

Factors affecting profitability of Ethiopian Non-life Insurance Corporation

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Abstract: Profitable insurance can contribute to countries gross domestic product. Ethiopian insurance sector does not grow as expected and cannot take a major part for the economic development and it contribute less than 1% to country's total GDP. Therefore, the purpose of this study focuses on identifying the success and failure factors of Ethiopia Insurance Corporations profitability of non-life. Time-series data of Ethiopian Insurance Corporation from 1996 to 2016 was analyzed using multiple linear regression method. The study used quantitative research approach and secondary financial data are analyzed by using multiple linear regression models for the insurance profitability measures Return on Asset (ROA). OLS method was applied to investigate the impact of liquidity ratio, insurance size, GDP rate, tangibility of asset and inflation rate on insurance profitability measure (ROA). The regression results shows that liquidity ratio, insurance size and GDP rate were significant effect on profit but, tangibility of asset and inflation rate were insignificant. The regression shows that all explanatory variables have positive effect on the profitability. Finally, the researcher have made conclusions and recommendations based on the analyzed results.

Key Words: profitability, Ethiopian non-life Insurance Corporation and return on asset.

1. INTRODUCTION:

Ethiopia's insurance industry has been playing a growing role in long term economic progress and improving living standards by channeling household savings from a large portion of the population into productive investments. The sector also promotes economic advancement through its unique funding channels and investments as well as providing sizable job opportunities.

On the base of Ministry of Finance and Economic Development (MOFED) in 2016/17, Ethiopian economy continued to register a notable growth by 10.2 percent of real GDP. This continuous economic growth encourages for the emergence of insurance companies but in Ethiopia the insurance sector does not grow as expected and cannot take a major part for the economic development and it contributes less than 1% to country's total GDP (Muhidin 2014). The reason may be limited awareness level and understanding of insurance among majority of the citizens, low level of product innovation and technology supported services, absence of modern marketing channel and approaches by firms across the supply chain, inadequate governance and enabling regulatory system, fear of risky investments by insurance company themselves and shortages of managerial and professional employees.

For insurance firms to be sustainable in the competitive globalized environment, facilitating different services to customers, to bring economic and social benefit in the community of people or to contribute to GDP, earning profit is a prior- condition. In the non-existence or lack of profit, insurers can't provide service and attract outside capital so as to meet their objectives (Atsbeha and kaur 2015). Because the final goal of a business entity is to get profit or reward in order to make sure the sustainability of the business in dominant market conditions (Malik 2011).

So, in order to carry all risks, insurers should keep their profitability; therefore, the purpose of this study focuses on identifying the success and failure factors of Ethiopia non-life Insurance Corporations profitability, so that the insurer could focus on the appropriate factors of profitability to maximize their profit and countries GDP rate because without profit it is difficult to increase GDP rate.

1.1 Statements of the problem

Profitability is the major goal of any business firms because the goal of any business firms is to get reward or increase the owner's wealth and profitability is very significant determinants of firm's performance (Sisay 2015). Insurance sector of any country can take major part in the economic growth and development (Ward and Zubruegg 2000). Their significant role in economic development is through reducing uncertainty, indemnify the losses and put them in the same position as they were before, to avoid fear, anxious and for the peace of mind to policy holders and also encourages investment and Employment opportunity. In order to provide these and other benefits the insurance sector should be profitable. The contribution of Ethiopian insurance sector in the country for gross domestic product is insignificant for several years in other words insignificant profit without profit insurance cannot increase countries gross domestic product besides, number of people employed in the sector is very few as compared to other countries

specially in Ethiopia. Insurance market in Africa still very low due to high poverty rate, lack of capital, an increase claim disasters, infrastructure problem, but have high growth opportunities in cause of economic development and continues growth of investment in the continents. Another reason is the exchange rate depreciation of local African currencies is driving claims cost in certain insurance lines such as motor insurance in case of cars and machineries spare parts are imported. The insurance penetration in Ethiopia is very minimal compared to other African countries. The neighboring Kenya insurance penetration is 2.9 percent and in South Africa, it is 14 percent. The one billion aggregate profit reported from the Ethiopian insurance industry was also four times lower compared to that of Kenya (Derso 2018).

