ST.MARY'S UNIVERSITY COLLEGE

SCHOOL OF GRADUATE STUDIES

THE EFFECT OF MARKET SHARE ON PROFITABILITY: AN EMPIRICAL ANALYSIS OF ETHIOPIAN INSURANCE INDUSTRY

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A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY COLLEGE SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT MANAGEMENT

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ENDORSEMENT

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

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Abstract

The Ethiopian insurance industry is witnessing a remarkable growth in gross written premium through the application of latest technologies and employing capable individuals. The addition and/or development of new products and market expansion over the passage of time coupled with efforts induced by the national bank of Ethiopia and firms self motivated acts towards same played a role in this regard. As such, active financial analysis has become one of the important tools that companies use to model the underwriting and investment operations of insurance companies. This could be made possible through empirical analysis of relationship between profit and factors that affect same. In this study the effort was made to determine the effect of market share on profitability of insurance firms in Ethiopia by utilizing a quantitative research approach. Panel data covering ten-year period from 2005 – 2014 were analyzed for nine insurance companies. The panel data was collected from periodic reports of NBE on the financial statements of individual companies and reorganized for the current empirical analysis purposes across nine firms considered in the sample and over ten years of operation period. The common determinants of financial performance of firms like tangibility, liquidity and firm size were also included in the model to balance effect estimation. The findings of the study revealed the presence of positive association between market share and profit for the Ethiopian insurance industry. Accordingly, the study recommends that the insurance managers in Ethiopia should give a proper consideration to market share with proper operational cost management to grow profitably. The analysis also supports the findings of previous literatures that agreed on the presence of positive relationship in between the two. It has also practical implications for business leaders and operation managers.

Key Words: *Profitability (Return on Equity), Market Share, Ethiopian Insurance Industry*

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of **Dr. ABEBAW KASSIE**. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

WORKINEH MEKONNEN

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Signature& Date

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I am also grateful to my employer, Awash Insurance Company, which was a constant source of encouragement and enthusiasm throughout the thesis project and two years of my Master program.

List of Acronyms

NBE…… National Bank of Ethiopia

PIMS…… Profit Impact of Marketing Strategy

ROE…….. Return on Equity

KPMG……... Klynveld Peat Marwick Goerdeler

MS……. Market Share

CMPA…….…….. Cost Management and Profitability Analysis

STATA…….. Statistical Software Package

UwR…….. Underwriting Return

Unic…… United Insurance

AIC…..... Awash Insurance Company

EIC…… Ethiopian Insurance Company

LSDV……. Least Square Dummy Variable Model

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CHAPTER ONE

INTRODUCTION

1.1. Background of Study

Although the 1960s saw a significant interest in and surge of insurance industry, foreign investors owned the lion share of the investments in insurance (Hailu, 2007). Jointly owned by the Emperor, the first domestic insurance company, namely, Imperial Insurance Company started issuing policies in fire, life and general accident since 1951. He summed up:

The insurance sector during the command economic system was characterized by monopoly of the sector by the government, lack of dynamism and innovation, volatile premium growth rates and reliance on a couple of classes of insurance business (motor and marine) for much of gross premium income. The nationalization of private insurance companies, the restrictions imposed on private business ventures, and management of the insurance sector had significant adverse impact on the development and growth of Ethiopian insurance industry.

The regime change in 1991 has brought a change in economic system from command to free market economy in Ethiopia. Since then, private business firms started to flourish. The insurance industry, among others, has been growing at remarkably high rate in terms of firm size and underwriting achievement. Mulugeta Abebe (2009) stated that the 1990s is a defining moment in the checkered history of insurance business in Ethiopia. Not only did it end the 19 year-old state monopoly over the industry, but it also imparted competitiveness to the industry that marked the efficacy of new global economic order. More particularly, Proclamation No. 86/1994 ushered a new era in the history of insurance business in which 'Ethiopian insurance market has become an arena where the public and private insurance companies contest to grab a large chunk of the market' (ibid: 86).

Today the total number of insurance companies, branches and their capital increased significantly. At 2014, there are seventeen insurance companies in operation. Ethiopian Insurance Corporation (EIC) is state owned while the rest are private. Number of branch reached 332 in 2014.The gross premium of sector is 5 billion in 2014 (NBE, annual report 2014).

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

The growing performance of the industry demands a proper empirical analysis and documenting the trend information for the better and potential decision making of business firms. The market share and profitability relationship given an attention of empirical works for different market segment, however, the results of the finding yet not agreed. Besides, the relationship between market share and profitability continues to be an important research issue in strategic management, Peter Yannopoulos (2011), with the presence a widely held belief that market share and profitability are strongly related. However, there is a variation in the earlier research findings where part of earlier published study findings indicate the presence of a strong positive association between market share and profitability (Gale 1972, Shepherd 1972) and there was also a group supporting the view that there is a negative relationship between market share and profitability.

Accordingly, the study on market share and profitability for different categories of growing firms in Ethiopia is selected for this study purpose to assess the previous findings applicability and document the finding for the business decision purpose. The Ethiopian insurance industry was taken for the current empirical study with an intention of managing the link between market shares and profitability within the categories of insurance firms operating in Ethiopia. The low insurance penetration rate in Ethiopia clearly shows how the sector is far from saturation and yet stood at its infant level. And also the country's fast economic growth and expansion could assure high insurance growth prospect as it helps in the emergence of many insurable risks that will increase the market potential, increase the firms' competition over market share improvement and individual companies' market share.

1.2. Statement of the Problem

Facts evident in the insurance industry of Ethiopia and elsewhere from the review of literatures show that the major focus of the managements are to increase the market share to improve profitability. They prefer to compare their performance with other firms through revenue size and market share. However, the problem exists in the previous research findings in that the efforts in this regard remained unresolved and have not yet reached on consensus. Many economists presuppose competitor-oriented objectives to help firms profitable (Mueller 1992) that prefers setting proper business objectives to be profitable over the market share. Business school academics, however, have supported market share objectives, noting that higher market shares are correlated with higher profitability (*Harvard Business Review* papers: Buzzell, Gale, and Sultan (1975) and Porter (1979). Besides, the empirical research findings of previous study partly dictate the market share and profitability are strongly related (Buzzell and Gale 1987; Simon 2010) while some concludes on the absence of the relationship in between the two (Boulding and Staelin 1990; Jacobson 1990; Szymanski, Bharadwa and Varadarajan 1993; Wensley 1997).

On the other hand, there were found some drawbacks in previous research in that many of them relied primarily on evidence of large firms (PIMS data base), giving rise to a serious sampling error (Szymanski, Bharadwa and Varadarajan 1993). The data used by many of previous research were also drawn from a given period of time and as such, some of them may be historical accidents (Peter Yannopoulos 2007). Besides, to the best of knowledge of researcher's on industry observation, the intention of managers in many firms in Ethiopia is to raise the market share missing the major business interest of the company which is profit and having no proper ground on the nature of relationship in between the two. In addition to this, the empirical study on the link between market share/increase in sales of firms to profit/contribution margin lacks a strong concern and measurement in the country.

The problems and research gaps identified above initiated the researcher to devote an effort to and empirically analyze the relationship of market share and profitability in Ethiopian Insurance Industry. The dependent variable (profitability) was taken as firms' return on equity (ROE) while independent variable was the relative market share of insurance firms in Ethiopia. Other variables like tangibility, firm size and liquidity were incorporated in the model to balance the

model estimation. The Ethiopian insurance industry was considered for the current empirical analysis with the rationale of taking a personal step towards contributing to the yet unresolved research issue of market share effect on profit; identify its implication in Ethiopian insurance industry, to augment similar scholarly works on different firms in Ethiopia and to document such longitudinal information for decision making. The possibility of adequate and easy access to intended longitudinal data on the variables was also another reason for choosing the industry for the investigation.

1.3. Basic research Questions

1. What is the effect of market share on firms' profitability in Ethiopian Insurance Industry?
2. What is the degree and direction of relationship between market share and profitability for Ethiopian Insurance Industry?

1.4. Objectives of the Research

a. General Objectives

The study was conducted with a general objective of assessing the relationship between market share and profitability of insurance industry in Ethiopia.

b. Specific Objectives

The study was undertaken to achieve the following specific objectives:

1. To analyze effect of market share on profitability.
2. To identify the direction of relationship between market share and profitability.

1.5. Delimitations /Scope of the Study

The study was limited to Ethiopian insurance industry for this specific enquiry. The enquiry was carried out within the industry's service coverage. Nine long serving firms were considered to have adequate trend (historical) data. The nine firms incorporated in the sample include Ethiopian Insurance Corporation, Awash, Global, Nile, Nice, Africa, Nib, Nyala and Unite

Insurance Companies. The audited annual revenue accounts of firms were collected from the national bank of Ethiopia (NBE). Ten years historical data on profit and market share was considered based on the similar longitudinal relationship analysis conducted previously as per reviewed literatures and with a time span more suitable for observing strategic changes in market position.

1.6. Significance of the Study

An effort to increase a market share is resource consuming Peter Yannopoulos (1999). The concrete finding on the relationship between market share and profitability, therefore, help the firms to make a rationale decision and devote resources to more agreeable and profitable activities. This gives managers an opportunity to devote resources towards operational efforts that have strong sales and contribution margin relationship.

It also helps firms within the Ethiopian insurance industry to better understand their respective market share in relation to other competitors with different market share and profitability. The result from this study will ultimately help to improve organizational contribution margin through providing an input for management decision making in a way that identify and focus on operational efforts that improves profitability.

1.7. Organization of the Study

The paper was organized under five standard chapters taking into account the proper flow of ideas. The first chapter of the study deals with the overview of the study whiles the subsequent chapter (chapter 2) presents a brief summary on the review of literatures. Chapter three of the paper gives a brief background of research methodology employed followed by chapter four which gives an emphasis to the data analysis, results and discussions. The final chapter (chapter 5) presents conclusions and recommendation on the findings of the paper.

CHAPTER TWO

LITERATURE REVIEW

2.1. The Concept of Insurance, Market Share and Profitability

The underwriting services are provided by some large specialist (financial institutions), such as banks, insurance or investment houses, whereby they guarantee payment in case of damage or financial loss and accept the financial risk for liability arising from such guarantee. Insurance policy or product is a protection against financial hammering arising on the happening of unexpected event, mitigate risks, provides a financial militate against adverse financial loads suffered, and is a contract agreement between the insurer and the insured. It was further stated that underwriting is the process of selecting and classifying the insurance proposals according to the rate-maker hypotheses.

O'Regan (2002) defines market share as a company's sales in relation to total industry sales for a certain period. Pearce and Robinson (2003) also use the same definition that market share is sales relative to those of other competitors in the market. Market share is usually used to express competitive position. It is also generally accepted that increased market share can be equated with success whereas decrease market share is a manifestation of unfavorable actions by firms and usually equated with failure.

Gibson Ch. H. (1998) defines the profitability of a firm as "the ability of firms to generate earnings". Similarly, Brigham EF, Gapenski LC, Ehrhardt, (1999) considered that "profitability is the net result of various policies and managerial decisions, and the profitability rates represent the net operating result of the combined effects of liquidity, asset management and debt management.

2.2. Theoretical Review of Literature on Market Share-Profitability Relationship

Due to its importance for public policy and business strategy, the relationship between market share and profitability has been extensively discussed and researched by industrial organization economists and strategic management academics and practitioners. This research involves both empirical and theoretical arguments. Among the major theoretical arguments are included economies and diseconomies of scale, experience curve and other cost advantages, market power, innovation, quality of management, and random effects (Porter 1980; Baumol 1959; Nelson and Winter 1982; Buzell, et al. 1975).

