Original Article

Profitability of Insurance Corporations: An Analytical Study on Select Private Insurance Companies of Ethiopia

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Abstract - *Insurance is one of the major risk-mitigating mechanisms in the modern economy. The existence and survival of financially strong Insurance Companies are therefore inevitable. For Insurers to be reliable and financially sound, their profitability and, most importantly, knowing what factors make them profitable is crucial. This study used a quantitative research approach using Panel data covering ten years from 2006–to 2015 for nine insurance companies to achieve this objective. The study uses a linear regression model to see the effect of independent variables, which were the factors under study, on the dependent variable profitability proxied by ROA. Data were analyzed with Stata software 32. The study's findings showed that the company's size, Loss ratio, and leverage have statistically significant relationships with insurers' profitability. Therefore, the study recommends that Ethiopianinsurance companies consider these factors to address profitability issues appropriately.*

Keywords- Ethiopian Insurance Companies, Insurance, Profitability

I. INTRODUCTION

In a modern economy, the importance of financial institutions such as Banks, Insurance, saving and credit unions, Cooperatives, and the like are unarguable. These institutions play a great role in facilitating and lubricating the economy of nations.

In addition, insurance companies provide economic and social benefits to society by preventing losses, reducing anxiousness and fear, and increasing employment. Therefore, this study aims to assess insurance companies' profitability. Nine purposively selected insurance companies were taken as a sample from the total population of17 insurance companies in Ethiopia.

Statement of the Problem

Previous research concerning profitability mostly focused on financial institutions. Most of the research conducted concerning determinants of banks" profitability could be classified in two as country-specific, such as Belayneh (2011), Tesfaye (2008), in Ethiopia, Uhomoibhi Toni Aburime (2008), and Samy Ben Naceur (2003). In contrast, SylwesterKozak (2011), ValentinaFlamini, Calvin McDonald, and Liliana Schumacher (2009) conducted their research at a cross-country level.

Ahmed (2008) examined the determinants of insurers' profitability and that size, capital volume, and leverage & loss ratio are significant determinants of profitability. Abate (2012) studied company-specific factors affecting insurance profitability in Ethiopia and found that size and volume of capital are positively and significantly related to profitability. In contrast, liquidity and leverage are negatively but significantly related. Daniel&Tilahun (2013) studied that insurers' size, tangibility, and leverage are significant and positively related to profitability; however, loss ratio (risk) is statistically significant and negatively related to ROA. Yuvaraj and Gashaw (2013) studied firm-specific factors, ignoring macro-economic factors affecting profitability.

The absence of comprehensive empirical evidence in Ethiopia concerning determinants of insurance companies' profitability on the one hand, and the lack of consistency of the findings on the other, is then what motivated the researcher to put forward possible contributions in this study. So there is a quintessential need to fill the gap by addressing the factors that have not been touched so far by other researchers in Ethiopia and trying to augment the findings to the existing literature. Objectives of the study

General objective

The study's general objective is to identify and compare the factors affecting the profitability of insurance companies in Ethiopia for the period 2008 to 20117.

Specific Objectives

Based on the above general objective, the researcher explains the following specific objectives:-

- To explore the major factors of an insurance company's profitability.
- To examine the level of significance of these factors on profitability.
- To measure the degree of relationship of the factors with profitability.

Research questions

- What are the major factors of an insurance company's profitability?
- What is the level of significance of these factors on profitability?
- What is the degree of relationship of the factors with profitability?

Limitation and scope

This research does have a significant role to play in shading light on how to understand better what determines financial institutions such as insurance companies" profitability (financial performance) in Ethiopia. Furthermore, this study does have paramount importance in providing a better ground for insurance managers, business professionals, business initiatives, and policymakers. Moreover, the researcher also contributes that this study can potentially serve as a stepping stone for further research.