The prevailing unethical competition and price undercutting has continued to be the major challenge of the sector, indirectly it affects profit of insurance. In real GDP growth, Ethiopia is the first from African countries but, at low standard in insurance performance. The largest volume of US 46\$Billion or 72% of the total Africa insurance premium covered by South Africa market. Other major markets include Morocco, Egypt, Kenya and Nigeria, with five top markets account for 85% of the total premiums, whereas Ethiopia shares only 1% from other left countries (Schanz 2017). In summing up, the role and contribution of insurance companies is very much limited when compared to the size of the population. Literature studies shows are conducted their studies by ignoring external factors (Gashaw 2012), (Sambasivam and Gashaw 2013), (Mehari and Aemiro 2013), (Sisay 2015), (Ondigi and Willy 2016) and (Birhan 2017)) etc.

And most of the studies are conducted their studies by using less than 10 years panel data and some studies are used profit before tax to measure ROA. The main reason that motivates the researcher to conduct this study is to identify the main internal and external factors that influence Ethiopian non-life Insurance Corporation profitability by using 21 years' time series data of Ethiopian insurance corporation-non life adding macro-economic variables and used commonly used measure of ROA i.e. profit after tax. Therefore, the study will attempt to fill this gap and augment its own possible contribution to the existing literature.

1.2. Objectives of the studies

The general objective of the study is to identify the factors that affect profitability of Ethiopian Insurance Corporation. Based on the above general objective, the researcher clarifies the following specific objectives.

- To identify the impact of tangibility of asset on profitability of Ethiopian non-life Insurance Corporation.
- To identify the impact of insurer size on profitability of Ethiopian non-life Insurance Corporation.
- To examine the impact of liquidity ratio on profitability of Ethiopian non-life Insurance Corporation.
- To identify impact of GDP gross rate on profitability of Ethiopian non-life Insurance Corporation.
- To examine impact of inflation rate on profitability of Ethiopian non-life Insurance Corporation.

2. LITERATURE REVIEW:

Literature shows that inconsistency of result findings regarding to correlation between ROA and independent variables. Empirical evidences regarding factors affecting profitability of insurance companies focused on Tangibility of asset, insurance size, liquidity ratio, gross domestic rate and inflation rate. Different scholars come up with different conclusions on the factors of profitability as shown in the empirical reviews. The study of Malik ((2011) and Mehari and Aemiro (2013)) shows positive and significant relationship between tangibility of assets and profitability of insurance firms. Findings of Yuqi ((2007), Gashaw (2012) and Sambasivam and Gashaw (2013)), which was there is no significant relationship with insurance profitability. Regarding to insurance size Mehari and Aemiro (2013), Melese (2014), Sisay (2015), Ondigi and Willy (2016) and Atsbeha and Kaur (2015) found positive relationship between insurance size and profitability. But, Agency theory suggests that lower agency costs are associated with better performances and thus higher firm values, all other things being equal. So, it creates confusion to accept above results of study.

Regarding to liquidity ratio finding shows that it is major factor that negatively but, significantly affect the profitability of insurance company (Sambasivam and Gashaw (2013) and Atsbeha and Kaur (2015)). Mehari and Aemiro (2013), Melese (2014) and Sisay (2015) studies shows that there is insignificant relationship between liquidity and profitability.

Study of Mohana and Tekeste (2012), Maja et al (2012) and Atsbeha and Kaur (2015) shows GDP rate is positive and significant effect with profitability of insurance firms. Lee (2014), Reshid (2015) and Geberu (2015) found GDP rate were negative and significant effect on profitability of Ethiopian Insurance firms

Dejene (2015) and Negussie (2012) Studies on the determinants of insurance companies' profitability in Ethiopia, and they suggested that inflation has negative impact and statistically significant determinant on profitability. However Study of Melese (2014), Reshid (2015) and Atsbeha and kaur (2015) result of regression analysis shows inflation rate of the country has no significant effect on the profitability of insurers.