The Cost Advantages of Market Share The rationale most commonly offered to explain the market share effect is that higher market share enables firms to utilize economies of scale and experience. This in turn helps reduce costs and gives firms market power that they use to extract favorable concessions from suppliers, channel members, and customers (Buzell, Gale and Sultan, 1975). Buyers use market share as a signal of brand quality and a brand's acceptance as an indicator of superior quality (Smallwood and Conlick 1979). The available evidence supports that economies of scale exist up to a certain minimum efficient size (MES). Beyond this point, the long run average cost curve flattens out (Bain, 1956, Scherer 1980). It has been estimated that the MES is consistent with a low market share (Bain 1956; Scherer 1980; Szymanski, Bharadwa and Varadarajan 1993) indicating that economies of scale dissipate at a small percent of market share (Scherer 1974; Rummelt 1995). Therefore, even businesses with relatively small market shares can be operating at levels greater than the minimum efficient scale (Schmalensee 1985).

Other research suggests that high market share may hurt profitability (Schwalbach, 1991) because of the existence of various diseconomies of scale, such as diseconomies of confusion, etc. (Hayes and Wheelwright 1984). The existence of economies and diseconomies of scale imply that small firms suffer from lack of economies of scale and large firms enjoy significant cost advantages due to economies of scale. At the same time, if the size of a firm gets too large, the firm may start suffering from diseconomies of scale which will tend to negate the benefits of large size. Market share may not only contribute to profitability beyond a certain size but it may

be detrimental as well. Firms with market shares larger than 40% lose their advantages from scale and scope and experience diminished performance (Geroski 1987; Sheth and Sisodia 2002). The PIMS-based research does not reveal whether profitability will eventually decrease at very high market-share levels in light of evidence of diseconomies of scale.

Experience economies, on the other hand, result from cumulative experience and the associated cost reductions as a result of accumulating production and learning. The existence of experience curves has been documented in numerous studies (Yanopoulos 2007). But it also has become apparent that higher cumulative volume does not automatically lead to lower cost but there must be a conscious effort to take advantage of the potential for cost reductions (Yannopoulos 2007).

Market Power Large firms have a number of other advantages which are not available to small firms. Greater bargaining power is one advantage that is available only to large firms. Greater size also increases the number of investment options due to larger financial resources. Nelson and Winter (1982) argue that larger firms spend proportionately more on research and development than smaller firms, increasing thereby their chances to innovate and grow faster than their smaller rivals. Gale (1972) also argued that large firms have a share-based differentiation advantage. Furthermore, only large firms have the ability to participate in a tightly oligopolistic group and reap the benefits of high concentration (Gale 1972). However, studies show that higher concentration has, either, a neutral or negative impact on the profitability of higher market share firms (Gale and Branch 1982; Mueller 1986). Gale and Branch (1982) note that the market share has little to do with market power but it reduces costs. Similarly, Szymanski, Bharadwa and Varadarajan (1993) found no support for the market power theory.

Quality of Management Quality of management has received attention as a major cause of higher profitability for some firms (Buzzell, Gale and Sultan 1975; Jacobson and Aaker 1985). Some researchers suggest that the observed positive relationships between market share and profitability may be the result of a common third factor (Rumelt and Wensley 1980; Jacobson and Aaker 1985). This common third factor could be quality of management, luck, or random factors. Superior management causes firms to operate at a higher level of effectiveness and efficiency than their competitors. Higher effectiveness and efficiency include the capability to design and execute better strategies and plans, better control of costs, maintain efficient

operations, having innovative products and market strategies, meeting customer needs better than competitors as well as the ability to achieve higher productivity through training and motivation of employees. Some studies have tried to capture these effects by using either instrumental variables (Rumelt and Wensley 1980) or lagged profitability variables (Jacobson and Aaker 1985). Jacobson and Aaker (1985) and Szymanski, Bharadwa and Varadarajan (1993) found support for the impact of product quality.

Economic environment Mueller (1986) in an extensive longitudinal study found a positive relationship between market share and profitability. Mueller qualified his findings by accepting that the positive relationship he found between market share and profitability may be a direct result of the stability in the economic and competitive environment that prevailed during the sixties and the seventies during which he collected his data. He called for the need to study the moderating effects of the environment.

Random Factors Mancke (1974) has put forward the hypothesis that higher profitability by some firms may be the reflection of ex post performance in light of successful ex ante uncertain investments. Although Mancke's hypothesis was criticized by certain industrial organization economists (Caves et al 1977), one would be inclined to agree that stochastic factors are important and must account for some of the profitability differences observed, given that risk and uncertainty are important elements in most business decisions. Philips (1971) has documented a number of cases where some firms were able to become more profitable through successful innovation and grow faster than other firms. Ijiri and Simon (1977) and Yannopoulos (1984) have found evidence of stochastic growth factors in a larger number of industries.

The efforts of business managers that could affect the market share as per the Laureen Regan (1998) include, among others, the following major points: Advertising is designed to generate market share for a firm. Thus, advertising should be an important determinant of market share. Advertising expenditures are likely to be more important for direct writer insurers because these investments cannot be expropriated at the agency level.

In a competitive market, market share should also be influenced by price. One measure of the price of an insurance product is the inverse of the loss ratio. Premiums are received by the insurer in exchange for the promise to pay future losses arising under the contract. Therefore, the Premium-to-loss ratio measures the price relative to the value received and is expected to be inversely related to market share. However, since insurance products are not necessarily homogeneous within lines, it might be that a higher price reflects differences in the types of products being sold. Given this, it is possible that higher prices do not decrease market shares.

The firm's expense ratio is included to control for systematic differences in the relative acquisition costs on market shares. This is important if higher expense ratios result in significantly lower market shares for independent agency insurers. The expense ratio is measured as the ratio of underwriting expenses to premiums written net of reinsurance transactions.

The reputation of a firm may be an important factor in generating market share. Some personal and large commercial buyers will not purchase from a low-rated carrier. A dummy variable based on the firm's A.M. Best rating is included to account for the effect of differences in quality on insurer market share. The variable takes on a value of 1 if the firm is rated A+ by the A.M. Best Company, and 0 otherwise 8.

Also, most firms rely on access to reinsurance markets to underwrite certain types of business. A firm's reinsurance activity can affect its overall market share because reinsurance allows a firm to write more business than it could otherwise. This is controlled for by including a variable measuring reinsurance activity, the ratio of net to direct premiums written.

- Finally, it is likely that larger insurers have higher market shares in most lines of business compared to smaller insurers, all else equal. Several variables to control for firm size were considered, including assets and output measures such as premiums written or losses incurred. However, these are so highly correlated with market share, particularly for the personal lines of insurance in this study, that their use would introduce serious bias into the estimation. Therefore, the size effect is controlled for by including a dummy variable that is set equal to 1 if the insurer is identified as a national insurer and 0

otherwise. National insurers are those that are permitted to sell insurance in every contiguous state, on either an admitted or a no admitted basis 10.

- The main goal of leaders in large companies is to maximize the revenue and that the increase in sales will always continue, even at the expense of lower profits, in both the short and long-term (Baumol, 1959). Baumol hypothesizes that the firm tries to maximize sales to a profit constraint if the firm were a profit maximizing firm. There is still not a consensus on 'which came first; the firm growth or the profitability'. According to some theoretical arguments, growth affects profitability and profitability supports growth (Serap Coban 2014). Coban further argued that there is a statistically significant positive relation between current profits and current growth.

- In the neoclassical approach in order to maximize profits, firms need to reach an optimum scale. The growth of firm means to capture this optimal scale and it is assumed that it cannot grow any more beyond the optimal point. In this context, the neoclassical theory argues that large firms would be more profitable than smaller firms. According to Marris (1963), there is a strong relationship between a variety of resources of administrative positive benefits from the firm and size as the only observable parameter.

In general, there are both contrasting theoretical views and conflicting empirical evidence regarding how the market share growth–profitability relationship unfolds.

2.3. The Empirical Review of Literature

The first attempts to establish a relationship between market share and profitability, according to Scherer (1980), were made by industrial organization economists. The most comprehensive early attempts were studies conducted by Epstein (1934), Crum (1939), and Alexander (1949): all of these studies found a negative relationship between profitability and size. In a subsequent study, Stekler (1963) found that profit ratios declined with size for profitable firms, but profits increased with size for small and medium firms when all firms were included. Hall and Weiss (1967) found a positive relationship while Mancke (1974) and Whittington (1980) found no relationship between size and profitability.

The existence of a positive link between market share and profitability was not found in other studies, however. Whittington (1980) tested the relationship between size and profitability and found no relationship between the two variables. In another study, Schmalensee (1985) found a statistically significant but negligible quantitative market share effect. Mueller (1986) also found a positive link between market share and profitability using longitudinal data, but this relationship was weakened by the existence of concentration levels. Jacobson and Aaker (1985) tested for the existence of a market share effect using the PIMS data base. And they found a positive relationship between market share and profitability but this relationship disappeared or became negligible when lagged profit variables were included in the model. According to this study, although a direct relationship between market share and profitability may exist, it may be a spurious relationship and an indirect result of other variables such as quality of management which primarily determines profitability. Buzzell (1990) criticized Jacobson's approach of using one-year and two-year lagged return on investment as inappropriate. Hildebrandt and Buzzell (1991) used a structural equation model to analyze changes in profitability over 6-year periods, a time span more suitable for observing strategic changes in market position. They showed that increases in market share led to improvements in key cost components and in productivity, which in turn led to increases in profitability.

Other studies have also concluded that the market share effect is a modest or nonexistent one. Szymanski, Bharadwa and Varadarajan (1993) found that market share has a significant and positive effect on profitability. However, they have stated their finding that the estimated relationship is moderated by model specification, sample, and measurement factors, suggesting that third factors greatly diminish such a relationship. Specifically, they find that the market share effect on profits is diminished and becomes close to zero on average when firm-specific variables are included into the profit model. In their view, incorrect modeling decisions can have an important biasing effect on the estimate of the market share effect. Simon (2010) tested this relationship using absolute and relative market share. He found no significant correlation between the two factors.

Roper (1999) found that above average growth in sales and return on assets are only weakly related in the short term. These growth rates are completely dissipated in the long term. Small

firm performance depends strongly on strategy choice, highlighting the importance of choosing the correct strategy. The choice of a particular strategy will depend on the business current and anticipated environment and the capabilities, resources, aspiration, vision, and background and strategic orientation of managers. Short-term increase in growth has no impact on profitability. Growth promotion effects are unlikely to improve profits.

The most common explanation as to why market share leads to higher profitability are higher economies of scale and experience and market power (Buzzell 2004; Jacobson, 1988). Economies of scale provide larger firms with cost advantages (Demsetz 1993; Sharp et al. 2002). However, most studies indicate that economies of scale dissipate at a small percentage of the market. Demsetz (1973) postulated the efficiency hypothesis as a possible explanation of the market share effect. According to the efficiency hypothesis, market share is the consequence of efficiency rather than its cause. Differences in profitability among firms are due to higher efficiency. Efficient firms obtain large market share and earn high profits induce a causal association between size and profitability. Firms offering products that offer customers greater value enjoy gains in market share. Better managed firms that have a competitive advantage grow faster than rival firms. Firms with superior skill and foresight gain market share through lower prices or through better products. Caves and Porter (1977) and Woo and Cooper (1981, 1982) provide evidence that smaller-share competitors are equally or even more profitable than larger rivals.

Some researchers have advanced the arguments in favor of a U-shaped relationship between market share and profitability (Boon, Carroll and van Witteloostuijn 2004; Dobver and Caroll 2003; Porter 1980; Sheth and Sisodia 2002). Porter's (1980) rationale is that only small and large firms earn high profits because they can reap the benefits of either product differentiation which is associated with small size or cost advantage that is associated with large size respectively. Sheth and Sisodia (2002) theorized that there is an optimal industry structure consisting of three large generalists and numerous small specialists occupying various niches in the industry. Sheth and Sisodia (2002) argue that industries evolve toward a dynamic equilibrium in which existing and new firms are consolidated. In the absence of anticompetitive practices, or regulatory constraints, any given industry is expected to evolve toward an optimal structure in which there

are three full line generalists and numerous small specialists that occupy small niches. This line of thinking parallels research that shows the vast majority of industries are highly skewed in a way that there are a few large firms that dominate their industry while numerous small firms occupy small niches (Axtell, 2006; Yannopoulos 1984). Medium size firms, on the other hand, are at a disadvantage and are less profitable because they are stuck in the middle and they do not achieve any competitive advantages. Can, Ayca and Winsor (2010) found evidence that supports the U-shaped hypothesis. These results suggest that the relationship between market share and profitability may be non-monotonic.