Conceptual Framework

Profitability and profitability as measured by ROA.
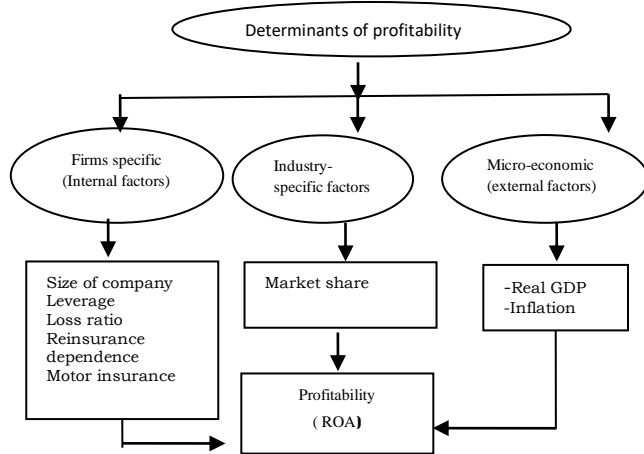
Fig.1 Conceptual framework: Relationship between determinants of Profitability and Profitability (ROA)

Research design

This paper's principal secondary data sources are individual insurance companies' annual reports that contain detailed consolidated balance sheets and income statements and the National Bank of Ethiopia, which can provide a comprehensive database for all insurance companies. The data collected and analyzed is a balanced panel of nine insurance companies in Ethiopia operating over the last 10 years. The researcher selects panel data to meet the research objectives as it best fits better than the single time series or cross-sectional alone. That is why Chris Brookes (2008), in his book, clearly presents the advantage of using panel data in the following way.

First, and most importantly, we can address a broader range of issues and tackle more complex problems with panel data than pure time series or pure cross-sectional data alone. Second, it is often of interest to examine how variables, or the relationships between them, change dynamically (over time). Using pure time-series, data would often require a long run of data to get a sufficient number of observations to conduct any meaningful hypothesis tests. But by combining cross-sectional and time-series data, one can increase the number of degrees of freedom and thus the power of the test by employing information on the dynamic behavior of a large number of entities at the same time.

The additional variation introduced by combining the data in this way can also help mitigate multi-collinearity problems if time series are modeled individually. Third, by appropriately structuring the model, we can remove the impact of certain forms of omitted variables bias in regression results.

Panel data analysis is an increasingly popular form of longitudinal data analysis among social and behavioral science researchers Yuqi Li (2007). Panel data analysis is a method of studying a particular subject within multiple sites, periodically observed over a defined timeframe. With repeated observations of enough cross-sections, panel analysis permits the researcher to study the dynamics of change in short time series. Therefore, combining time series with cross-sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions.

Sampling techniques

Given the research objectives coupled with research questions, it is considered that purposive sampling is employed to include all insurance companies established and serving within the specified period from June 2008 to June 2018. The sample size is nine insurance companies operating over 9 years, as taken from table 1 above, and the rest of the insurance companies will not have a chance to be included. Nine years is assumed to be relevant because five years and above is the recommended length of data to use in most finance literature.

Methods of Data Analysis

Descriptive Analysis

Descriptive statistics explores and presents an overview of all variables used in the analysis. In this section, the mean,

minimum, maximum, and standard deviation of the variables are produced for the variables understudy for the period 2008 to 2018.

The Correlation Analysis

This section shows how variables are related to each other. The results of this analysis represent the nature, direction, and significance of the correlation of the variables considered in this study.

Regression Analysis

The result of regression analysis is an equation that represents the best prediction of a dependent variable from several other independent variables.

In terms of regression analysis, as panel data is adopted in this study, corresponded regression model is selected from Source: developed by the researcher by reviewing previous research works. Where; ROAit = dependent variable profitability; SIZ= size; LEV=Leverage; LOR =Loss ratio; MOI= Motor Insurance; RID =reinsurance dependence; MKS=Market Share GDP = Gross domestic products, and; INF = inflation Є =is the error component for company i at time t assumed to have mean zero E [Є it] = 0 β0= Constant β= 1, 2, 3…9 are parameters to be estimated. i = Insurance company i = 1…9, and t = the index of periods, and t = 1. . 10 The issue that may arise from panel data is whether the individual effect is considered fixed or random.

Hypotheses of the Study Variables

H1. The size of a company has a positive and statistically significant effect on the performance of insurance companies in Ethiopia.

H2. Leverage has a negative and statistically significant effect on insurers' profitability in Ethiopia.

H3. The loss ratio has a negative and statistically significant effect on insurance companies' performance in Ethiopia.

H4. Reinsurance dependence has a negative and statistically insignificant effect on the performance of insurance companies in Ethiopia.

H5.Motor Insurance has a negative and statistically significant effect on the performance of insurance companies in Ethiopia.

H6. Market Share has a positive and statistically insignificant effect on the performance of insurance companies in Ethiopia.

