

Factor Affecting Insurance Companies Profitability in Ethiopia

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Abstract

Background: The performance of any firm not only plays the role to increase the market value of that specific firm but also leads towards the growth of the whole industry which ultimately leads towards the overall prosperity of the economy. The aim of this study was determining factor that affect profitability of Insurance Company in Ethiopia.

Methodology: The sample in this study includes 5 years data from 2012 to 2016 which is secondary data obtained from the financial statements (Balance sheet and Profit/Loss account) of Insurance Companies in Ethiopia are analyzed. To comply with the objective of this research, the authors are primarily used based on quantitative research, which constructed an econometrics model to identify and measure the determinants of profitability.

Results: The average and standard deviation for profitability of insurance company measured by using Return on assets (ROA) for Ethiopian insurance companies was 0.117 and 0.08, respectively. In the univariable analysis, age of company, Firm Growth, Company Size, Leverage and market share are highly significant predictors of profitability. Furthermore, age of company, leverage and branch distribution was found the crucial factors in determining the profitability of insurance companies using multivariable analysis in Ethiopia.

Introduction

The performance of any firm not only plays the role to increase the market value of that specific firm but also leads towards the growth of the whole industry which ultimately leads towards the overall prosperity of the economy (Meaza, 2014). A well-developed and evolved insurance sector is a boon for economic development as it provides long-term funds for infrastructure development at the same time strengthening the risk taking ability of the country (Charumathi, 2012).

Every firm is most concerned with its profitability. One of the most frequently used tools of financial profitability analysis is a profitability ratio which is used to determine the company bottom line. Profitability measures are important to any one stock holders and managers. According to Malik (2011), profitability is one of the most important objectives of financial management since one goal of financial management is to maximize the owners' wealth, and profitability is very important determinant of performance.

According to Meaza (2014), financial industries profitability has attracted scholarly attention in recent studies due to its importance in performance measurement. However, in the context of the insurance sector particularly in Ethiopia, it has given a little attention and the existing studies only concentrated on firm's specific factor not considering macro-economic factors.

Various scholars have been doing empirical investigation on the factors affect insurer's profitability and arrived at different conclusions. According to Re, S. (2008), insurers' profitability is determined initially by

underwriting performance (losses and expenses, which are affected by product pricing, risk selection, claims management, and marketing and administrative expenses and second, by investment performance, which is a function of asset allocation and asset management as well as asset leverage. Ahmed, N., Ahmed, Z., & Usman, A. (2011) examined the determinants of insurers' profitability that size, volume of capital, leverage & loss ratio are significant determinants of profitability. Ayele (2012) studied company specific factors affecting insurance profitability in Ethiopia and found out that size, volume of capital are positively and significantly related with profitability; whereas liquidity, and leverage are negatively but significantly related (Sumaira&Amjad2013). Mehari& Aemiro (2013) studied that insurers' size, tangibility and leverage are significant and positively related with profitability; however, loss ratio (risk) is statistically significant and negatively related with ROA. Sambasivam &Ayele(2013) studied firm specific factors but they also ignored macro-economic factors affecting profitability. According to Meaza (2014) economic growths, managerial efficiency, size of the company are significant and positive effect on the company profitability besides to this leverage, tangibility of asset, liquidity ratio; loss ratios are a negative effect.

Most of the studies are conducted in the banking sectors. But, few studies are conducted on the insurance sector. Besides in Ethiopia, to the best understanding of the researcher knowledge, many studies are conducted on profitability of insurance firms which related with micro economic factors which affect the profitability of the insurance companies. The majority of those studies are concentrated on size, volume of capital, leverage, loss ratio, managerial efficiency and age of the firm for the last ten years in the insurance industries. The researcher that above described factors are not only the main determinants of profitability but in addition to that, Market share and Branch distribution of the insurance industry are may affect profitability of Ethiopian insurance company, but these variables are not considered by the above researchers. Therefore, the research gap of the study is to investigate those key determinants of profitability and the extent to which they impact profitability of Ethiopian Insurance industry.