The relationship between market share and profitability continues to be an important research issue in strategic management (Peter Yannopoulos 2012). Rumelt and Wensley (1980) argue that the observed association between market share and profitability is an empirical regularity that requires a theoretical explanation. There is a widely held belief that market share and profitability are strongly related (Buzzell and Gale 1987; Simon 2010). Research conducted in the 70s by Gale (1972), Shepherd (1972) and Buzzell, Gale and Sultan (1975) supported the hypothesis of a positive relationship between market share and profitability. Buzzell (2004) noted that the majority of studies on the topic find a linear positive relationship between market share and financial performance.

The view that market share and profitability are positively related has been challenged by a number of theorists at also the empirical level over the years. Abernathy and Hayes (1979) pointed out some of the limitations of using the experience curve as a strategic tool. Porter (1980) put forth arguments in favor of a U-shaped profit market share relationship. Similarly, Hambrick and MacMillan (1982) suggested that market share is more important for very small and very large firms. Woo and Cooper (1982) found that some low market share firms were successful and, thus, high profitability is not limited to large firms only. Jacobson and Aaker (1985) who tested this hypothesis found evidence that market share is important for very small firms but not for very large firms, suggesting that economies of scale might be an impediment to higher profitability for small firms. This finding is consistent with the argument that economies of scale exist but the relevant range applies only to very low market share businesses (Scherer 1980).

The first efforts in this kind of analysis used absolute size whereas most of the later efforts have been using market share or relative market share as the independent variable and as a measure of competitive strength. Among studies that used market share, Gale (1972) found a positive relationship between market share and profitability. This relationship was significantly greater when the industry was highly concentrated or industry growth was medium but no significant effect in cases of rapid industry growth. Shepherd (1972) also found a significant positive relationship between market share and profitability.

In a much discussed study using a stored large firms' data set called the PIMS database, Buzzell, Gale and Sultan (1975) found a positive link between market share and profitability. This article showed that, regardless of whether market share is defined by rank or percentage; there is a strong correlation between market share and profit margin. The PIMS data set revealed that a company with a market share of 40 percent will achieve a profit margin twice as high as the competitor with 10 percent of the market (Simon 2010). Therefore, the strategic implication of these findings is that firms should strive to achieve a higher market share in order to reap the advantages of higher economies of scale and experience. Underlying the concepts of economies of scale is that a company's cost position depends on its relative market share. The higher the relative market share the lower the company's unit costs are and the higher the profit margins. The most important question about the relationship is whether it represents a mere correlation or a true causal relationship (Ailawadi, Farris and Parry 1999).

In an inquiry of company's performance few scholars employed underwriting return based analysis of performance (Joseph Clander Jr. and Robert Flynn, 2005). The two together worked out/conducted/ a research on premium growth, underwriting return and segment analysis whereby the UWR (underwriting return) based measures of property and casualty quantification at unit level was utilized to help quantify the business unit level market segment growth, hold, harvest and abandon. Besides, this new measure (UWR) helps executives to use same at the business unit level to manage underwriting risk, and help quantify which market segment, to grow, hold, harvest and abandon that pertain to:

- Lines of insurance such as general liability, automobile liability, home owners' coverage, etc;

- Distribution channels such as direct marketing, brokerage marketing etc;
- Geographic regions or;
- Any combination thereof.

A group of scholars from different universities in Taiwan (Wei-Sin Hung, Hsien-Ching Chen, Yi-Chan Chung, Rong-Kwei Li and Chih-Hung Tsaiy) applied a profit level analysis to verify product mix (group of product lines supplied by company) impacts on net profit changes. This was actually in response to the major failure of traditional net profit analysis that categorizes profit impacting factors into four: sales price, material cost, sales volume and operating cost over-looking product mix. Besides, it was concluded that the profit level analysis can accurately examine the net profit changes between two operating periods.

Various theoretical analyses suggest why growth leads to higher profitability, Senderovitz et al (2016). In strategic management, growth has been seen as an approach to achieve competitive advantage and a way of increasing profitability (e.g. Cho and Pucik, 2005; Newbert, 2007). Economies of scale arguments imply that increasing production and/or sales generate higher profitability (e.g. Besanko et al., 2013). Market share and profitability relationship is an issue of empirical investigation for long. In examining same in light of scholarly evidence that market share and profitability may not be related directly but any observed relationship may be the result of a spurious correlation, U-shaped relationship proposed by Porter and others. Peter Yannopoulos (2012), however, found the presence of positive relationship between market share and profitability.

The market competition is getting stiffer among firms in response to which many organizations intend to define strategies to achieve maximum performance and greater profit. The market share, cost and sales growth is getting a management focus and academic attention in recent period. Zoe Ventoura-Neokosmid (2005) in an investigation of relationship between sales, market share and profitability concluded the presence of positive relationship between market share and profitability. Some studies indicate that firms with low market share are quite profitable (Woo, 1982, Schwalbach 1991). Moreover, a spurious correlation between market share and industry profitability was concluded by Jacobson (1988a), Rumelt and Wensley (1981) and Jacobson and Aaker (1985). Furthermore, the recent research finding shows a significant

positive relationship between market share and profitability. O'Regan Nicholas (2002) has shown that firms with increased market share are likely to have higher performance and in particular achieve enhanced financial performance, greater customer satisfaction and retention. Besides, earlier published research findings indicate the presence of a positive market share profitability association (Gale, 1972, Shepherd 1972).

Besides, in examining the relationship of sales growth and profitability of firms, Dickson Pastory and Janeth Patrick Swai (2013) in their finding revealed the presence of positive relationship between the two.

2.5. Research Gap

The major weaknesses of the studies on the relationship between market share and profitability is that they have relied primarily on evidence based on large firms (PIMS data base), giving rise to a serious sampling error (Szymanski, Bharadwa and Varadarajan 1993). It was further concluded that most of the evidence for the existence of the positive relationship between market share and profitability comes from the database (Faris and Moore 2004). The data base also includes mostly large business units or large diversified companies, while there is very little input from smaller companies. It is also known that the subjective nature of the PIMS database presents further problems and limits the validity of the results. A meta-analysis of these studies shows that its use has inflated estimates of the market share effect-profitability relationship (Szymanski, Bharadwa and Varadarajan 1993). In their study they used a large number of empirical studies about the market-share profitability relationship. They found that the PIMS sample of businesses is biased relative to the overall population of businesses, bringing into question PIMS-based findings. These limitations severely weaken the ability to generalize the PIMS results given that the sample is not representative of the total population of firms since the results are biased in ways that could affect the magnitude of the results (Anderson and Paine 1978). For this reason, Jacobson and Aaker (1985) suggested that researchers should use alternative to PIMS data bases.

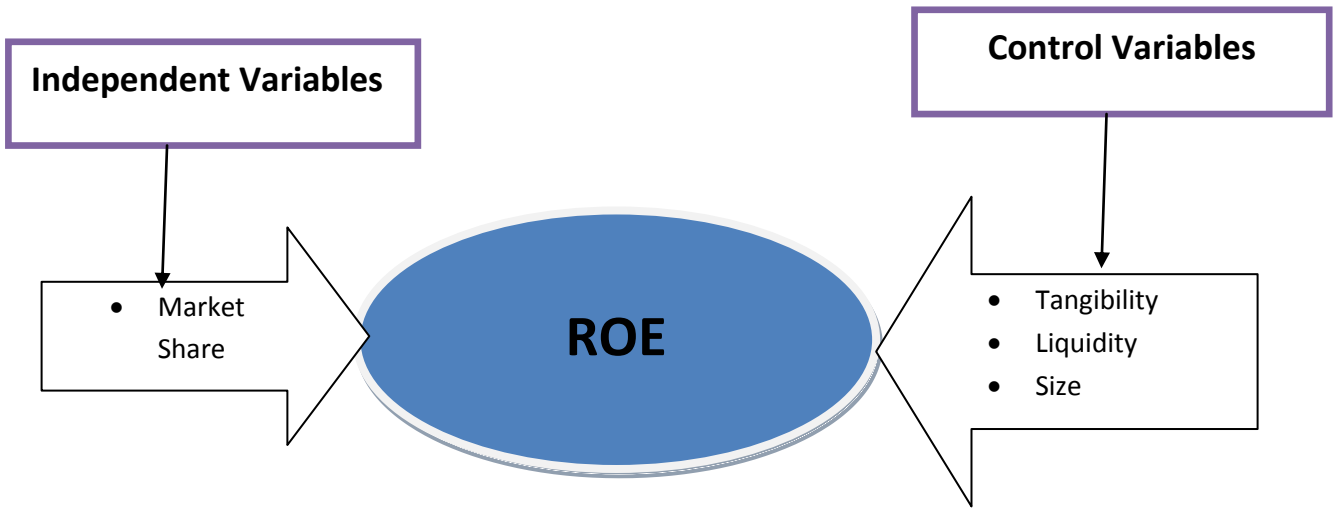
Another weakness of the data used is that they are drawn from a given period of time and as such, some of them may be historical accidents (Peter Yannopoulos 2012). The study done by

Mueller (1986) who found that market share and profitability are positively related, and that profits tend to persist either above or below average. The view that market share and profitability are positively related has been challenged by a number of theorists at both the empirical and theoretical level over the years. Abernathy and Hayes (1979) pointed out some of the limitations of using the experience curve as a strategic tool. Porter (1980) put forth arguments in favor of a U-shaped profit market share relationship. Similarly, Hambrick and MacMillan (1982) suggested that market share is more important for very small and very large firms.

Besides, the intention of many firms in Ethiopia is to raise the market share missing the major business interest of the company which is profit. The link between market share/increase in sales of firms to profit/contribution margin lacks a strong concern and measurement.

2.6. Conceptual Framework

The review of different literatures has shown that market share and profitability of firms are related though few oppose the findings. The current study used market share as the independent factor that affect profitability and few internal factors as a control variables (tangibility, company size and liquidity). The study was conceptualized from the point of view that these variables will someway determine the profitability of insurance company in Ethiopia. The relationship framework could be presented as follow:



Source: Researcher - design

CHAPTER THREE

METHODOLOGY OF THE STUDY

3.1. Research Approach

The study employed a quantitative research approach. Here the objective is to connect the overall conceptual research problems to the pertinent but achievable empirical research model. The regression model was employed to analyze the relationship between market share and profit. The research model is a type of inquiry within research methods or approaches that provide specific direction for procedures in a research process. It is called the strategies of inquiry (Denzin & Lincoln, 2011). The fixed and random effect model were used and the decision between the two model was tested using Hausman test where the finding support the fixed effect model over random effect to analyze the panel data in use.

The study intends to assess the relationship between market share and profitability. The relationship function of the variables was taken from previous studies (e.g. Buzzell, Gale and Sultan, 1975) stated as the relative measures of market share and return on equity. The model was then estimated using fixed effect regression. The model included all firms in the sample. The purpose of the model is to test the effect of market share on profitability.

3.2. Population and Sampling Procedures

The target/total population for the firms in the industry comprises 17 insurers. The purposive sampling techniques were utilized whereby 9 firms, those in operation for more than ten years, were taken for this current study. This was done with a perception that only through this method one can be able to find adequate panel data as the industry is infant and very few firms were in operation before a decade. The sample size considered was believed to be adequate as the firms considered in same accounts for more than half a population with a yearly performance data taken across the nine business entities over ten-year period (90 yearly observations).