H7. GDP growth has a positive and statistically significant effect on the performance of insurance companies in Ethiopia.

fixed effect and random effect regression. Fixed effects regression is the model to use when the researcher wants to control omitted variables that differ between cases but are constant over time. It allows using the changes in the variables over time to estimate the effects of the independent variables on the dependent variable.

Data analysis techniques and model specification

The equation that accounts for the individual explanatory variables specified for this particular study is as follows.

$$ROAit = \beta0 + \beta1SIZit + \beta2LEVit + \beta3LORit + \beta4RIDit + \beta5MOIit\ \beta6MKSit$$
$$+ \beta7GDP\ it + \beta8INF\ it + \varepsilon$$

H8. Inflation has a negative and statistically significant effect on the performance of Insurance companies in Ethiopia.

II. RESULTS AND DISCUSSIONS

Tests for Hypothesis

This part summarizes the hypothesized and the actual relationship of the independent variables with profitability (ROA) of general insurance companies of Ethiopia during the study period of 2008-2017 G.C.

Hypothesis 1 (H1)

	Correlation coefficient (r)	P -value
SIZE of company	0.029141	0.0000

Sources: Stata output

The table above found that there is a positive and significant relationship between company size and profitability as measured by ROA. Therefore, H1 is accepted.

Hypothesis 2 (H2)

	Correlation coefficient (r)	P -value
Leverage	-0.012728	0.0174

The table above found a negative and significant relationship between leverage and profitability as measured by ROA. Therefore, H2 is accepted.

Hypothesis 3 (H3)

	Correlation coefficient (r)	P -value
Loss ratio	-0.113882	0.0001

The table above found a negative and significant relationship between loss ratio and profitability as measured by ROA. Therefore, H3 is accepted. Hypothesis

4 (H4)

	Correlation coefficient (r)	P -value
Reinsurance dependence	-0.001029	0.8140

The table above found a negative and insignificant relationship between reinsurance dependence and profitability as measured by ROA. Therefore, H4 is accepted.

Hypothesis 5 (H5)

	Correlation coefficient (r)	P -value
Motor Insurance	0.045265	0.0999

The table above found a positive and insignificant relationship between motor insurance and profitability as measured by ROA. Therefore, H5 is not accepted. Hypothesis 6 (H6)

	Correlation coefficient (r)	P -value
Market share	0.017547	0.6515

The table above found that there is a negative and insignificant relationship between inflation and profitability as measured by ROA. Therefore, H8 is not accepted.

***Company size*:-**it is found that size is an important determinant of an insurer's profitability. Companies are better than small size companies. Profitability is likely to increase in size.

Loss ratio: - Loss ratio/the underwriting risk explains the efficiency of the insurer's underwriting activity and the exposure to financial loss resulting from the selection and approval 59 of risks to be insured. The coefficient of underwriting, which is measured by claim incurred to earned premium ratio, was negative and statistically significant at a 5% significance level (p-value=0.0001).

***Reinsurance dependence*:** Insurance companies usually take out reinsurance cover to stabilize earnings, increase underwriting capacity, and protect against catastrophic losses. Nevertheless, it involves certain costs. The coefficient of reinsurance dependence measured as the ratio of premiums ceded in reinsurance to the total asset in this study was negative but statistically insignificant even at a 10% significance level (pvalue=0.814), indicating its impact is negligible.

The table above found a positive and insignificant relationship between market share and profitability as measured by ROA. Therefore, H6 is accepted.

	Correlation coefficient (r)	P -value
Market share	0.017547	0.6515

Hypothesis 7 (H7)

	Correlation coefficient (r)	P -value
GDP	-0.133687	0.7157

The table above found that there is a negative and insignificant relationship between GDP and profitability as measured by ROA. Therefore, H7 is not accepted.

Hypothesis 8 (H8)

Hypothesis 8 (H8)

	Correlation coefficient (r)	P -value
Inflation	-0.005944	0.8999

***Gross domestic product*: -** Gross domestic product is the market value of all finished goods and services produced in a country within a specified period, mostly one year. It is a gauge of economic recession and recovery and an economy's general monetary ability to address externalities.

***Inflation*:-**the inflation could affect insurance companies' profitability, influencing their liabilities and assets. In expectation of inflation, claim payments increase and reserves that are required in anticipation of the higher claims, consequently reducing technical results and profitability. The inflation coefficient was negative (-006), but it was not statistically significant (p-values 0.90). Thus the effect of inflation on Ethiopian insurers' profitability is not significant.

