

# The effect of risk management on financial performance of insurance companies in Ethiopia. (financial, operational and enterprise management risk dimensions)

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**Abstract:** *The study was conducted to examine the effect of risk management on the financial performance of insurance companies in Ethiopia; the objective of the study was to investigate the effect of risk management on financial performance from perspectives of financial, operational and enterprise management risk. The study was conducted using secondary data from financial statements of the insurance companies. In order to achieve the objective of the study, the study used explanatory research design and quantitative research approach with Panel data covering nine-years (2009–2017) are analyzed for ten insurers in Ethiopia. The finding of the study reveals that; financial performance of an insurance companies can be affected by financial, operational and enterprise management risk; the result of random effect regression model shows that; financial risk; which is measured by liquidity risk have a positive and statically significant effect on financial performance at 1 percent significance level. Cost to income ratio, claim settlement ratio and asset utilization ratio which are proxy for operational risk of insurance companies have negative, negative and positive impacts on financial performance of the insurers respectively and statically significant at 1 percent, 5 percent, and 1 percent significance level respectively. The firm size which is measure for enterprise risk management has positive effect on financial performance of insurance companies and statically significant at 5 percent significance level. The study recommends that; claims managers in Ethiopian insurance industry must effectively manage their claims processes, in order to reduce the number of claims for every earned premium.*

**Key Words:** *risk management, financial performance, insurance companies.*

## 1. INTRODUCTION :

Insurance companies are in the business of taking risks and Worldwide these companies write policies that deal with specific risks, and in many cases, even underwrite exotic risks. In carrying its core activities, i.e., pricing, underwriting, claims handling and reinsurance management, an insurer faces a wide range of risks which are often interlinked and if not properly managed, could threaten the ability of the institution to achieve and sustain its viability. Therefore, obtaining coverage for every insurable risk is being replaced by the risk management concept (Arif et al., 2015). According to Kadi (2003) most insurance companies cover insurable risks without carrying out a proper analysis of the expected claims from clients and without putting in place a mechanism of identifying appropriate risk reduction methods. Particularly to discuss this issue in the context of Ethiopia. As per its directive of national bank of Ethiopia Insurance Supervision Directorate (ISD) which has compiled the first draft of the risk management guideline for eight commonly identified and known as inherent and significant risks of insurers. In the process of these risks management, the role to be played by the board of directors, management, internal control system and other concerned parties is clearly addressed. So it is an implication that all insurance companies are expected to design their risk management plan (RMPs) in such a way that it serves as a sufficient standard to gauge and rate their risk management practices which basically focusing on inherent and significant risks. Hence, this study investigates the effect of risk management on an insurance company's financial performance in Ethiopia. In doing so, the study gives wide consideration on risk management from the perspective of Financial, Operational and enterprise management risk. In line with this, so many studies have been conducted in Ethiopia on insurance sector but from different perspectives. For example, Rebuma (2013), Hiwot (2017), Abraham (2015) and W/Michael (2017) conducted study on the effect of risk management on financial performance. And mainly focused on risk management techniques (loss prevention & control, loss financing, and risk avoidance) and analyzed by using correlation matrix but fails to consider the operational risk and enterprise management risk. By considering this, the general objective of this study is empirically to examine the effect of risk management on the financial performance of non-life insurance companies in Ethiopia and seeks to test the following hypotheses. Moreover financial risk was measured by (liquidity risk and technical reserve risk (safety ratio)), operational risk was measured by (claim settlement risk, cost to income, and asset utilization) and finally enterprise management risk was measured by the size of insurance companies. Hence, to achieve the objective of the study, the present study seeks to test the following hypotheses.

*H1: Liquidity risk, Company size, and Income has a significant and positive effect on Ethiopian non-life insurers' financial performance*

*H2: Technical reserve risk, Claim settlement risk, and Cost has a negative and significant effect on Ethiopian non-life insurers financial performance*

## **2. LITERATURE REVIEW :**

Joyce & Willy (2016), studied on effects of risk management practices on the financial performance of non-life insurance firms operating in Kisii County in Kenya. The descriptive survey research design was used to collect data. The target population was 237 respondents, comprising of 116 directors and 121 senior managers. A stratified random sampling method was used to get the sample. Primary data was collected using a structured questionnaire while secondary data was collected from published reports and financial statements. The study shows that there was a positive relationship between the financial performance of non-life insurance companies, risk identification practices, risk mitigation practices, and risk monitoring practices. The study concludes that there is a strong relationship between risk management practices and financial performance of insurance companies in Kisii County, Kenya.