As the study employed quantitative research approach, the longitudinal cross-section (panel) data on profit and market share of firms were collected from the National Bank of Ethiopia. This was taken from the revenue accounts and balance sheet statement of the individual companies' organized by NBE. Adequate longitudinal data was considered for relationship analysis of such type (i.e., the firm/industry level micro analysis) to have adequate time span to incorporate some strategic changes (Hildebrandt and Buzzell 1991) where many literatures reviewed on average considered 7 to 10 years data for similar analysis. Therefore, ten years data was collected and considered for the study under consideration.

3.3. Source of Data

The study is primarily based on secondary data collected from the summary of financial reports from the national bank of Ethiopia. The summary of statistical data on annual companies' financial reports (statements) of balance sheet, income, and revenue accounts were the category of data accessed for the purpose of current investigation. The data were used for arriving at dependent variable ROE, independent variable Market Share and few control variables Company Size, Liquidity and Tangibility as per incorporated in the model for running regression and correlation analysis.

3.4. Statistical Tools, Data Analysis and Interpretation

The research employed regression analysis to identify on the effect market share and profit. The panel data was collected from the NBE's report and has been further arranged and the intended trend values have been calculated appropriately to make meaning out of them and apply statistical tools for the detailed analysis. The Hausman test was conducted to select from the two models (to decide between random and fixed effect models). The analysis was conducted using statistical software package called **STATA** to conduct the relationship analysis and to test the statistical significance of the results (coefficients). The data was appropriately keyed into and/or entered into STATA for analysis and statistical significance test. To arrive at the intended result, the data was analyzed and tested through statistical tools (STATA) whereby several sets of statistical analysis were performed. Thereafter, the outputs from the statistical analyses were interpreted and used to draw conclusions and recommendations.

3.5. Definitions and measurement of Variables

3.5.1. Dependent variable

The dependent variable considered in this study is return on equity (ROE). This was in response to the reality that the most commonly used profitability ratios are net profit margin, return on assets (ROA) and return on equity (ROE). The return on total equity (ROE) ratio is a commonly used method of quantifying financial performance. It emphasizes on the company's ability to efficiently use its equity (Maria, 2014).

Therefore, this study has attempted to measure profitability by using ROE similar to most of the aforementioned researchers. ROE = Net profit before tax / Total Equity

3.5.2. Independent variables

The firms' relative market share was considered as an explanatory/independent variable. The market share concept was briefly explained in the literature as it is a relative measure of companies' revenue with that of industry total performance. It is a ratio o firms' annual sales revenue to that of industry.

3.5.3. Control Variables

These are control variables purposely incorporated in the model to the model estimation results. The variables include liquidity, tangibility and firm size which are explained as follows:

- **Liquidity:** the liquidity ratio measures the firm's ability to use its near cash or quick assets to retire its liabilities. Liquidity Ratio = Current Assets / Current Liabilities.
- **Company size:** is computed as logarithm of total assets of the insurance company.
- **Tangibility:** Is a ratio of fixed assets to total assets.

3.6. HYPOTHESIS and Model Specification

- **Market Share and Profitability have not significant relationship.**
- **Market share does not have significant effect on Profitability of Private Insurance Companies.**

Regression model: $ROE_{it} = \alpha + \beta 1\ MS_{it} + Ln\beta 2\ Size_{it} + \beta 3\ Liq_{it} + \beta 4 Tang_{it} + \varepsilon$

(Source: Hifza Malik, 2011 and Peter Yannopoulos (2012)

Where:

- ROE is return on equity,
- MS is relative market share
- Lnβ2 Size is company size
- Liq is liquidity
- Tang is tangibility and
- β are parameters to be estimated, ε is the stochastic error term

The equation was fitted on a sample size of 9 firms. The parameters were estimated by means of ordinary least squares.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSIONS ON RESULTS AND SUMMARY OF MAJOR FINDINGS

4.1. Introduction

The chapter presents a brief description of data through descriptive statistics. This chapter also gives highlights on correlation and regression results and further discussions on same. The results of statistical analysis are presented as follows:

4.2. Descriptive Statistics

The table below highlights on the summary of the descriptive statistics of the dependent and independent variables for nine insurance companies over a period of ten years from 2005-2014 with a total of 90 observations. The important statistical figures like mean, maximum, minimum and standard deviation value were depicted in the table.

Table 1: Summary of Statistics on Firms

Variable |	Obs	Mean	Std. Dev.	Min	Max
MS |	90	.1111111	.1244789	.0115501	.5152821
ROE |	90	2.135524	.9194337	.661138	5.655021
Liq |	90	1.027582	.2508937	.5430824	2.306164
Tang |	90	.1810731	.1103897	.0262579	.5416532
lsize |	90	19.13064	1.014421	16.95413	21.55226

For the nine companies considered over ten years, the summary statistics was depicted in the table above. Accordingly, the mean, standard deviation, the minimum and maximum values of observations were clearly presented in the table.

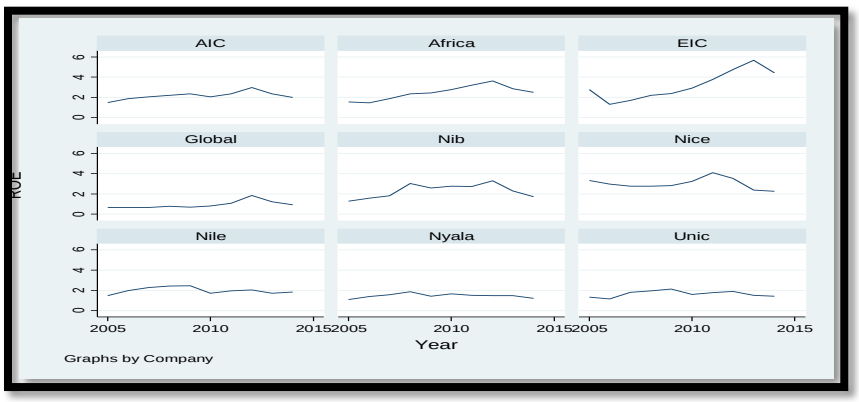
The market was observed to be characterized by high variation of market share among firms. A single firm took about 50% of the market while the firm that took least goes down to only 1% even far below the average market-share (11%). The market share deviates from its mean by 12% which indicates the presence high disparity among firms.

As indicated in table above, the profitability measures (ROE) shows that Ethiopian insurance companies have achieved on average a positive profit before tax over the last ten years. For the sample considered in this study, the mean of ROE was 2.13 with a maximum of 5.7 and a minimum of 0.66. This implies that the most profitable insurance firm earned profit before tax of 5.7birr for a single birr invested in the owners' equity (capital). On the other hand, the least profitable firm in the sample insurance companies earns 66cents of profit before tax for each birr invested in the owners' equity. This simply shows the disparity of rates of return earned by insurance companies in Ethiopia based on the sample considered.

Liquidity measures the ability of insurance companies to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. The average value of the liquidity measured by current ratio was 103% that was far below the NBE requirement of 150% which showed the sector was operating at a low current ratio position during the study period. The average value 1.03 indicates that for each one birr current liability there was 1.03 birr current asset to meet obligation. The maximum value and the minimum value was 2.3 and 0.54 respectively for the study period. The value of standard deviation (i.e. 0.25) indicates high dispersion from the mean value of liquidity in the case of Ethiopia insurance companies.

Further, to check the size of the insurance company and its relationship with profitability, logarithm of total asset is used as proxy. The mean of the logarithm of total assets was 19.13. Size of insurance companies was highly dispersed from its mean value (i.e. 19.13) with the standard deviation of 1.01. The maximum and minimum values were 21.55 and 16.95 respectively.

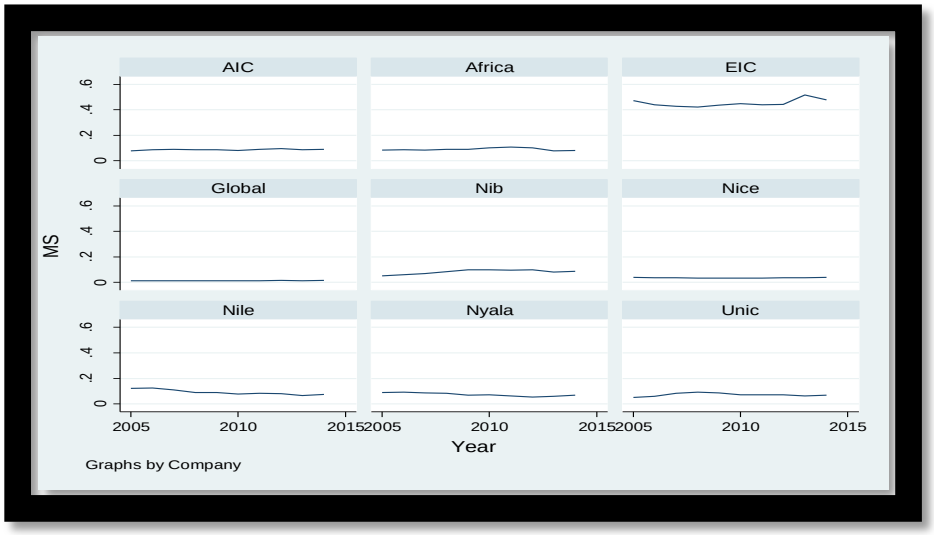
Graph 1: The Individual Companies' Line Graph of ROE over Years



The graph depicted above indicates that the ROE of companies were found increasing on average. For few firms, the ROE over time has indicated sign of increase and few have approximately stable ROE. The firms like AIC, Africa, EIC and Global are have the rising trend of ROE on average for the period considered. While companies like Nile, Nyala and Unic have registered almost a constant ROE over the period considered on average.

Unlike the ROE of the firms, the market share of some companies has shown a sign of stability on average for the period considered (e.g. Global, Nice, AIC and Africa). However, firms like Nile, Nyala and Unic has shown a declining trend in their market share over the period considered. The further on this can be inferred from the graph depicted below.

Graph 2: The Individual Companies' Line Graph of MS over Years



4.3. Results and Discussions

In the descriptive analysis subtopic few characteristics on data observed was presented in the form of chart and table. This implies that the trend data was considered and their yearly changes were understood for the next relationship analysis. In this subtopic of the chapter, the relationship analysis and discussions on results will be considered. The major focus is to test the effect of market share on the profitability of insurers. The random effect and fixed effect models were considered to test the relationship. But the proper model decision between the two was made through running Hausman test. The test of the results and interpretation of coefficients were also focused on similar pair of relationship. The sign of the association determines whether

the relationship is positive or negative while the magnitude of the correlation coefficient determines the strength of the relationship.

4.3.1. Correlation Analysis on the Relationship between *MS and ROE*

The hypothetical assumption to be tested under this is that market share has no significant relationship with firms' profitability against the alternative hypothesis that firms' market share and profitability are significantly correlated.

In the presence of significant correlation, this analysis was considered to have the understanding on the direction and strength of the association between MS and ROE. The significance of the association was also tested and the results of the analysis are presented in the following two tables.

Table 2: The Pair Wise Correlation Result between MS and ROE

pwcorr ROE MS Liq Tang lsize					
	ROE	MS	Liq	Tang	lsize
ROE	1.0000				
MS	0.4766	1.0000			
Liq	-0.4225	-0.0296	1.0000		
Tang	-0.3476	-0.3984	-0.2379	1.0000	
lsize	0.4493	0.7031	-0.2069	-0.3645	1.0000

From the correlation result table depicted above we can observe that there is a positive association between MS and ROE that means as MS increases the ROE have a high tendency of increasing. The Pearson correlation coefficients identified above can also be used to test the existence of multicollinearity problem among the independent variables in the regression model. Based on the magnitude of coefficients different scholars have put their say on the range of high multicollinearity. The presence of multiple independent variables with high correlation adds no additional information to the model (Suheyli Reshid, 2015). It also conceals the real impact of each variable on the dependent variable (Anderson et al., 2008). Hair et al. (2006) argued that correlation coefficient below 0.9 may not cause serious multicollinearity problem. In addition, Malhotra(2007) stated that multicollinearity problems exists when the correlation coefficient

among variables should be greater than 0.75. As such, it can be concluded that multicollinearity among the variables should not be the problem in the current analysis as the correlation coefficients depicted in the table above range below 0.75.