Finally some studies are conducted their studies by ignoring external factors Gashaw (2012), (Sambasivam and Gashaw (2013), (Mehari and Aemiro (2013), Sisay (2015), Ondigi and Willy (2016) and Birhan (2017)) etc. And most of the studies are conducted their studies by using less than 10 years panel data. Therefore, the study will attempt to fill this gap and augment its own possible contribution to the existing literature by using 21 years' time series data.

3. RESEARCH METHODOLOGY:

In this study were used quantitative research approach and descriptive and explanatory research design, it establishes the relationship between independent variables and dependent variables. This study was used over the period of 1996-2016 years' time Series data from secondary sources mainly from the annual audited reports of the Ethiopian non-life Insurance Corporation. for firm specific factors and for external determinants, data on Gross Domestic Product (GDP) and inflation were obtained from the IMF (world economic outlook 2016) actual data over the period 1996 to 2016 for non-life. For data analysis purpose, quantitative data analysis methods; ordinary least square (OLS) method were used to study the impact of independent variables on major profitability indicators. i.e (ROA) separately. Regression analysis were carry out to test hypotheses to find which independent variable(s) individually and collectively provide a meaningful contribution towards the explanation of the dependent variable. To analysis secondary data different methods were used like Correlation matrix of explanatory variables. A correlation matrix were used to examine the relationship between the explanatory variables to investigate Multicollinearity, autocorrelation and stationary problem between variables. While doing this paper, the study employed ordinary least square method. In addition, the following diagnostic tests (i.e., Augmented Dickey-Fuller (ADF) test for stationary and Durbin-Watson(DW)testforautocorrelation) were carried out to ensure that the data fits the basic assumptions of linear regression model and E-view was used in this study. The Ethiopian insurance corporation financial statement and IMF (world economic outlook 2016) actual data was used to analyze the profitability of the Ethiopian Insurance Corporation. Adopted regression model is presented as follows;

$$ROA = \beta_0 + \beta_1 tan_t + \beta_2 irs_t + \beta_3 ldr_t + \beta_5 gdr_t + \beta_6 ln_r_t + \epsilon_t$$

Where:

- ROA = Return on total assets,
- tan=Tangibility of asset,
- irs = insurance size,
- ldr = Liquidity ratio,
- gdr= gross domestic product rate,
- inr= inflation rate,
- ϵ_t = is the error component for company at time t assumed to have mean zero $E[\epsilon_t] = 0$
- β_0 = Constant
- $\beta_1, 2, 3, \dots, 7$ are parameters to be estimated;
- t = the index of time periods and $t = 1, \dots, 30$

4. RESULTS AND DISCUSSIONS :

4.1 Multi co linearity assumption

As referred by Brooks (2008), an implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another. In this section the correlation between Tangibility of asset, liquidity, insurance size, GDP rate and inflation rate have been presented and analyzed. A correlation matrix used to ensure the correlation between explanatory variables. Cooper & Schindler (2009) suggested that a correlation coefficient above 0.8 between explanatory variables should be corrected for because it is a sign for Multicollinearity problem. And also Hair *et al.* (2006) argued that correlation coefficient below 0.9 may not cause serious Multicollinearity problem. The problem of Multicollinearity is said to be severe whenever the correlation analysis between two variables is found to be more than 80 percent (Kennedy, 2008). Table 4.1 shows there is no evidence of Multicollinearity problem. Therefore, diagnostic indicates that a Multicollinearity assumption is not violated.

Table 4.1. Correlation matrix amongst explanatory variables

Correlation	TAN	LDR	IRS	GDR	INR
TAN	1.000000				
LDR	-0.286461	1.000000			

IRS	-0.292374	-0.637031	1.000000		
GDR	-0.630875	-0.022255	0.715238	1.000000	
INR	-0.061438	-0.212932	0.096065	0.123198	1.000000