Catherine (2014), has conducted a study on the effects of risk management on the financial performance of insurance companies in Kenya, data collected from 44 insurance companies and published reports for a period of 2008 - 2012. The study established that a majority of insurance companies in Kenya had adopted risk management practices in their operations and that this had a strong effect on their financial performance. Risk identification was found the most significant in influencing financial performance, followed by risk mitigation, risk management program implementation & monitoring and risk assessment & measurement respectively. The study concluded that there was a positive relationship between the adoption of risk management practices and the financial performance of insurance companies in Kenya.

Musa et al. (2014) examined the relationship between enterprise risk management and organizational performance: evidence from the Nigerian insurance industry, using purposive sampling technique, 10 general insurance companies were selected from 49 companies operating in Nigeria. Contingency reserve, shareholders' fund, gross premium and net premium were used as dummies for ERM indicators. Panel data was adopted for a ten year period of 2001-2010. The study reveals that there is joint cause relationship among ERM variables and organizational performance though, individual relationship of the indicators differ. Both contingency reserve and net claims respectively have significant positive impacts on organizational performance. The liquidity ratio has no significant impact on organizational performance. Shareholders' funds have a negative significant impact on organizational performance.

Eric (2005) investigated risk management techniques and financial performance in the insurance sector in Uganda. The findings on the financial performance of the insurance companies for this study show fluctuating ratios as measured by ROE. Likewise, a study by Mwangi & Iraya (2014) found that financial performance was positively related to earning assets and investment yield for Kenyan General Insurers and that growth of premiums and size of underwriters were not significantly related to financial performance. Adams & Buckle (2003) argued that highly geared and low liquid Bermuda insurers perform better and that their underwriting risk is directly related to a resilient financial performance.

The study conducted by Endaweke (2015) was Risk management and its impact on performance in Ethiopian Commercial Banks, balanced fixed effect panel regression was used for the data of 8 commercial banks in the sample covered the period from 2002 - 2013. The results of panel data regression analysis showed that credit risk management indicator, Liquidity risk management indicator and operational risk indicator had a negative and statistically significant impact on banks' performance. Capital adequacy ratio had positive statistically insignificant impact on banks' performance. In addition to this, analysis of primary data by descriptive statistical tools and on hypothesis testing using regression model leads the researcher to conclude that banks with good risk management policies have a lower risk and relatively higher return on asset. Finally none performing loan ratio, liquidity ratio and cost to income ratio are significant key drivers of performance of commercial banks in Ethiopia.

Tsion (2015) examined the effectiveness of the risk management practice of commercial banks operating in Ethiopia. Information was obtained from 15 purposely sampled commercial banks & adopted concurrent mixed research design. Open and closed-ended questionnaires were administered to 86 respondents from selected commercial banks. The main conclusions of the paper were: risk managers perceive risk management as critical to their banks performance; the types of risks causing the greatest exposures are credit risk, operational risk, liquidity risk, interest rate risk, and foreign exchange risk; there was a reasonable level of success with current risk management practices and, banks are utilizing some of the approaches/techniques traditionally used to manage risks. She finally concluded that banks operating in Ethiopia are indeed risk-focused.

Rebuma (2013), studied on risk management techniques and financial performance of Ethiopian insurance companies the purpose of the study was to examine the relationship between applied risk management techniques and financial performance of the insurance companies in Ethiopia, covering the period of 2002-2011. Correlation analysis was used to identify the relationship between risk management techniques and financial performance. The findings of the study indicated that risk management techniques (loss prevention and control, loss financing and risk avoidance) were applied in the Ethiopian insurance companies. However, risk management techniques were not commonly applied by insurance companies. The findings also revealed low increase ROE ratios and a general increase in loss ratios of the insurance companies; i.e. a poor financial performance especially as indicated by the loss ratios. Finally, the study indicated the existence of weak relationship between risk management techniques and financial performance that show ineffective on how risk management techniques are applied to improve performance of the insurance companies.