Besides, correlation is a way to index the degree to which two or more variables are associated with each other. The most widely used pair wise correlation statistics is the Pearson product-movement coefficient, commonly called the Pearson correlation which was opted for in this study.

According to Brooks (2008), y and x are correlated means that y and x are being treated in a completely symmetrical way. This means that the changes in x will not cause changes in y, or indeed that changes in y will not cause changes in x, rather, it is simply means there is evidence for a linear relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient.

The significance of the association can be also inferred from the following table.

Table 3: Correlation Coefficients' Significance Test Result

. pwcorr ROE MS Liq Tang lsize, star(0.05) sig				
|	ROE	MS	Liq	Tang	lsize
ROE |	1.0000				
MS |	0.4766*	1.0000			
|	0.0000				
Liq |	-0.4225*	-0.0296	1.0000		
|	0.0000	0.7816			
Tang |	-0.3476*	-0.3984*	-0.2379*	1.0000	
|	0.0008	0.0001	0.0239		
lsize |	0.4493*	0.7031*	-0.2069	-0.3645*	1.0000
|	0.0000	0.0000	0.0504	0.0004	

The correlation coefficients on the presence of positive association between MS and ROE were also found to be significant at 0.05 levels or 99% confidence level. The star sign indicates the statistically significant coefficients of correlation in the table above. As such we prefer to reject the null hypothesis that states absence of significant correlation among the two variables and

accept the alternative hypothesis. The insurance companies' profit performance has a significant mixed relationship with variable considered in the correlation model. The variables under column ROE indicated by star sign indicates variables having significant relationship with ROE (profitability).

The implications of significant coefficients in the correlation matrix above indicates that market share and company size have positive relationship with companies' profitability. This means as the two variables increases the profitability of the companies' also increases. The remaining two variables were found to have the reverse relationship with companies' profitability which means as these two variables value increases the profitability of the companies tend to decline.

4.3.2. Regression Analysis

In this section the empirical findings from the regression outputs on variables considered in the model to impact the firms' profitability in the Ethiopian insurance industry will be presented. The main focus is the regression results between the dependent variable (ROE) and relative market share. But, few additional explanatory variables effect on profitability and commonly employed by previous researchers were considered in the model to serve as a control variables. From the regression outputs it is common to find the beta coefficient to be negative or positive. The beta values indicate the level of each variable's influence on the dependent variable. P-value indicates at what percentage or precession level of each variable is significant. The R-squared value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008).

4.3.2.1. Model Selection (Decision between FE and RE)

There are two commonly known panel estimator approaches that can be employed in research. These are fixed effects models (FEM) and random effects models (REM) (Brooks, 2008). The choice between both approaches is done by running a Hausman test. To conduct a Hausman test the number of cross section should be greater than the number of coefficients to be estimated. In this study the numbers of cross section are greater than the number of coefficients to be estimated which makes it possible to conduct a Hausman test. The Hausman test is the standard procedure used in empirical panel data analysis in order to discriminate between the fixed effects and random effects model (Raymond O'Brien and Eleonora Patacchini, 2006).

According to Brooks (2008) and Wooldridge (2006), it is often said that the REM is more appropriate when the entities in the sample can be thought of having been randomly selected from the population, but a FEM is more plausible when the entities in the sample effectively constitute the entire population/sample frame. Hence, the sample for this study was not selected randomly.

The decision between random effects and fixed effects could be identified by running Hausman test where the null hypothesis is that the preferred model is random effects vis-à-vis the alternative fixed effects (Green 2008). This tests whether the unique errors (ui) are correlated with the regressors or not.

Accordingly, this model tests the null hypothesis that:

Ho: the coefficients estimated by efficient random effects estimator are the same as the ones estimated by consistent fixed effects estimator. The insignificant p-value (larger than 0.05) supports the decision to use random effects model.

Table 4: The table below presents a result of Hausman test.

. hausman fixed random				
	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
MS	21.74749	2.488358	19.25913	3.593195
Liq	-.8511797	-1.813581	.9624014	.1360136
Tang	-.5931143	-2.795654	2.202539	.5956686
lsize	.2571959	-.0111415	.2683374	.
b = consistent under Ho and Ha; obtained from xtreg				
B = inconsistent under Ha, efficient under Ho; obtained from xtreg				
Test: Ho: difference in coefficients not systematic				
chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)				
= 20.97				
Prob>chi2 = 0.0003				
(V_b-V_B is not positive definite)				

Interpreting Hausman test result is straightforward that if the p-value is small (less than 0.05), we reject the null hypothesis which states that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effect estimator

(Chmelarova, 2007, James H. Stock and Mark W. Watson, 2003). In this regard, the test gives a significant p-value in that fixed effect model is preferred over random effect model.

4.2.3.2. Some Tests of Classical Linear Regression Model Assumptions

This section presents the test for the assumptions of classical linear regression model namely the error have zero mean and free of hetroskedasity, autocorrelation and multicollinearity problems. The errors have zero mean (E(ut) = 0). According to Brooks (2008), if a constant term is included in the regression equation, this assumption will never be violated. Thus, since the regression model used in this study included a constant term, this assumption was not violated.

Homoscedasticity (variance of the errors is constant (Var (ut) = $\sigma 2 < \infty$). This assumption requires that the variance of the errors to be constant. If the errors do not have a constant variance, it is said that the assumption of homoscedasticity has been violated. This violation is termed as heteroscedasticity.

The test for autocorrelation and heteroskedasticity in the panel data has shown a significance presence of both in the panel data considered. The Wooldridge test for autocorrelation and the modified Wald test for group-wise heteroskedasticity in the fixed effect regression model were run and the result on same was presented in table.

Table 5: Panel Data Test for Heteroskedasticity and Autocorrelation problem

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: sigma(i)^2 = sigma^2 for all i
chi2 (9) = 45.01
Prob>chi2 = 0.0000
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F(1, 8) = 77.392
Prob > F = 0.0000

The result of both test on heteroskedasticity and autocorrelation depicted in the table above has shown that there is a significant presence of both in the panel data considered. As such we failed to accept the null hypothesis that there is heteroskedasticity and serial correlation problem in the panel data.

The heteroskedastic and serial correlated regression model can be corrected through FGLS, PCSEs and WLS regression (Takashi Yamano and Fall Semester, 2009). Besides, the model improvement by introducing the constant term can be employed to reduce the effect of both. Accordingly, both methods (approaches) of minimizing the effect of serial correlation and heteroscedaticity which means using modified and problem consistent models of regression analysis were utilized. The output is presented in the following table.

Table 6: Effect of Market Share on Profitability (Using Modified Reg Model)

Source |	SS	df	MS	Number of obs =	90
Model |	88.9599681	3	29.6533227	Prob > F =	0.0000
Residual |	36.1439388	86	.420278359	R-squared =	0.7111
----------+				Adj R-squared =	0.7010
Total |	125.103907	89	1.40566188	Root MSE =	.64829
ROE_star |	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
----------+					
MS_star |	2.745167	.6341817	4.33	0.000	1.484455 4.005878
constant_star |	5.475898	.4879286	11.22	0.000	4.505928 6.445868
Tang_star |	-3.512599	.7150043	-4.91	0.000	-4.93398 -2.091217
_cons |	-2.950407	.3966237	-7.44	0.000	-3.738868 -2.161945

It is clearly depicted in the table above that the model is fit (Prob>F=0), the total variation in the dependent variable, profit, is well explained by variables considered in the model (71%) and the variables considered significantly affect profitability as p-value of coefficients approximately equals zero. The insignificant variable, company size, was excluded from the model. The market share and liquidity were found to affect the profit of insurance companies positively while tangibility affects the profit performance of firms negatively. The unit increase in market share

increases profit by 2.7. As liquidity increases by one unit, the profit level increases by 5.5 while a unit increases in tangibility decreases profit by 3.5.

The modified model of regression resulted in the above output through the introduction of constant term was tested for multicollinearity and heteroskedasticity. The result on same was presented in the table below.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROE_star

chi2(1) = 3.46

Prob > chi2 = 0.0629

As previously mentioned, the OLS assumes constant variance of error term. Breusch-Pagan / Cook-Weisberg test for heteroskedasticity was employed to test the null hypothesis that states the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables (Richard Williams, 2015). The alternative hypothesis states that the error variance increases or decreases as the value of predicted dependent variable increases or decreases. The larger value of chi2 indicates the presence of heteroskedasticity in the model. The test above indicates that the value of chi2 is small indicating that heteroskedasticity is not a problem.

The result from Breusch-Pagan / Cook-Weisberg test for heteroskedasticity shows that the problem of heteroskedasticity in the model has been solved and the model is free of heteroskedasticity problem. The p-value of ch2 test was insignificant (greater than 0.05) standing in support of absence of heteroskedasticity problem.

The table below indicates the test result for multicollinearity problem in the regression model.

Variable	VIF	1/VIF
Tang_star	2.36	0.424628
constant_s~r	2.23	0.448091
MS_star	1.20	0.830875
Mean VIF	1.93	

In the above table, there were no variables suspected for causing multicollinearity problem in the model since their tolerance values are greater than 0.1 or VIFs are less than 10. The value of 1/VIF shows the tolerance value. The variance inflation factor (VIF) is the reciprocal of the tolerance value, thus low tolerance corresponds to high VIF. The high value of VIF implies how multicollinearity has increased instability of the coefficients of estimates (Freund and Littell, 2008). To put it differently, the VIF tells how 'inflated' the variance of the coefficients are, compared to what it would be if the variables were uncorrelated with any other variable in the model (Allison, 1999). There is an absence of formal criterion for determining the bottom line of the tolerance value or VIF. But, some argue that a tolerance value less than 0.1 or VIF greater than 10 roughly indicates significant presence of multicollinearity problem in the model (Jeshim and Kucc, 2003).

4.2.3.3. Effect of Market Share on ROE Using Other Models

This model is useful in analyzing impact of variables that vary over time. It is used to explore the relationship between predictor and outcome variable within an entity. Each entity may have its own individual characteristics (business practices) that may or may not influence the predictor variable. The fixed effect model is helpful in removing the effect of these time-invariant characteristics of firms and helps assess the net effect of the predictors on the outcome variable. It also assumes the unique characteristics of entities need to be excluded as entity's error term and the constant (which captures individual characteristics of firms) should not be correlated with others.

The table blow indicates the result on the relationship between firms' market share and their respective ROE. The option robust was included to control the heteroskedasticity. The model was found good as p_2 is approximately zero. The market share has significant effect on companies' profitability as the coefficients were found statistically significant. The aggregate effect of variables on profit was also found high as R-squared accounts for about 75% of the variation in ROE is explained by variation in those variables considered in the model. The following table presents the summary of same. The coefficients of relationship were found significant for variables and over company. The companies' market share and size found to positively and significantly affect profit performance while the remaining two (tangibility and liquidity) were found to affect profit negatively.