Source: E-view-9

4.2 Stationary Test

The Augmented Dickey-Fuller (ADF) test is employed to test the stationary of the variables in the model. The reason for knowing whether a variable has a unit root (that is, whether the variable is non-stationary) is to avoid the problem of spurious regression-case where the results of regressions suggest that there are statistically significant long run relationship among the variables in the regression model. Stationary, in language of the time series, means that mean, variance and auto covariance (at various lags) remain the same no matter at what timepoint they are measured; they are time invariant (Gujarati, 2004). The presence of unit roots (non-stationary) for each variable is tested using the Augmented Dickey-Fuller (ADF) test procedure and the result of this test is presented on table 4.2. As summarized in the Table 4.2 below, return on asset, liquidity ratio and inflation rate are stationary at level with lag zero and gross domestic product rate, insurance size and tangibility of assets are non-stationary since p-values are greater than five percent it implies non-stationary. For non-stationary variables the study computed stationary at first and second difference, implying all variables are stationary; we can see p-values all are less than five percent so, it shows presence of stationary.

Table 4. 2. ADF- unit root test

Variables	Tests on level		Tests on first difference		Tests on 2 nd difference	
	At zero lag	p-value	At zero lag	p-value	At zero lag	p-value
ROA	-4.5	0.002	-7.77	0.0000	-9.67	0.0000
TAN	-2.2	0.20	-3.08	0.044	-5.277	0.0006
LDR	-4.25	0.0039	-6.64	0.0000	-8.179	0.0000
IRS	-2.35	0.166	-8.289	0.000	-11.31	0.0000
GDR	3.07	1.0000	-2.57	0.114	-5.479	0.0004
INR	-3.45	0.0211	-6.35	0.00001	-9.760	0.0000

Source: e-view- 9

4.3 Test for autocorrelation assumption (cov(ui, uj) = 0 for i ≠ j)

According to Brooks (2008), assumption three said that the CLRM disturbance terms is the covariance between the error terms over time is zero. In other words, it is assumed that the errors are uncorrelated with one another. To test this assumption the study used Durbin-Watson (DW) test. As table 4. 3 below indicates that the DW test result is 2.015350 for the profitability measure; return on asset. This indicates that there was no serious evidence of autocorrelation in the data since the DW test result is not far from two.

Table 4. 3 Durbin-Watson (DW) test

R-squared	0.976536	Mean dependent var	0.124822
Adjusted R-squared	0.968715	S.D. dependent var	0.201310
S.E. of regression	0.035607	Akaike info criterion	-3.597601
Sum squared resid	0.019018	Schwarz criterion	-3.299166
Log likelihood	43.77481	Hannan-Quinn criter.	-3.532833
F-statistic	124.8568	Durbin-Watson stat	2.015350
Prob(F-statistic)	0.000000		

Source: E-View- 9

Table 4.3.1 Rules for Durbin-Watson test

Reject Ho: Positive correlation	Auto	Inconclusive : Neither rejected nor accepted	Don't reject Ho: No evidence of autocorrelation	Inconclusive : Neither rejected nor accepted	Reject Ho: Negative correlation	Auto
0	DL	2.0153	4-DU	4-DL		
0.748	1.814		2.186	3.252	4	

Source: Gujarati (2004)

Where: DL = Lower bound ,DU = Upper bound

Therefore, to test for autocorrelation, the DW test critical values at 1% level of significance were used. Then, relevant critical lower and upper values for the test are DL= 0.748 and DU=1.814 respectively. The values of $4 - DU = 4 - 1.814 = 2.186$; $4 - DL = 4 - 0.748 = 3.252$.

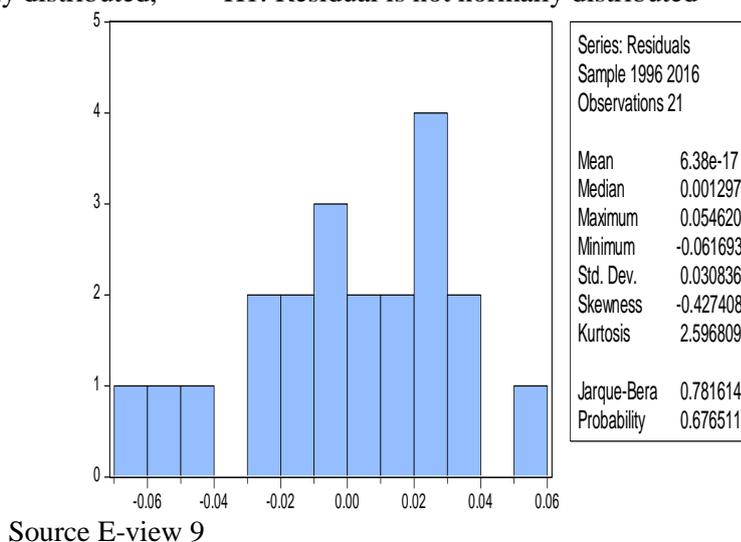
The Durbin-Watson test statistic of 2.0153 is clearly found on the non-rejection region so that there is no evidence for the presence of autocorrelation.