The main aim of the study is to analyze factors that affect profitability of Insurance companies in Ethiopia.

Methodology

Research Design

To comply with the objective of this research, the paper is primarily based on quantitative research, which constructed an econometric model to identify and measure the determinants of profitability.

Data and Data Sources

To comply with the research objectives, the researcher focused on secondary data, which are obtained from annual reports of individual insurance companies and NBE.

Variable in the study

Profitability of Insurance Company is the dependent variable for the purpose of this study. The following are covariate (predictor) variables in the study: *Return* on Equity, Leverage, Market share, Managerial efficiency, Firm Growth, Tangibility of Asset, Branch Distribution, Liquidity, Age, Firm Size.

Method of data analysis

This study used both descriptive (frequency, percentage, mean, graph, etc) and inferential statistics (correlation analysis and regression model)

A linear regression equation of the dependent variable Y (Profitability) on K independent variables X_1, X_2, \dots, X_K is given by

$Y = B_0 + B_1 X_{1i} + B_2 X_{2i} + \dots + B_K X_{Ki} + \epsilon_i$. B_1, B_2, \dots, B_K are the slopes (the change in Y for the unit change in the explanatory variable x_{1i}).

Results And Discussion

Descriptive results for selected important variables

The mean and standard deviation of the profitability of insurance company were 0.117 and 0.08, respectively.

The average value of managerial efficiency was 0.798 with a standard deviation of 1.855. The average value of firm growth is 0.217 and the value of standard deviation for the same variable is 0.114 which shows that there were slightly significant variations among the values of firm growth as measured by the change in total assets over the years across the sample insurance companies.

On average the liquidity ratio is 1.03 and the value of standard deviation is 0.25. The average value of market share is 0.084 and the value of standard deviation for the same variable is 0.0822 which shows that there were no significant variations among the values of market share (Table 1).

Table 1: Summary results between measurable variable and predictor variables

In our case, all of the VIFs are below 10 and all of the tolerances are close to one indicating that there is no problem of multicollinearity in our data (Table 2).

Table 2: Multicollinearity information of predictor variables

Variable	Observations	Mean	Std. Dev.	Min	Max
ROA	60	0.117	0.08	0.002	0.53
Age	60	16.58	9.108	2	41
Branch Distribution	60	25	12.904	3	70
Managerial Efficiency	60	0.798	1.855	0.114	14.239
Firm Growth	60	0.217	0.114	0.017	0.505
Company Size	60	8.6105	0.3535	7.687	9.45
Tangibility	60	0.175	0.134	0.028	0.68
Leverage	60	2.5105	1.140368	0.954	7.34
Liquidity	60	1.03	0.25	0.263	1.632
Market share	60	0.084	0.0822	0.01	0.367

Variable	VIF	1/VIF
Market share	10.41	0.096097
Company share	8.18	0.122261
Branch distribution	5.24	0.190909
Age	4.17	0.239588
Leverage	2.83	0.353100
Liquidity	2.31	0.432482
Firm growth	2.29	0.435971
Tangibility	1.85	0.539545
Managerial	1.25	0.800549
Mean VIF	4.28	

Bivariate Analysis Results

Based on the results nine of the five explanatory variables considered in this study were found statistically significantly associated with the return of assets ($p < 0.25$). They are age of companies, firm growth, company size, and leverage and market share.

From the outputs in univariable analysis, one can observe that the predictors age of company, Firm Growth, Company Size, Leverage and market share are highly significant in the univariable analysis

However, Branch distribution, Managerial efficiency, Liquidity and Tangibility is not a significant factor for the profitability at 25% level of significance (Table 3).