Table 7: Fixed Effect Model Regression Result on Effect of MS on ROE

. xtreg ROE MS Liq Tang lsize , fe robust						
Fixed-effects (within) regression					Number of obs =	90
Group variable: Company1					Number of groups =	9
R-sq: within = 0.4576					Obs per group: min =	10
between = 0.3812					avg =	10.0
overall = 0.2675					max =	10
					F(4,8) =	4.07
corr(u_i, Xb) = -0.9677					Prob > F =	0.0434
(Std. Err. adjusted for 9 clusters in Company1)						
|	Robust					
ROE |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
MS |	21.74749	6.556985	3.32	0.011	6.627056	36.86792
Liq |	-.8511797	.6933931	-1.23	0.255	-2.450147	.7477877
Tang |	-.5931143	1.428623	-0.42	0.689	-3.887524	2.701296
lsize |	.2571959	.1320692	1.95	0.087	-.0473562	.561748
_cons |	-4.219134	2.610992	-1.62	0.145	-10.24009	1.801823
sigma_u |	2.6862455					
sigma_e |	.48923879					
rho |	.96789458	(fraction of variance due to u_i)				

From the table above it can be observed that the error terms ui are correlated with the regressors in the fixed effects model (corr(u_i, Xb) = -0.9718). The rho (intraclass correlation) value depicted in the table above (0.96) indicates the variation in response to differences across panels. As such 96% of the variance is due to differences across panels. The t_value test indicates the insignificant coefficient of constant term and statistically significant coefficient of association. The coefficient is significant at 98% confidence level and the market share has significant impact on ROE and the t-value is also high (3).

The other way to estimate the fixed effects, the **areg** regression model can be used. This helps to hide the binary variables for each entity. The following tables have the detail on this.

Table 8: Fixed Effect Model Regression Result of Effect of MS on ROE using areg

. areg ROE MS Liq Tang lsize , absorb (Company1) robust						
Linear regression, absorbing indicators					Number of obs =	90
					F(4, 77) =	11.19
					Prob > F =	0.0000
					R-squared =	0.7550
					Adj R-squared =	0.7169
					Root MSE =	0.4892
	Robust					
ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
MS	21.74749	4.83967	4.49	0.000	12.11048	31.3845
Liq	-.8511797	.4254329	-2.00	0.049	-1.698325	-.0040345
Tang	-.5931143	.9140684	-0.65	0.518	-2.413257	1.227028
lsize	.2571959	.0929796	2.77	0.007	.0720499	.442342
_cons	-4.219134	1.837178	-2.30	0.024	-7.877422	-.5608455
Company1	absorbed			(9 categories)		

From the table above again we can conclude that the model is fit as $\boldsymbol{p}_f$ is approximately equal with zero. The ROE is well explained by market share as adjusted R-squared is above 75%

(amount of variance in ROE explained by MS) and the coefficient of relationship is statistically significant (p-value is less than 0.05).

The necessity of time fixed effect in running FE model can be observed by the joint test if the dummies for all years are equal to zero. If they are, it implies that time fixed effect is needed. The next table allows us to have further on this.

Table 9: Test Result for Time-Fixed Effect Test

xtreg ROE MS Liq Tang lsize i.Year , fe						
Fixed-effects (within) regression					Number of obs =	90
Group variable: Company1					Number of groups =	9
R-sq: within = 0.8367					Obs per group: min =	10
between = 0.3322					avg =	10.0
overall = 0.2842					max =	10
					F(13,68) =	26.80
corr(u_i, Xb) = -0.9612					Prob > F =	0.0000
ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
MS	34.07948	2.463101	13.84	0.000	29.16444	38.99452
Liq	-.0738694	.2226261	-0.33	0.741	-.5181128	.370374
Tang	.0305358	.578866	0.05	0.958	-1.124573	1.185645
lsize	1.82612	.2140116	-8.53	0.000	-2.253173	-1.399066
Year						
2006	.3530518	.1428519	2.47	0.016	.0679953	.6381084
2007	.8632035	.1581291	5.46	0.000	.5476618	1.178745
2008	1.472108	.1860062	7.91	0.000	1.100938	1.843277
2009	1.713493	.2083705	8.22	0.000	1.297696	2.12929
2010	2.107219	.239022	8.82	0.000	1.630258	2.58418
2011	2.833527	.2771583	10.22	0.000	2.280466	3.386588
2012	3.795023	.3439822	11.03	0.000	3.108617	4.481429
2013	3.718944	.3807577	9.77	0.000	2.959154	4.478734
2014	3.641435	.41128	8.85	0.000	2.820739	4.462132
_cons	31.30434	3.773964	8.29	0.000	23.77351	38.83517
sigma_u	2.816763					
sigma_e	.28566985					
rho	.98981915	(fraction of variance due to u_i)				
F test that all u_i=0: F(8, 68) = 30.11					Prob > F = 0.0000	

From the table above it is clear that the coefficients of all years are jointly different from zero and besides the time fixed effects are needed. Thus we reject the null hypothesis because of the presence of statistically significant time-fixed effect coefficients (Prob > F = 0.0000).

Table 10: Robust Standard Error Estimate using FGLS

xtgls ROE MS Liq Tang lsize, panels(hetero) corr(ar1)

Cross-sectional time-series FGLS regression

Coefficients: generalized least squares

Panels: heteroskedastic

Correlation: common AR(1) coefficient for all panels (0.6086)

Estimated covariances = 9 Number of obs = 90

Estimated autocorrelations = 1 Number of groups = 9

Estimated coefficients = 5 Time periods = 10

Wald chi2(4) = 47.88

Prob > chi2 = 0.0000

ROE |	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
MS |	4.106306	1.376082	2.98	0.003	1.409235	6.803377
Liq |	-1.130047	.2585766	-4.37	0.000	-1.636848	-.6232461
Tang |	-1.786861	.6561294	-2.72	0.006	-3.072851	-.5008711
lsize |	.0801928	.0984881	0.81	0.416	-.1128403	.2732258
_cons |	1.454542	1.95485	0.74	0.457	-2.376893	5.285977

The model was fit and the coefficients were statistically significant that the problems regarding heteroscedasticity and serial correlation in the panel data were properly detected.

In an account for heteroskedasticity as well as for temporal and spatial dependence in the residuals of time-series cross-section models, Parks (1967) proposes a feasible generalized least-squares (FGLS) based algorithm that Kmenta (1986) made popular. The problem with this model, however, is that it tends to produce unacceptably small standard error estimates (Beck and Katz, 1995). To mitigate the problems of the Parks-Kmenta method, Beck and Katz (1995) suggest relying on OLS coefficient estimates with panel-corrected standard errors (PCSEs). The following table has a regression result on this.

Table 11: Coefficient Estimate using Weighted Least Square Estimate

reg ROE MS Liq Tang lsize, noc						
Source |	SS	df	MS		Number of obs =	90
Model |	444.616903	4	111.154226		Prob > F =	0.0000
Residual |	41.0615313	86	.477459666		R-squared =	0.9155
----------+----------					Adj R-squared =	0.9115
Total |	485.678435	90	5.39642705		Root MSE =	.69098
ROE |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
MS |	1.482336	.6954082	2.13	0.036	.0999106	2.864762
Liq |	-1.510906	.2831045	-5.34	0.000	-2.073699	-.948113
Tang |	-2.282965	.7281292	-3.14	0.002	-3.730437	-.8354917
lsize |	.2055226	.0200992	10.23	0.000	.1655669	.2454784

The model is fit and the aggregate relationship was well explained by this model.

Market Share: This study examined the relationship between market share and profitability of the insurance sector in Ethiopia. The dependent variable in the regression model is profitability while the independent variables are market share, size, tangibility, and liquidity. The results of the study revealed that market share has positive relationship with profitability of the insurance sector in Ethiopia. This finding agrees with many previous research findings (**Lyndon M. Etale et al, 2016).** The previous research finding on the rationale behind the positive market share and profit relationship indicated, among others, the following major points:

- The presence of market power advantages. Market power is present when a firm is able to raise its prices or offer inferior products because its rivals are not able to offer customers a reasonable alternative (Jacobson, 1988). Therefore, it is now obvious that market power would enable a company to make higher profits as they are able to charge a premium for their products.
- There will be signal of product quality. The higher the market share the better be the level of customer confidence on product supplied by the company in an environment of uncertainty and imperfect information about product performance. As a result, these products are able to command high prices and therefore receive higher returns (Jacobson, 1988).

- The rationale most commonly given to explain the association is that higher market share enables companies to utilize economies of scale to reduce costs and give companies market power (Jacobson, 1988). Jacobson and Aaker (1985); Rumelt and Wensley (1981) and Buzzel *et al.* (1975) also identified possible reasons why larger market share leads to higher profitability.
- The contribution theory could be traced to the works of Weetman (2006) he posited that beyond the break-even point of a business entity the sales of further units of products as a result of the business strategy adopted would make a contribution to profit.

Tangibility: is defined as the ratio of fixed assets to total assets. From the regression coefficients in the table above insurance firms' profitability is negatively related to tangibility. This implies that as the ratio of fixed asset to total asset increases, the profitability of firms tend to decline. By this inverse significant relationship, a percentage change in tangibility will have significant effect on insurance firm's profitability. All other things being equal any change in fixed assets will affect total assets and this might decrease the level of profitability (Eric Kofi Boadi et al, 2012). This may be because of the presence of asset that can be used for more than one accounting year to generate revenue. Insurance firms have fixed assets to generate profit over a long period while profit is short term/fiscal performance.

Liquidity: Liquidity has been defined in the model as the ratio of current assets to current liabilities. According to the regression output depicted in the table above, the insurance firm's current assets to current liability ratio affects profit significantly. The regression results in this research indicate that the relation between liquidity and profitability is negative and significant at 5% significance level (p-value= 0.000). This result implies that more liquid insurance companies' have lower profitability. However the introduction of constant term in the model has changed the implication to positive. All other things held constant, if current assets pay insurance firm's current liabilities, it will have direct significant impact on profitability. This may be because of its influence on the firms' periodic expense ratio. The current study is consistent with the previous empirical findings; (Amal, 2012 and Chen & Wong, 2004).They suggested that the insurance companies should increase the current assets and decrease current liabilities because, companies with a lower level of liquidity will have more cash constraints and will have more difficulties in repaying to policyholders when loss occurred.

In general, the research employed regression and correlation analysis in an effort to assess the relationship between market share and return on equity. The regression analysis of the relationship between the variables considered was opted among two models between fixed effect and random effect regression. The Hausman test was employed to decide in between the two models where the findings of the test supported fixed effect model. The model was tested against two hypotheses:

- **H0:P=0 Error terms are not correlated with regressors**
- **H0:P#0 There is a correlation between error terms and regressors**

The null hypothesis implies the preferred model is random effect over the alternative model of fixed effect (Green 2008).

The efficient fixed effect regression model was considered with Driscoll and Kraay standard errors Daniel Hoechle (2007). These standard errors are heteroskedasticity consistent and robust to general forms of cross-sectional (spatial) and temporal dependence. Accordingly, FGLS and WLS estimation models were utilized for the proper fixed effect test of variables relationship.

The correction for heteroscedasticity and serial correlation in the panel data was correct before running regression. This was made possible by running xtgls model. The model was found fit and the coefficient was statistically significant. The implication is that the market share has a significant impact on profit. Other things remained constant; a unit increase in market share will bring a positive increase in profit.

The fixed effect regression model employed to assess the relationship between MS and ROE at firm level has indicated that there is a significant market share impact on profit at industry and firm level. The robust regression option was incorporated to detect the problem of heteroscedasticity. Other variables tested to impact profit in previous literatures were also incorporated as control variables where R-squared was found good stating that 91% of total variation in profit is explained by variation in market share, liquidity, company size and tangibility. The f probability was also minimal (zero) implying that model is fit and significant.

The higher the t values and/or the lower the p(t), the better will be the significance of the coefficients.

The firm level result of market share impact on profit varies across firms. The extremely high market share has contributed to the negative market share and profit relationship. This can be supported by previous finding that states market share may not only contribute to profitability beyond a certain size but it may be detrimental as well. Firms with market shares larger than 40% lose their advantages from scale and scope and experience diminished performance (Geroski 1987; Sheth and Sisodia 2002).

Differences in profitability among firms are due to higher efficiency. Firms with superior skill and foresight gain market share through lower prices or through better products. Caves and Porter (1977) and Woo and Cooper (1981, 1982) provide evidence that smaller-share competitors are equally or even more profitable than larger rivals.