### 3. RESEARCH METHODOLOGY :

This study adopted a quantitative research approach and explanatory research design in order to investigate the effect of risk management on financial performance of insurance companies in Ethiopia.

#### **The population of the study, Sample Size, and Sampling techniques**

The target population of the study was all insurance companies registered in Ethiopia; that means all 17 insurance companies. In this study, the sampling technique adopted was purposive sampling technique and ten (10) insurance was selected as the study sample by using non-probability purposive sampling technique considering the operating period of 2009 up to 2017 G.C. To conduct this study, the researcher used statistical tools E-views 10 software. The study has also performed diagnostic tests to ensure whether the OLS assumptions are violated or not.

#### **Dependent Variables (Return on Asset a measure for Profitability)**

ROA is a better measure of insurance profitability than others since ROA indicates how capable the management of the insurance has been in converting the institution's assets into net earnings (Malik, 2011). Therefore, this study was intended to measure financial performance by using ROA similar to most researchers. **ROA= Net profit after tax /Total assets**

#### **Independent variables**

##### **Financial risks**

Liquidity risk (LR): According to Anas et al. (2014) liquidity risk arises if the maturities of the two sides of the balance sheet are different. This difference could be due to excessive cash or lack of cash that is needed to be financed. As per Amal (2012), liquidity risk measured through current assets over current liabilities that refer to the degree to which debt obligations coming due in the next 12 months can be paid from cash or assets that will be turned into cash.

Technical Reserve Risk (safety ratio); Insurance companies collect premiums in advance and keep them in reserve accounts for future claim settlements.

##### **Operational risks**

Claim settlement risk (CS): The claims ratio also termed as loss ratio in the insurance business is defined as the claims incurred to net premiums earned. This ratio indicates how much percentage of net claims is incurred from the firm's or sectors' net earned premium. Claim settlement risk is expected to have negative relationship with profit.

Cost to income ratio (CIR): Cost to income ratio shows the overheads or costs of running the insurance company, including staff salaries and benefits, occupancy expenses and other expenses such as office supplies, a percentage of income.

Asset Utilization ratio (AUR): According to *Imane (2014)*, Asset utilization ratios measure how efficient a business is at using its assets to make money.

#### **Enterprise Risk management**

Firm size: As the size of an organization increases, the scope of risks is likely to differ in nature, timing, and extent. The need for having a more effective enterprise-wide risk management system will increase with the size of the firm. Larger firms may have greater resources allowing for greater ability to implement an ERM system.

#### **Model specification**

A general model was developed and tested in order to achieve the desired purpose of the study. The variable representing profitability of non-life insurances which was measured by ROA is used as the dependent variable in the regression models.

The regression equation was as follows:

$$ROA_{it} = \beta_0 + \beta_1 (LR)_{it} + \beta_2 (SR)_{it} + \beta_3 (CS)_{it} + \beta_4 (CIR)_{it} + \beta_5 (AUR)_{it} + \beta_6 (FS)_{it} + U_{it} \dots (1)$$

Where:

$\beta_0$  = coefficient of Intercept (Constant)  $\beta_5$  = coefficient of asset utilization ratio

$\beta_1$  = coefficient of liquidity ratio  $\beta_6$  = coefficient of firm size

$\beta_2$  = coefficient of claim settlement ratio  $u$  = The Error Term

$\beta_3$  = coefficient of cost to income ratio

$\beta_4$  = safety ratio CIR = Cost to Income ratio

LR = liquidity ratio AUR = asset utilization ratio

SR = Safety ratio FS = Firm size

CS = Claim settlement ratio

#### 4. DATA ANALYSIS AND INTERPRETATION:

##### CLRM Assumption and Diagnostic Test

Under this study, in order to investigate the effect of risk management on the financial performance of insurance companies the researcher was conducted a diagnostic assumptions needed for this model. To ascertain the goodness of fit of the estimated model, the diagnostic tests are conducted. The diagnostic test suggests that; the model passes the test of serial correlation, non-normality of the errors, heteroscedasticity associated with the model, multicollinearity and finally ramsey reset. The following tables show the result of all tests.

##### Heteroscedasticity test

H0: There is no Heteroskedasticity problem in the model.

H1: There is a Heteroskedasticity problem in the model.

$\alpha = 0.05$

Decision Rule: Reject H0 if the p-value is less than the significant level. Otherwise, do not reject H0.