III. CONCLUSION
The insurance industry should stay profitable and reliable to be a shelter for others. Therefore, to survive and maintain good financial stability, it is important to be profitable and identify the determinants that mostly influence the insurers' profitability.

- The size of a company has a positive impact on profitability with a strong significance coefficient. This indicates that larger insurance companies in the country experience more significant increases in

profitability through economies of scale. Therefore, the larger the firm is, the better the profitability. The results of the regression analysis showed a negative relationship between

- Loss ratio (claims incurred to earned premium) and profitability with strong statistical significance. This shows that minimizing the underwriting risk of insurers will certainly improve their profitability since taking an excessive underwriting risk can affect the company's stability through higher expenses. The study's regression results also showed a statistically significant negative relationship between the leverage ratio of insurance companies and their profitability in Ethiopia at a statistically significant level of confidence. Which means that the debt to equity mix should be maintained at an optimal mix? Beyond a certain level, it 65 contributes to profit because the fixed cost of debt generates more expense and lowers profit. Again, the result showed a negative relationship between reinsurance dependence with profitability but a statistically insignificant significance level. This indicates that minimizing dependency on reinsurers or decreasing the amount of premium ceded will result in increased profitability.

- In this study, it was found that motor insurance has a positive relationship with profitability but is statistically insignificant; however other studies.

- The market share, which is measured as the ratio of the total written premium of the company to the total gross written premium of the industry in this study, positively affects profitability but at a statistically insignificant level, indicating that its impact is negligible.

- On the other hand, the macro variables GDP and inflation findings negatively affect the profitability of insures in this study. However, both macro factors significantly affect the profit of Ethiopia's insurers statistically insignificantly. In general, according to this study, Company size, Loss ratio/underwriting risk, and leverage are significant key drivers of the profitability of insurance companies in Ethiopia, whereas reinsurance dependence, motor insurance, market share, GDP, and inflation are the insignificant determinant of insurance companies' profitability in Ethiopia.

IV. RECOMMENDATIONS
- Based on the findings of the study, the researcher has drawn the following recommendations:

- Assize of a company is the most important determinant of an insurer's profitability, and

insurance companies should grow more and expand their activities to be more profitable.

- Since underwriting is one of the crucial activities for insurance companies, the insurers should reduce underwriting risk, the number of losses incurred, as a result of poor underwriting and claim handling activities, improving these performances through techniques like product selections, increasing claims handling practices through efficient procedures, systems and, human resources and gathering sufficient information about the subject matter of insurance before an agreement with the insured. Here insurers should apply the rule of KYS (Know Your Customer).

- Companies should set their optimum mix of debt to equity to have leverage that contributes positively to profit.

- As reliance on reinsurers coupled with cost, insurance companies in Ethiopia should reduce their dependence on reinsurers by improving their capital base and size. Otherwise, as indicated in this and other studies, the more the dependence, the more the cost and the smaller the profitability. The lower the risk (as reinsurance lowers the risk insurance companies take), the lower the return, and profitability declines accordingly.

- Though motor insurance and market share contribute positively to profitability, their statistical significance was low according to this study. However, insurers should work more to enhance the contribution of these two factors because, on the one hand, motor insurance is one of the largest business portfolios in the insurance business mix in the Ethiopian insurance industry. On the other hand, motor insurance is mandatory in Ethiopian law, and insurers do not have discretionary power not to provide insurance coverage. Therefore, prudent underwriting activities are mandatory to get the best out of this big business portfolio.

- Regarding market share, insurers should increase their market share and have to excel in their underwriting risk management capability so that they can harvest the fruit of market share. Regarding the two macro-economic variables, GDP and Inflation, though their contrition was negative and statistically insignificant as per this study, constant flow up and keeping track of their impact on insurers' activities should be taken seriously.

Finally, this study attempted to look at some factors affecting insurers' profitability in Ethiopia. However,

the variables used in the statistical analysis did not cover all factors that could affect insurers' profitability. Thus, future research should focus on some other dimensions of non-financial/qualitative aspects such as the effect of management quality, the quality of human resources, work ethics, effect of moral hazard(behavior of insureds after they get insured, insured may exhibit carelessness in their behavior because of holding insurance policy) and moral hazards(before or after insurance, insured may conceal some important information to the insurer to win some unfair advantage), the public attitude towards the concept of insurance in Ethiopia, government regulatory policy and directives, and other issues which the researcher is not knowledgeable with. Moreover, this study was conducted with non-life insurers only; future research should encompass life insurance too.

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