The correlation coefficients on the presence of positive association between MS and ROE were also found too significant at 0.05 level or 99% confidence level. The t value or p(t) indicates the statistically significant coefficients of correlation in the correlation matrix.

From the correlation result table we have observed that there is a positive strong association between MS and ROE that means as MS increases the ROE too has high tendency of increasing. The significance of the association can be also inferred from the table.

4.4. Summary of Major Findings

The correlation analysis has indicated that there is a significant positive relationship between market share and profitability of insurance companies in Ethiopia. The presence of such significant and strong positive association between MS and ROE implies that as the market shares of insurance firms in Ethiopia increases then the respective profit of firms will also increases.

The regression analysis conducted and results presented in the previous sub-topics indicate that the insurance firms in Ethiopia could be benefited from an increase in their respective relative market share. The companies' profitability was found to be strongly and significantly affected by the independent variable (market share). The statistical tests of significance also assure same.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The objective of the study is to examine the effect of Ethiopia's insurance company's profitability proxied by ROE. The study used secondary data for the period of 2005-2014 and over the sample size of 9 insurance companies. The variables tested in this paper are market share, size, liquidity, and tangibility. Descriptive statistics and multiple regression analysis were performed to describe the profitability of insurance companies.

The findings of this study contribute towards a better understanding of financing performance in insurance companies. ROE and four variables that represent market share, size of the company, liquidity, and tangibility were developed to test which factor best explains profitability of insurance companies. The regression test result shows that there is significant positive impact of market share and company size on profit while tangibility and liquidity were found to impact profit negatively in Ethiopia. Eric Kofi Boadi et al (2013) found similar result on the effect of tangibility on profit for insurance companies in Ghana.

The manager's perception and learnt attitude from earlier research findings, consultants, and superiors that high market share is associated with high profitability is assured by this study. According to economies of scale and experience theory, a firm's cost position depends on its market share. The larger the market share, the lower the business unit's cost when compared to the competition and the higher the profitability. The Boston Consulting Group, using relative market share as a measure of business strength, also contributed to such beliefs.

The results obtained in this paper support the market share profitability hypothesis and stands in favor of previous findings in this regard (that means those who justify the presence of relationship between market share and ROE).

The fixed effect model was identified fitting for the test. The magnitude of regression coefficients was both higher and statistically significant as well as the explanatory power of the model improved. These results add to the challenge prevailing in the scholarly works that market share and profitability are related. The proposed market share effect was present in the sample of Ethiopian firms examined in the present study.

The implication of the present study is that the value of market share as a contributing factor towards higher profitability is right. The present study has also provided support to the argument that quality of management as well as other firm and non-firm specific factors is important in an effort to improve the financial performance of the insurance industry in general and firms in particular. Thus the devotion of resources towards improved market share and unique (entity specific characteristics) will improve profitability. The management devotion of effort in the proper spent of its scarce resources towards improving the effectiveness of its practices and raising market share with a rationale of improving their profitability from the improved market share and practices will have a positive impact on profitability in this regard.

The firms' performance, therefore, is partly dependent on market share, the beginning competitive position of a business unit, and the strategies adopted by the business' managers during the period (Buzzell, Robert (2004) and others. Simon (2010) argues that there is a good and bad relationship between market share and profitability. According to Simon, good market shares are earned by superior performance, innovation, quality, and excellent service among others. Market leadership is not attained by price reductions that destroy margins but by maintaining or even increasing margins from providing superior value to customers. On the other side, bad market shares are achieved through price reductions and aggressive promotions to drive up volume without, at the same time, an aggressive effort to cut costs. Such efforts may succeed in the short term but are not sustainable in the long term. They lead to low profits and frequent losses because the costs are too high when compared with the prices offered or prices are too low compared with costs.

5.2. Recommendations

Based on the findings of the research the following recommendations were offered:

- The quality of the market share should be given an attention not to offset the positive market share impact on profit through the high cost incurred in an effort to realize improved market. Simon (2010).
    - ✓ Firms need to control their expense ratio relative to an effort to raise market share.
- Individual firms need to develop and improve a successful practice to gain market shares with superior performance by being the best in technology, service, innovation, quality, and by lowering costs. High quality organizations may earn a 10%-15% price premium (Simon 2010).
    - ✓ Price reduction with an objective to raise market share should not be given high attention as there is the possibility that higher prices do not decrease market share (Regan, 1998).
    - ✓ Advertizing is considered as an important determinant of market share in direct insurers like the insurance industry in Ethiopia (Regan, 1997). The cash outflow in this regard, therefore, needs to be proper and cost effective.
    - ✓ As there is a difference in risk across firms there is an exposure of insolvency through unexpected loss/shocks in the environment where there is an expectation from the individual firms to diversify their risk over products and capable reinsurers.
- The result of positive relationship between market share and profitability found in this study may be a direct result of the stable conditions that prevailed in the period considered Mueller (1986). Thus, the study recommends assessment of the market share effect especially during significant change in macro environment to update the finding of the study.
    - ✓ The state of the general economic environment at the time the data are collected as there were a time fixed effect for almost the whole period considered.

i. References

Ailawadi, K.L., P.W. Farris and M.E. Parry (1999), Market share and ROI: Observing the Effect of Unobserved Variables, *International Journal of Research in Marketing*, 16 (1), 17-33.

Alexander, S.S. (1949), The Effect of Size of Manufacturing Corporation on the distribution of the Rate of Return, *Review of Economics and Statistics*, 31, 229-235.

Amburgey, T.L., T. Dacin and D. Kelly (1994), Disruptive Selection and Population Segmentation: Interpopulation Competition as a Segregation Process, in *Evolutionary Dynamics of Organizations*, Joel A.C. Baum and Jitendra V. Singh (Eds.), Oxford University Press, New York.

American Bankers Association (2013) Product Profitability Out of Shadows. *ABA Professional Development*

Anderson, E.W. and F.T. Paine (1978), PIMS: A Reexamination, *Academy of Management Review*, 4(July), 602-612.

Axtell, R.L. (2006), Firm Sizes: Facts, Formulae, Fables, and Fantasies, CSED Working paper No. 44, The Brookings Institution, Washington, DC.

Bain, J.S. (1956), *Barriers to New Competition*, Harvard University Press, Boston, Massachussetts.

Boone, C., G.R. Carroll and A. van Witteloostuijn (2004), Size, Differentiation and the Performance of Dutch Daily Newspapers, *Industrial and Corporate Change*, 13(1), 117-48.

Boulding, W. and R. Staelin (1990), Environment, Market Share, and Market Power, Management Science, 36 (October), 1160-77.

Buzzell, R.D, (1990), Commentary on Unobservable Effects and Business Performance, *Marketing Science*, 9 (Winter), 86-7.

Buzzell, R.D, (2004), The PIMS Program of Strategy Research: A Retrospective Appraisal, *Journal of Business Research*, 57 (May), 478-83.

Buzzell, R.D, B.T. Gale and R.G.M. Sultan (1975), Market Share – A Key to Profitability, *Harvard Business Review*, 53 (January – February), 97-106.

Buzzell, R.D. and B.T. Gale (1987), *The PIMS Principles: Linking Strategy to Performance*, The Free Press, New York.

Caves, R. and M.E. Porter (1977), From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition, *Quarterly Journal of Economics*, 91(2), 241-62.

Caves, R.E., B.T. Gale, and M.E. Porter (1977), Interfirm Profitability Differences: Comment, *Quarterly Journal of Economics*, 91 (November), 667-675.

Crum, W.L. (1939), *Corporate Size and Earning Power*, Harvard University Press, Cambridge.

David J. Ketchen, JR. & Donald D. Bergh (2005) Research Methodology in Strategy and Management Volume-2.

Demsetz, H. (1973), Industry Structure, Market Rivalry, and Public Policy, *Journal of Law and Economics*, 16 (April), 1-19.

Dobrev, S.D. and G.R. Carroll (2003), Size (and) Competition) Among Organizations: Modelling Scale-based Selection Among Automobile Producers in Four Major Countries, 1885-1981, *Strategic Management Journal*, 24 (6), 541-58.

Epstein, R.C. (1934), *Industrial Profits in the United States*, *National Bureau of Economic Research*, New York.

Farris, P. and M.J. Moore (2004), *The Profit Impact of Marketing Strategy Project: Retrospect and Prospects*, Cambridge University Press, Cambridge, UK.

future challenges

Gale, B.T. (1972), Market Share and Rate of Return, *Review of Economics and Statistics*, 54 (November), 412-423.

Gale, B.T. and B.S. Branch (1982), Concentration Versus Market Share: Which Determines Performance and Why Does it Matter?, *The Antitrust Bulletin*, 27 (Spring), 83-103.

Geroski, P.A. (1987), Do Dominant Firms Decline? in the *Economics of Market Dominance*, D. Hay and J. Vickers (Eds.) Basil Blackwell, New York.

Gideon D. Markman & William B. Gartner (2002) Is Extraordinary Growth Profitable?

Glenn T. Stoops & Michael M. Pearson (1988) Direct Product Profit: A View from the Supermarket Industry. *Bowling Green State University Bowling Green,* ***Ohio***

Hailu Zeleke (2007), Insurance in Ethiopia; Historical development, present status and

Hall, M. and L. Weiss (1967), Firm Size and Profitability, *Review of Economics and Statistics*, 49 (August), 319-330.

Hambrick, D.C. and I.C. MacMillan (1982), The Product Portfolio and Man's Best Friend, *California Management Review*, 24 (Fall), 84-95.

Hayes, R.H. and S.C. Wheelwright (1984), *Restoring our Competitive Edge*, John Wiley and Sons, New York.

Hifza Malik (2011), "Determinants of Insurance Companies Profitability: An analysis of

Hildebrandt L. and R. Buzzell (1991), Product Quality, Market Share, and Profitability: A Causal Modeling Approach, Working Paper 91-045, Harvard Business School.

Ijiri Y. and H. Simon (1977), *Skew Distributions and the Sizes of Business Firms*, North-Holland Publishing Company, Amsterdam, 1977. insurance sector of Pakistan. Academic Research International Insurance Business Proclamation No. 746/2012

Jacobson R. (1988), Distinguishing Among Competing Theories of the Market Share Effect, *Journal of Marketing*, 52 (October), 68-80.

Jacobson R. (1990), Unobservable Effects and Business Performance, Marketing Science, vol. 9 (Winter), 74 – 85.

Jacobson, R. and D.A. Aaker (1985), Is Market Share All that it's Cracked up to be?, *Journal of Marketing*, vol. 49 (Fall), 11-22.

Jan Hauke, Tomasz Kossowski (2011) Comparisons of Values of Pearson's and Spearman's Correlation coefficients on the same sets of Data. *QUAESTIONES GEOGRAPHICAE 30(2) • 2011*

Jeffrey M. Stanton (2001) Galton, Pearson, and the Peas: A Brief History of Linear Regression for Statistics. *Journal of Statistics Education Volume 9, Number 3 (2001)*

Jeffrey R. Harring & John A. Wasko (2011) Probabilistic Inferences for the Sample Pearson Product Moment Correlation. *Journal of Modern Applied Statistical Methods November 2011, Vol. 10, No. 2, 476-493*

Johan Sjöström Bayer *et al* (2013) when product complexity hurts true profitability. The journal of high-performance business 2013, issue, No. 1

Josefine Olsson & Mikela Persson Hollsten (2014) Tracking Product Profitability: A Case Study on Challenges and Opportunities in Performance Management. *Lund University*

Kristen Regehr and Rajdeep Sengupta (2015) Has the Relationship between Bank Size and Profitability Changed? ***FEDERAL RESERVE BANK OF KANSAS CITY***

Lin Chen, Shuangyuan Wang & Zhilin Qiao (2013) Product Profitability Analysis Based on EVA and ABC. International Journal of Business and Management Vol. 8, No. 12; 2013

M.M Mukaka (2012) Statistics Corner: A guide to appropriate use of Correlation coefficient in medical research. *Malawi Medical Journal; 24(3): 69-71 September 2012*

Mancke, R.B. (1974), Causes of Interfirm Profitability Differences: A New Interpretation of the Evidence, *The Quarterly Journal of Economics*, 88 (May), 181-193.