Table 3: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-0.658	0.684		-0.961	0.341
	Age	0.005	0.002	0.602	2.467	0.017
	Branch distribution	-0.004	0.002	-0.612	-2.238	0.03
	Managerial efficiency	-0.009	0.006	-0.215	-1.614	0.113
	Firm growth	-0.094	0.126	-0.134	-0.743	0.461
	Company size	0.076	0.077	0.338	0.989	0.328
	Tangibility	0.019	0.097	0.032	0.198	0.844
	Leverage	0.027	0.014	0.391	1.948	0.0057
	Liquidity	0.092	0.058	0.287	1.584	0.12
	Market share	-0.175	0.375	-0.18	-0.468	0.642

a. Dependent Variable: ROA

Multivariable Analysis of Regression Model

Multivariable analysis indicate that age, branch distribution and leverage were significantly affect and managerial efficiency, firm growth, liquidity, market share, tangibility and company size were not significantly affects the profitability of company (Table 4).

Table 4: Multivariable analysis of regression model

b. Predictors: (Constant), market share, managerial efficient, tangibility, Firm growth, liquidity, leverage, age, branch distribution Company size

The variables which passed the stepwise variable selection procedure as candidate to be included in the model are: Branch distribution, age and liquidity. One can say that the reduction in the total variation in ROA is about 28.8 % when accounting for market share, managerial efficient, tangibility, Firm growth, liquidity, leverage, age, branch distribution and Company size.

Variables	Coeff.	Std.Error	t-value	p-value	Confidence Interval
Age	0.0028926	0.0010881	2.66	0.010	[0.0007145, 0.0050707]
Branch distribution	0.0005328	0.0008105	0.66	0.514	[-.0010896, 0.0021551]
Managerial efficiency	-0.0056258	0.0056095	-1.00	0.320	[-.0168545, 0.0056029]
Firm Growth	-0.105677	0.0907648	-1.16	0.249	[-0.2873625, 0.0760084]
Company Size	0.0351333	0.0293344	1.20	0.236	[-0.0235859, 0.0938524]
Tangibility	-0.0621576	0.078025	-0.80	0.429	[-0.2183417, 0.0940265]
Leverage	0.0114974	0.0090805	1.27	0.211	[-.0066791, 0.0296739]
Liquidity	0.0264127	0.0419521	0.63	0.531	[-0.0575635, 0.1103889]
Market share	0.2352307	0.1239301	1.90	0.063	[-0.0128422, 0.4833037]

Model Adequacy

The coefficient of determination ($R^2=68.8\%$) the goodness of the fitted model approximately good model (Table 5).

Table 5: Model Summary

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688	.659	.0733

Final Regression Model for Significant Variables.

From the final fitted regression model the intercept, age, and branch distribution are -0.658, 0.005 and -0.004 respectively. Therefore, for every unit increase in age of company the profitability (ROA) increased by 0.005 there is also positive relationship between age of company and return on assets. The average profitability of company is decreased by keeping other variables are constant and if the distribution of branch will increases by one unit the profitability of company decreased by 0.004, keeping other predictor variables, if leverage increases by one unit the profitability of company will be increased by 0.027 birr.

The constant coefficient is -0.658 which indicates the value of the dependent variable (profitability of company) when both of the independent variable (age and branch distribution) are zero. The coefficient associated with age is 0.005 that means when the age of company increases by 1, the amount of profitability of company is expected to increase by holding branch distribution and leverage constant.

The coefficient associated with branch distribution is 0.004 that means profitability will decrease by 0.004 birr on average when branch distribution increases by 1 birr keeping the other independent variable (age and leverage) constant. The coefficient associated with leverage is that means profitability will increased by birr on average when leverage increases by 1 birr keeping the other independent variable (age and branch distribution) constant.

The value suggest that a one unit increase in age of insurance company, on average an increase of about 0.57 units in profitability of insurance company. Similarly, one unit increase in branch distribution leads to a decline of about units in profitability. Finally, one unit increase in leverage ratio leads to an increase of about units in profitability and also suggests a positive relationship between profitability and leverage ratio.

Model Diagnosis and checking assumption

Normality of data

Since the appearance of a histogram can be strongly influenced by the choice of intervals for the bars, to confirm these we can also look at a normal probability plot of the residual (Figure 1).