**Table 4.1 Result of Heteroskedasticity Test**

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.578711	Prob. F(7,82)	0.1533
Obs*R-squared	10.68864	Prob. Chi-Square(7)	0.1528
Scaled explained SS	10.04886	Prob. Chi-Square(7)	0.1858

##### Autocorrelation (cov (ui, u j) = 0 for i \_= j)

H0: There is no autocorrelation problem in the model

H1: There is autocorrelation in the model.

$\alpha = 0.05$

Decision Rule: Reject H0 if the p-value less than significant level. Otherwise, do not reject H0.

**Table 4.2 Result of Autocorrelation Test**

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.503061	Prob. F(2,80)	0.0882
Obs*R-squared	5.300217	Prob. Chi-Square(2)	0.0706

### Normality

Even if there are several tests for normality assumption, like the histogram of residuals, normal probability plot (NPP), the most common one is Bera-Jarque (1981) test. According to Brooks (2008), if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would be significant. This means that Jarque Bera formalizes this by testing the residuals for normality and testing whether the coefficient of skewness and kurtosis are  $\approx 0$  and  $\approx 3$  respectively. The normality assumption of the regression model can be tested with the Jarque-Bera measure.

Skewness measures the extent to which a distribution is not symmetric about its mean value and kurtosis measures how fat the tails of the distribution. If the Jarque Bera value is greater than 0.05, it's an indicator of the presence of normality (Brooks, 2008). In addition, it is quite often in the case that one or two very extreme residuals cause a rejection of the normality assumption. Such observations would appear in the tails of the distribution, which enters into the definition of kurtosis, to be very large. Such observations that do not fit in with the pattern of the remainder of the data are known as outliers. If this is the case, one way to improve the chances of error normality is to use dummy variables (Brooks, 2008). In line with this, the study included one dummy variable (D82) to adjust the normality distribution. Thus, the figure below shows the result of normality by including one dummy variable.

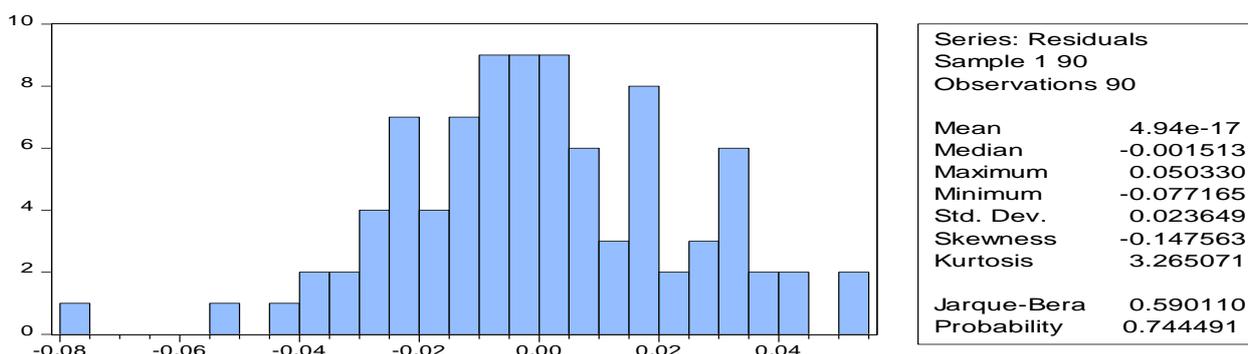
H0: The data are normally distributed.

H1: The data are not normally distributed.

$\alpha = 0.05$

Decision Rule: Reject H0 if the p-value less than significant level. Otherwise, do not reject H0

**Figure 4.1 Normality Test Result**



Source: E-Views 10 Output

### 4.2. Model Specification Test

The assumption of the CLRM that the econometric model used in the analysis is correctly specified has two meanings. The first is since the model is correctly specified, there is no equation specification error and the second is no model specification error. The model specification error exists due to omission of an important variable(s), inclusion of unnecessary variable(s), incorrect specification of the error, adoption of wrong function form and error of measurement in the regress and regressors. When the appropriate variables are omitted from a model, the OLS estimators of the variables retained in the model are biased and inconsistent. In addition to the above, the variance and standard error of these coefficients are incorrectly estimated. As a result, including irrelevant variables in the model are also that the estimated variances tend to be larger than necessary, thereby making for less precise estimation of the parameters. That is, the confidence intervals tend to be larger than necessary (Gujirati, 2009). Therefore, in order to select a correct estimated model, the researcher has carried out the Ramsey-RESET Test to check on the model specification. The hypothesis of the model specification test was formulated as follows;

H0: The model is correct.