Martin Senderovitz et al (2016) Four years on: Are the gazelles still running? A longitudinal study of firm performance after a period of rapid growth. *International Small Business Journal 2016, Vol. 34(4) 391– 411*

Michael Rothschild (2013) Harvesting the Extra Profits Hiding in Your Product Mix.

Mueller, D.E. (1986), *Profits in the Long Run*, Cambridge University Press, Cambridge.

Mueller, Dennis C. (1992), "The Corporation and the Economist," International Journal of Industrial Organization, 10 (1), 147-69.

N. Venkatraman & John E. Prescott (1998) The Market Share—Profitability Relationship: Testing Temporal Stability Across Business Cycles.

Nelson, R.R. and S.G. Winter (1982), *An Evolutionary Theory of Economic Change*, The Belknap Press of Harvard University Press, Cambridge, Mass.

O'Regan, N., 2002. Market share: The conduct to future success? European Business Review, 14(4): 287-293.

Pearce, J.A. and R.B. Robinson, 2003. Strategic management. Pennsylvania, USA: McGraw-Hill/Irwin.

Peter Yannopoulos (2003) The Market Share Effect: New Insights from Canadian Data. *Faculty of Business, Brock University, Canada*

Phillips, A. (1971), *Technology and Market Structure: A Study of the Aircraft Industry*, Lexington, D.C. Heath, Lexington, Mass.

Porter, M.E. (1980), *Competitive Strategy*, Free Press, New York.

Porter, Michael E. (1979), "How Competitive Forces Shape Strategy," *Harvard Business Review*, March- April, 137-145.

Rainer B¨ohme & Gaurav Kataria (2006) Models and Measures for Correlation in Cyber-Insurance. *University of Cambridge, UK, June 2006*

Robert Novy-Marx (2013) The other side of value: The gross profitability premium. J*ournal of Financial Economics 108 (2013) 1–28*

Roper, Stephen (1999), Modeling Small Business Growth and Profitability, *Small Business Economics*, vol. 13, no. 3, 235-252.

Rumelt, R.P. and R. Wensley, (1980), In Search for the Market Share Effect, W*orking Paper MGL-61*, University of California at Los Angeles.

Scherer, F.M. (1974), *Economies of Scale and Industrial Concentration*, in Industrial Concentration: The New Learning, Harvey Goldschmidt, et al. Little Brown and Company.

Scherer, F.M. (1980), *Industrial Market Structure and Economic Performance*, Rand McNally College Publishing Co., Chicago,

Schmalensee, R. (1985), Do Markets Differ Much? *American Economic Review*, 75 (June), 341-52.

Schwalbach, J. (1991), Profitability and Market Share: A Reflection on the Functional Relationship, *Strategic Management Journal*, 12 (May), 299-307.

Sharp, B., E. Riebe, J. Dawes and N. Danenberg (2002), A Marketing Economy of Scale: Big Brands Lose Less of Their Customer Base than Small Firms, *Marketing Bulletin*, 13, Research Note 1.

Shepard, W.G. (1972), The Elements of Market Structure, *Review of Economics and Statistics*, 54 (February), 25-37.

Sheth, J.N. and R.S. Sisodia, (2002), The Rule of Three: Surviving and Thriving in Competitive Markets, *The Free Press*, New York.

Simon H. (2010), Hidden Champions of the 21st Century, Springer, New York.

Simon, H., F.F. Bilstein and F. Luby (2006), *Manage for Profit not for Market Share*, Harvard Business School Press, Boston, Massachuetts.

Smallwood, D. and J. Conlick (1979), Product Quality in Markets Where Consumers Are Imperfectly Informed, *Quarterly Journal of Economics*, 93 (February), 1-23.

Stekler, H.D. (1963), Profitability and Size of Firm, *Institute of Business and Economic Research*, University of California, Berkeley.

Szymanski, D.; Bliaradwaj, S. G.; and Varadarajan P. R. "Analysis of the Market Share-Profitability Relationship." Journal of Marketing, Volume 57, July 1993, pp. 1-18.

Uslay, C., Z. A. Altintig and R.D. Winsor (2010), An Empirical Examination of the "Rule of Three": Strategy Implications for Top Management, Marketers, and Investors, *Journal of Marketing*, vol. 74 (March), 20-39.

Wensley, R. (1997), Explaining Success: The Rule of Ten Percent and the Example of Market Share, *Business Strategy Review*, vol. 8, no. 1, 63-70.

Whittington, G. (1980), The Profitability and Size of United Kingdom Companies, 1960-74, *The Journal of Industrial Economics*, 28 (June), 335-352.

Woo, C.Y. and A.C. Cooper (1981), Strategies of Effective Low Share Businesses, *Strategic Management Journal*, 2(3), 301-318.

Woo, C.Y. and A.C. Cooper (1982), The Surprising Case for Low Market Share, *Harvard Business Review*, 60 (November-December), 106-113.

Yannopoulos, P. (1984), *The Size Distribution of Firms in Canada: A Stochastic Model With Applications for Strategic Planning and Public Policy*, Unpublished Ph.D. Thesis, University of Toronto.

Yannopoulos, P. (2007), *Marketing Strategy*, Thomson Nelson, Toronto.

ii. Annexes

Panel Data Used

Company	Year	MS	ROE	Liq	Tang	Size
EIC	2005	0.47	2.77	1.15	0.10	668,876,274
EIC	2006	0.44	1.32	1.23	0.08	772,830,833
EIC	2007	0.43	1.69	1.21	0.08	780,053,448
EIC	2008	0.42	2.20	0.99	0.07	860,513,276
EIC	2009	0.43	2.38	1.11	0.07	960,290,655
EIC	2010	0.45	2.91	1.09	0.07	1,104,451,606
EIC	2011	0.44	3.78	0.99	0.08	1,285,641,000
EIC	2012	0.44	4.75	0.94	0.06	1,785,007,141
EIC	2013	0.52	5.66	0.97	0.07	2,080,395,139
EIC	2014	0.48	4.43	0.98	0.08	2,291,003,697
AIC	2005	0.08	1.48	1.16	0.12	86,481,058
AIC	2006	0.09	1.88	1.10	0.11	106,149,846
AIC	2007	0.09	2.06	0.99	0.15	134,435,288
AIC	2008	0.09	2.20	0.82	0.21	153,342,528
AIC	2009	0.09	2.34	0.79	0.24	181,926,837
AIC	2010	0.08	2.05	0.83	0.25	216,853,637
AIC	2011	0.09	2.36	0.78	0.34	330,810,827
AIC	2012	0.10	2.97	0.85	0.23	468,690,186
AIC	2013	0.09	2.35	0.89	0.21	558,709,659
AIC	2014	0.09	1.99	0.86	0.25	579,675,294
Global	2005	0.01	0.66	2.25	0.25	23,071,905
Global	2006	0.01	0.67	2.31	0.20	30,376,304
Global	2007	0.01	0.66	1.54	0.36	36,657,818
Global	2008	0.01	0.78	0.85	0.54	44,267,334
Global	2009	0.01	0.70	0.96	0.45	53,995,590
Global	2010	0.01	0.81	0.84	0.49	60,772,326
Global	2011	0.01	1.07	0.92	0.45	65,360,104
Global	2012	0.02	1.85	0.92	0.35	93,595,987
Global	2013	0.01	1.23	1.13	0.27	124,206,006
Global	2014	0.02	0.93	1.35	0.23	154,086,921
Nile	2005	0.12	1.49	0.84	0.17	152,397,453
Nile	2006	0.12	1.99	1.02	0.18	181,091,446
Nile	2007	0.11	2.29	0.88	0.18	191,909,088
Nile	2008	0.09	2.43	0.68	0.23	188,611,060
Nile	2009	0.09	2.45	0.72	0.22	194,972,679
Nile	2010	0.08	1.72	0.93	0.20	225,030,508
Nile	2011	0.08	1.95	0.96	0.18	267,594,849

Nile	2012	0.08	2.05	1.09	0.13	364,175,497
Nile	2013	0.06	1.74	1.11	0.15	423,111,326
Nile	2014	0.08	1.83	1.09	0.16	485,322,503
Nice	2005	0.04	3.33	0.71	0.30	25,581,635
Nice	2006	0.04	2.98	0.73	0.24	31,517,306
Nice	2007	0.04	2.77	0.95	0.20	39,625,635
Nice	2008	0.03	2.76	0.93	0.18	43,868,793
Nice	2009	0.03	2.82	0.81	0.16	51,127,461
Nice	2010	0.04	3.24	0.99	0.13	63,029,057
Nice	2011	0.03	4.10	1.12	0.09	86,516,247
Nice	2012	0.04	3.53	1.05	0.06	144,488,342
Nice	2013	0.04	2.37	1.16	0.04	221,135,426
Nice	2014	0.04	2.25	1.12	0.04	254,254,996
Africa	2005	0.08	1.54	1.12	0.09	108,981,939
Africa	2006	0.09	1.46	1.16	0.05	158,140,840
Africa	2007	0.09	1.89	1.08	0.04	174,629,094
Africa	2008	0.09	2.36	1.00	0.05	229,943,335
Africa	2009	0.09	2.44	0.94	0.11	238,005,461
Africa	2010	0.10	2.76	0.89	0.18	333,437,556
Africa	2011	0.11	3.20	0.83	0.21	430,841,735
Africa	2012	0.10	3.62	0.67	0.30	505,285,614
Africa	2013	0.08	2.85	0.54	0.41	496,642,700
Africa	2014	0.08	2.51	0.63	0.36	546,969,693
Nib	2005	0.05	1.30	0.98	0.16	61,735,270
Nib	2006	0.06	1.58	1.00	0.13	72,815,455
Nib	2007	0.07	1.81	1.05	0.09	98,717,440
Nib	2008	0.09	3.01	0.86	0.14	126,141,845
Nib	2009	0.10	2.59	0.94	0.11	193,192,160
Nib	2010	0.10	2.76	0.98	0.11	251,284,380
Nib	2011	0.10	2.74	1.00	0.11	305,682,050
Nib	2012	0.10	3.28	0.97	0.09	475,191,735
Nib	2013	0.08	2.29	1.05	0.09	517,606,992
Nib	2014	0.09	1.72	1.11	0.09	651,237,404
Nyala	2005	0.09	1.10	1.08	0.30	109,152,403
Nyala	2006	0.09	1.40	1.20	0.27	123,839,362
Nyala	2007	0.09	1.58	1.08	0.26	126,676,345
Nyala	2008	0.08	1.87	0.97	0.25	142,995,699
Nyala	2009	0.07	1.44	0.91	0.31	151,171,940
Nyala	2010	0.07	1.67	0.98	0.25	187,777,825
Nyala	2011	0.06	1.53	1.02	0.26	215,232,357
Nyala	2012	0.06	1.50	1.10	0.19	308,079,170

Nyala	2013	0.06	1.49	1.14	0.17	426,363,477
Nyala	2014	0.07	1.24	1.22	0.14	542,607,990
Unic	2005	0.05	1.33	1.02	0.03	61,443,299
Unic	2006	0.06	1.17	1.24	0.15	87,612,373
Unic	2007	0.08	1.83	1.11	0.14	111,540,951
Unic	2008	0.09	1.97	1.11	0.13	147,443,286
Unic	2009	0.09	2.14	1.03	0.12	172,717,248
Unic	2010	0.07	1.59	1.17	0.10	212,105,559
Unic	2011	0.07	1.80	1.19	0.08	258,928,061
Unic	2012	0.07	1.89	1.25	0.07	358,303,200
Unic	2013	0.06	1.52	1.27	0.09	432,240,608
Unic	2014	0.07	1.41	0.91	0.33	511,162,568