Checking for the Linearity of Continuous predictor in the regression model

The plots of residual confirm that age of a patient have no linear relationship with the profitability of company (Figure 2).

Discussion Of The Results

In this study net income before tax to total assets (ROA) is used to measure profitability, because most of the studies regarding the subject used this ratio to determine the profitability of insurance companies. Statistical analysis revealed the presence of good variations of profitability across the profitability of insurance companies included for this study and the average is 0.117. This is much higher compared to Abate Gashaw Ayele (2012), which found showing that the average profitability as measured by ROA for Ethiopian insurance companies during the study period is about 0.06.

Regression coefficient of age of company at 0.005 indicates that when firm size increases by 1% the profitability will increase by 0.5%. Regression coefficient of branch distribution at -0.004 indicates that when branch distribution increases by 1% the profitability of company will decrease by 0.4%.

Regression coefficient of Leverage ratio at 0.027 indicates that when leverage increases by 1% the Profitability will increase by 2.5%. This result is higher in accordance with the studies from (Meaza Melese, 2014), showing that regression coefficient of Lev at -0.035. There was a significant positive relationship between Age, company size, tangibility, and liquidity with profitability of insurance company. Similarly, Managerial efficiency, firm growth and market share had a negative significant impact on profitability of insurance company.

Leverage has a positive and significant effect on profitability of Ethiopian insurance companies. This is inconsistent with similar study from Mistre Sisay(2015) which showing that negative and significant impact of leverage on profitability of insurance companies in Ethiopia. It is implied that highly profitable insurance companies are more likely relied on internally generated funds and equity capital than debt capital as the source of financing. According to our findings, age of company, branch distribution and leverage ratio has found significant variables for insurance company profitability. Similar studies (Meaza Melese, 2014) have also shown that leverage ratio, loss ratio/ risk, tangibility of asset, growth and managerial efficiency have significant effect on profitability of the company but, branch distribution and market share is not assessed by previous studies.

Limitations

This research paper is limited to the determining factors those affect profitability of Insurance Company in Ethiopia which is based on 5 year secondary data.

Abbreviations

NBE-National Bank of Ethiopia, EIC-Ethiopian Insurance Corporation, ROA- Return on Asset, ROE- Return on Equity, ROIC- Return on Invested Capital, APT-Arbitrage Pricing Theory, MPT-Modern portfolio theory, NICE- National Insurance Company of Ethiopia, AGE- Age of Insurance Companies, LAV- Leverage Ratio of Insurance Companies, LIQ- Liquidity Ratio of Insurance Companies, OLS – Ordinary Least Square, SIZE- Size of Insurance Companies, TAN- tangibility of asset

Declarations

Ethics approval and consent to participate

This study was reviewed and approved by Mettu University Research Ethical Committee. As the study was based on retrospective cohort study, informed consent was not needed.

Consent for publication

All authors have read the manuscript, attest to the validity and legitimacy of the data and its interpretation, and agree to its publication.

Availability of data and materials

Upon request, the data in excel format is available for this manuscript (Corresponding Author is responsible for the data availability).

Competing interests

The authors declare that there is no competing interest.

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Authors' contributions

DGA, AMG and DDA designed the research, collect the samples, wrote the paper, analyzed data; DGA conducted research and had primary responsibility for final content. All authors read and approved the final manuscript.