4.4. Normality test

According to Brooks (2008) stated in his book, testing normality assumption is very important before conducting hypothesis test about the model parameter, the normality assumption must be fulfilled. The normality assumption is about the mean of the residuals is zero. The examination of the normal distribution of the data of the study is one of the fundamental requirements for linear regression analysis between the study variables. Normality tests are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed (Gujarati, 2009). This assumption requires the disturbances to be normally distributed. Bera-Jarqu normality test which is the most commonly used normality test was conducted for the model. The p-value given at the bottom of the normality test screen should be bigger than 0.05 to not reject the null of normality at the 5% level. Based on the results shown below, the p-values is insignificant for the model and the researcher failed to reject the null hypothesis, which says the residual value is normally distributed. Therefore, there is no normality problem on the data used for this study.

From figure 4.4 below, it can be noted that the distribution is normal curve, indicating that the data confirms to the normality assumption.

Ho: Residual is normally distributed, H1: Residual is not normally distributed



4.5. Multiple regression result:

To examine the relationship between profitability measures and explanatory variables OLS regression analysis were run. The study conducted a multiple regression analysis so as to investigate the determinants of profitability of Ethiopian non-life Insurance Corporation. As stated above, the model estimated is a combination of both internal variables and external variables. In order to know the effect of those independent variables on profitability, this sub section presents the empirical findings from the econometric output on determinants of the Ethiopian non-life Insurance Corporation. Table 4.5 below reports regression results between the dependent variable (ROA) and explanatory variables. Under the following regression outputs the beta coefficient may be negative or positive; beta indicates that each variable's level of influence on the dependent variable. P-value indicates at what percentage 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).

Table 4. 5. Regression Results

Dependent Variable: ROA		
Method: Least Squares		
Date: 01/14/19 Time: 12:04		
Sample: 1996 2016		
Included observations: 21		

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TAN	0.030379	0.129818	0.234011	0.8181
LDR	0.069351	0.009184	7.551102	0.0000
IRS	-0.085079	0.035664	-2.385545	0.0307
INR	0.001237	0.047906	0.025827	0.9797
GDR	0.465551	0.108926	4.273997	0.0007
C	1.653147	0.723608	2.284589	0.0373
R-squared	0.976536	Mean dependent var		0.124822
Adjusted R-squared	0.968715	S.D. dependent var		0.201310
S.E. of regression	0.035607	Akaike info criterion		-3.597601
Sum squared resid	0.019018	Schwarz criterion		-3.299166
Log likelihood	43.77481	Hannan-Quinn criter.		-3.532833
F-statistic	124.8568	Durbin-Watson stat		2.015350
Prob(F-statistic)	0.000000			

Source: E-View- 9

From Table 4.5 regression result, the regression equation can be developed as follows:

$$ROA=1.653+0.03037(TAN)+0.0693(LDR)-0.0850(IRS)+0.00123(INR)+0.4655(GDR) +et$$

INTERPRETATION OF REGRESSION RESULTS:

4.5.1 Tangibility of asset (TAN)

The first hypothesis was formulated to evaluate the relationship of Tangibility of asset and ROA there is significant positive relationship between Tangibility of asset and profitability of Ethiopian non-life Insurance Corporation. The regression results concerning Tangibility of asset show that there is positive and insignificant relationship between Tangibility of asset and profitability of Ethiopian non-life Insurance Corporation, since the regression coefficient is 0.0303. Hence, the result is inconsistent with the hypothesis of the study HA1 is rejected. Likewise, the statistical result revealed strong insignificant relationship between the variables and it can be concluded that tangibility of asset has positively but insignificantly explained the profitability of Ethiopian non-life Insurance Corporation. The result implies. The result is inconsistent with findings studied by Gashaw (2012), Sambasivam and Gashaw(2013). However the result is consistent with findings studied by Mehari and Aemiro (2013).