H1: The model is incorrect.

$\alpha = 0.05$

Decision Rule: Reject H0 if the p-value less than significant level. Otherwise, do not reject H0

**Table 4.3 Result of Model Specification Test**

Ramsey RESET Test  
 Equation: UNTITLED  
 Specification: ROA LR FS CS CIR AU SAFTEY DUMMY82 C  
 Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.861872	81	0.3913
F-statistic	0.742824	(1, 81)	0.3913
Likelihood ratio	0.821598	1	0.3647

Source: generated from E-views 10

**4.3. Model Selection: Random versus Fixed Effect Model**

There are two classes of panel estimator approaches that can be employed in financial research; the Fixed and Random Effect model. The question which model is more appropriate for the study is selected through Hausman Test. The Hausman test is helpful in order to examine whether any unobserved omitted variables are uncorrelated with the included explanatory variables or not. If they are uncorrelated, a random effect approach can be used; otherwise, the fixed-effect model is preferable. The null hypothesis for this test is that unobservable heterogeneity term is not correlated or the random-effect model is appropriate, with the independent variables. If the null hypothesis is rejected then study should employ fixed effect model (Brook, 2014). Therefore, the hypothesis for Hausman test was formulated as follows;

- H0: Random effect model is appropriate
- H1: The fixed effect model is appropriate.
- $\alpha = 0.05$

Decision Rule: Reject H0 if the p-value less than significant level. Otherwise, do not reject H0

**Table 4.4 Result of Hausman Test**

Correlated Random Effects - Hausman Test  
 Equation: Untitled  
 Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.932512	7	0.8912

Source: E-Views 10 Output

The above table 4.4 shows, the Hausman test has a P-value of 0.8912 which is more than 0.05 (5%) level of significance. The conclusion from the above Hausman test result is the null hypothesis of the random effect should not reject. This implies that for this study random effect is more appropriate than fixed effect.

**4.3. Regression Result Analysis**

In this part, the regression result has been presented. The following linear regression was developed on variables considered in the model to test the effect of risk management on financial performance of insurance companies in Ethiopia.

$$ROA_{it} = \alpha + \beta_1 (LR)_{it} + \beta_2 (SR)_{it} + \beta_3 (CS)_{it} + \beta_4 (CIR)_{it} + \beta_5 (AUR)_{it} + \beta_6 (FS)_{it} + U_{it}$$

**Table 4.5 Regression Output**

Dependent Variable: ROA  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 04/18/19 Time: 08:23  
 Sample: 2009 2017  
 Periods included: 9  
 Cross-sections included: 10  
 Total panel (balanced) observations: 90

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LR***	0.037675	0.013120	2.871606	0.0052
SR	-0.005801	0.010874	-0.533418	0.5952
CIR***	-0.005286	0.001614	-3.274240	0.0016
CS**	-0.004253	0.001921	-2.214296	0.0296
AU***	0.101479	0.038037	2.667870	0.0092
FS**	0.020723	0.009237	2.243413	0.0276
DUMMY82	-0.177471	0.025167	-7.051765	0.0000
C	-0.122277	0.081996	-1.491247	0.1397

Effects Specification

	S.D.	Rho
Cross-section random	0.016516	0.3555
Idiosyncratic random	0.022238	0.6445

Weighted Statistics

R-squared	0.630541	Mean dependent var	0.033123
Adjusted R-squared	0.599002	S.D. dependent var	0.034235
S.E. of regression	0.021679	Sum squared resid	0.038540
F-statistic	19.99231	Durbin-Watson stat	1.795971
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.641918	Mean dependent var	0.080894
Sum squared resid	0.050407	Durbin-Watson stat	1.373134

Source: E-views 10 outputs

Note: \*\*\* indicates 1 percent significance level and \*\* indicates 5 percent significance level