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Figures

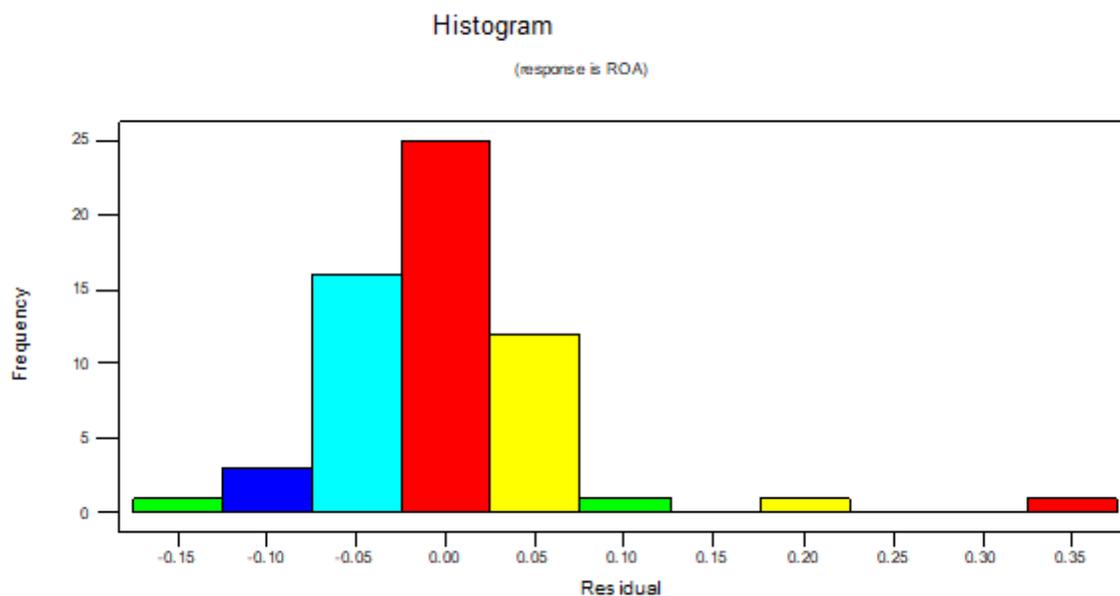


Figure 1

Histogram plots for normality of data

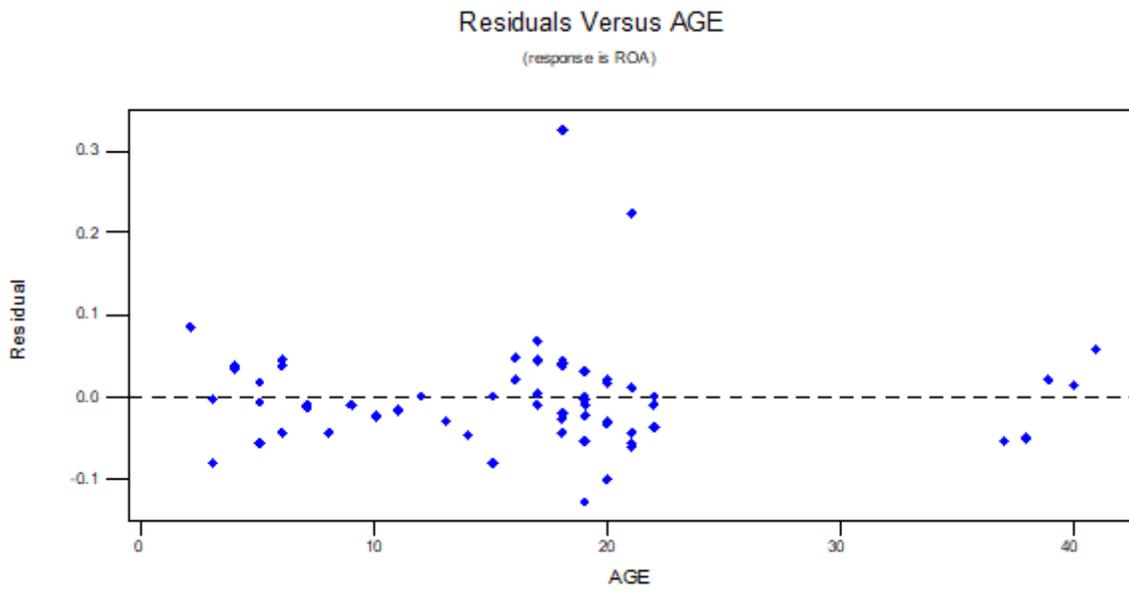


Figure 2

Plots of residual for Linearity of data