4.5.2 Liquidity ratio

The second hypothesis predicted that there is a significant positive relationship between liquidity ratio and Ethiopian non-life Insurance Corporation. The regression result also shows that liquidity has a significant positive relationship with profitability of Ethiopian Insurance Corporation, since its beta coefficient and probability is 0.069 and hence, the hypothesis is consistent with the regression result, HA3 is accepted.

The result implies that the highest the level of liquidity ratio formation, the larger the insurance corporation is or a company with high liquid asset is more profitable than company with high tangible asset. The result is consistent with findings studied by Yassin (2012). However inconsistent with findings studied by Gashaw (2012), Sambasivam and Gashaw (2013) and Atsbeha and Kaur (2015).

4.5.3 Insurance size

The third hypothesis was formulated to evaluate the relationship of insurance size and ROA there is significant positive relationship between insurance size and profitability of Insurance Corporation. The regression results concerning insurance size shows that there is negative and significant relationship between insurance size and profitability of Ethiopian Insurance Corporation, since the regression coefficient is -0.085. Hence, the result is inconsistent with the hypothesis of the study HA3 is rejected. The result is consistent with Agency theory. It suggests that conflicts of interests between agents and owners due to greater company size, it is less control of management's

behavior would be happen. And Jensen and Murphy (1990) show that job security of manager's increases as company size grows, therefore, it could result in a deviation from the main objective of a firm which is maximizing its shareholders' wealth. However inconsistent with finding studied by Mehari and Aemiro (2013), Melese (2013), Sisay (2015) and Atsbeha and kaur (2015).

4.5.4. GDP rate

The fourth hypothesis was formulated to evaluate the relationship of GDP rate and ROA there is significant positive relationship between insurance size and profitability of Insurance. The study showed that the Gross Domestic Product (GDP) was revealed to have a positive and significant correlation with profitability of Ethiopian insurers. Similar to this finding, the previous researchers who confirmed a positive and significant association between GDP and profitability were Suheyli (2015). The estimated positive coefficient of the variable signifies that economic growth and profitability are highly directly related, i.e. economic growth can facilitate the profitability of insurance companies mainly through increasing the need for financial services, thereby increasing insurers' cash flows and profit margins. Whenever the economy gets prosperous, then the need for insurance service will definitely increase and this can ultimately results in high return or profit margin to the insurers. so, the result is consistent with the hypothesis of the study HA4 is accepted.

4.5.5 Inflation rate

The fifth hypothesis was formulated to evaluate the relationship of inflation rate and ROA there is significant negative relationship between insurance size and profitability of Insurance.

Based on the regression result inflation has a positive but insignificant relationship with profitability of general insurance companies. Hence, inflation has no significant impact on profitability, even if it has a positive beta coefficient (i.e. 0.00123). So, HA5 is rejected.

5. CONCLUSIONS AND RECOMMENDATIONS:

5.1 Conclusions

The purpose of this study focuses on identifying the success and failure factors of Ethiopian non-life Insurance Corporation profitability. Specifically insurance specific factors and macroeconomic factors were used. Time-series data of Ethiopian non-life Insurance Corporation from 1996 to 2016 was analyzed using multiple linear regressions method. In this study, secondary data was analyzed to investigate the major determinant factors of profitability of Ethiopian non-life Insurance Corporation. The regression results shows that liquidity ratio, insurance size and GDP rate were significant effect on profit but, tangibility of asset and inflation rate were insignificant. The regression shows that all explanatory variables have positive effect on the profitability.

5.2 Recommendations

Based on the above finding the study is forwarded the following recommendations. Overall these empirical results provide evidence that Ethiopian Insurance Corporation is shaped by liquidity ratio, GDP rate and insurance size. However, tangibility of asset and inflation rate have not seem to significantly affect. So, the insurance managers and policy makers should give high concern to liquidity ratio, GDP rate and insurance size.

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