Marketing research: methodological foundations*.
- Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of financial economics*, 33(1), 3-56.
- Gebremariam, M. M. (2014). Determinants of insurance companies' profitability in Ethiopia (Doctoral dissertation, Addis Ababa University Addis Ababa, Ethiopia).

- Greene, W. H., & Segal, D. (2004). Profitability and efficiency in the US life insurance industry. *Journal of Productivity Analysis*, 21(3), 229-247.
- Hoboken. Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425-442.
- Ismailia, B. (2011) Financial Performance Measurement Of Manufacturing Small And Medium Enterprises In Pretoria: A Multiple Exploratory Case Study. A master's Thesis submitted to the University of South Africa.
- Jensen, M. C., Black, F., & Scholes, M. S. (1972). The capital asset pricing model: Some empirical tests.
- Kahane, Y., & Porat, M. M. (1984). Financial Analysis of Underwriting Results. A Corrected Approach to Loss Ratio Analysis, With a Special Reference to Inflation. *The Journal of Risk and Insurance*, 51(4), 710–719.
- Kaguri, 2013, 'Relationship between firm characteristics and financial performance of life insurance companies in Kenya', MSC thesis, University of Nairobi
- Kozak, S. (2016). Determinants of profitability of non-life insurance companies in Poland during integration with the European financial system. *Electronic Journal of Polish Agricultural Universities*, 14(1), 01.
- Harvey, C. (2012) Investment Income. *Farlex Financial Dictionary*
- Hirshleifer, J. (1983); "On the Theory of Optimal Investment Decisions," *Journal of Political Economy*, Reprinted in Archer and D' Ambrosio,
- Heshmat, A. & Loof, H. (2008) Investment and Performance of Firms: Correlation or Causality, *Corporate Ownership & Control* 6 (2)
- Lee, H. H., & Lee, C. Y. (2012). An analysis of reinsurance and firm performance: Evidence from the Taiwan property-liability insurance industry. *The Geneva Papers on Risk and Insurance-Issues and Practice*.
- Malik, H. (2011). Determinants of insurance companies' profitability: An analysis of insurance sector of Pakistan. *Academic Research International*, 1(3), 315.
- Markowitz, H. M. (1952). *Portfolio Selection: Efficient Diversification of Investments*, New York, John Wiley & Sons.
- Mehari, D., & Aemiro, T. (2013). Firm Specific Factors That Determine Insurance Companies' performance In Ethiopia. *European Scientific Journal*, Esj, 9(10).

- Merton, R. C. (1973). An intertemporal capital asset pricing model. *Econometrica: Journal of the Econometric Society*, 867-887.
- Muijs, D. (2010). Doing quantitative research in education with SPSS. Sage.
- Murphy, J.M. (1997). Efficient markets, index funds, illusion and reality. *Journal of Portfolio Management*, 1, 5-22
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221.
- Njiiri, V. (2006). The Relationship between Investment and Financial Performance of Insurance Companies in Kenya. (Unpublished)
- Oyatoye, E. O., & Arilesere, W. O. (2012). A non-linear programming model for insurance company investment portfolio management in Nigeria. *International Journal of Data Analysis Techniques and Strategies*, 4(1), 83-100.
- OECD (2013) Pension Markets in Focus. *Organization for Economic Cooperation and Development, Annual Report*.
- Rabin, K and Thaler, K. (2001). Evaluating Mutual Funds in an Emerging Market: Factors that Matter to Financial Advisors. *International journal of Bank Marketing*, 122-136.
- Rick, P. (2014) Descriptive Research: Defining Your Respondents and Drawing Conclusions. Fluid Surveys University.
- Rubinstein, M. (2006). *A history of the theory of investments*.
- Sambasivam, Y., & Ayele, A. G. (2013). A study on the performance of insurance companies in Ethiopia. *International Journal of Marketing, Financial Services & Management Research*, 2(7), 138-150.
- Samina, Q. S. (2012). Investment Portfolio of Insurance Companies in Bangladesh: a Study on Selected Insurance Companies of Bangladesh. *World*, 2(7).
- Tobin, J. (1958). Liquidity preference as behavior towards risk. *The review of economic studies*, 25(2), 65-86.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under Conditions of risk. *Journal of Finance*, 19 (3), 425–442.
- Shiu, Y. (2004). Determinants of United Kingdom general insurance company performance. *British Actuarial Journal*, 10(5), 1079-1110.

- Tobin, James (1958). Liquidity preference as behavior towards risk, *The Review of Economic Studies*, 25
- Yin, R. K. (2009). *Case Study Research, Design & Methods* 4th Ed.
- Reshid, S. (2015). Determinants of Insurance Companies Profitability in Ethiopia, *Addis Ababa University* Addis Ababa, Ethiopia).
- Zelege, H. (2007). *Insurance in Ethiopia: historical development, present status and future challenges*. H. Zelege.

Appendix

List of Sampled Private Insurance Companies and Their Date of Establishment

No	Insurance Companies in Ethiopia	Date of Establishment
1	Awash Insurance Company S.C	1/10/1994
2	Africa Insurance Company S.C	1/12/1994
3	National Ins. Company of Eth. S.C.	23/09/1994
4	Nyala Insurance Company S.C	6/1/1995
5	Nile Insurance Company S.C	11/4/1995
6	The United Insurance S.C	1/4/1997
7	Global Insurance Company S.C.	11/1/1997
8	NIB Insurance Company	1/5/2002
9	Lion Insurance Company S.C	1/7/2007

Source National Bank of Ethiopia