The linear function for the study regression equation is denoted as below;

$$ROA = -0.1222 + 0.0376LR - 0.0058SR - 0.0052CIR - 0.0042CS + 0.1014AU + 0.0207FS$$

## Discussion of Regression results

### Financial Risk and Profitability

#### Liquidity ratio

As it is discussed in the preceding chapters; liquidity is a measure of the capability of an insurer to fulfill their immediate commitment or pay their liabilities to policyholders and other creditors, within a period of less than a year without having to increase profits from the underwriting activities and investment activities. In this study the relationship between profit (measured by return on asset) and liquidity (measured by current asset of insurance companies divided to current liability) is positive; which is consistent with the study established by Almajali et al.(2012) , Alice and Muturi (2016), Mazviona et al.(2017), As we can observe from the above regression result liquidity ratio of non-life insurance in Ethiopia has a positive and statistically significant effect on profitability at 1percent significance level. This implies holding other things remain constant; 1unit increases in liquidity position of the firm will cause profitability to increase by 0.0376 units. The results of a positive relationship between liquidity and profitability show that non-life insurance that has more liquidity ratio will bring higher profits for their firms and increase overall performance of insurance companies' ability to pay claims incurred to policyholders and creditors. So, if claims and other liabilities of the insurance companies are paid on time for policyholders as well as for creditors; that insurance company will gain the trust of public and this will open a way for that companies to sell more policies in order to increase profit. Therefore, it is expected that non-life insurers in Ethiopia with a more liquid asset will outperform those with less liquid assets. Since

insurer's lower liquidity means they will have more cash constraints and will have more difficulties in repaying to policyholders when the loss occurred.

### **Safety ratio**

The variable safety ratio is also used as a proxy for financial risk and measured by claims outstanding to equity. The regression result of this study reveals that technical reserve (measured by safety ratio) has a negative relationship with profit but not statically significant. This implies increase in 1 unit safety ratio will decrease the profit by 0.0058 units. The general assumption behind negative sign of this variable is that; an increase in safety ratio will certainly lead to a decrease in performance of Ethiopian insurance companies; because it indicates holding more amount of technical provision for outstanding claim decline the insurers' profit. Regarding its significance, it is even not significant at 10 percent significance level and this is an implication for that; Ethiopian insurance companies are not holding huge amount for technical reserves that affect their profit. This finding is consistent with the finding established by sisay (2017) and woldemihal (2017) by its sign.

### **Operational risk and Profitability**

#### **Cost to Income ratio**

The coefficient of cost to income, which provides information on the efficiency of the management regarding expenses relative to income, was negative and statistically significant at 1% significance level. This implies that 1 unit increase in cost to income will decrease the profit of insurance companies by 0.0052 units. Since a little study has been conducted in Ethiopia related to risk management and its impact on financial performance; this study has no benchmarks to compare the finding with other studies. But a number of studies have been conducted in world as well as locally on other financial institutions. For example, Ford (2004), Welch (2006), Sufian and Chong (2008), have conducted study on effective risk management on financial performance of banks. And they came up with a finding of negative relationship between two variables and statically significant. As well in Ethiopia, Amdemikael (2012) and mitiku (2017) have conducted study on the effect of risk management on financial performance of banking industry in Ethiopia and they have arrived at the same result. Therefore, operational efficiency exists as one of the major determinant factors that can influence insurance companies' financial performance in an unfavorable way.

#### **Claim Settlement ratio**

As expected and hypothesized, the sign and direction of variable claim settlement risk are perfect; this variable indicates that the claims incurred to net premiums earned and indicates how much percentage of net claims is incurred from the firm's net earned premium. In this study the relationship between profitability (measured by return on asset) and claim settlement risk (measured by claims incurred to net premiums earned) is negative. This finding is consistent with study established by woldemihail (2017), (Pervan et al. (2012); Mirie & Cyrus (2014) Yusuf & Dansu (2014) by its sign. As we can observe from the above regression result; the claim settlement ratio and probability have a negative relationship and statically significant at 5 percent significance level. This implies that; holding other things remains constant, 1 unit increase in claim settlement ratio will cause profitability to decrease by 0.0042 units.

#### **Asset utilization ratio**

The variable asset utilization ratio which is used as a proxy to operational risk in this study has a positive relationship with return on asset of the insurance companies and statically significant at 1 percent significance level. The result of regression output reveals a 1 unit increase in asset utilization ratio (measured by firms earning to total asset) will cause profitability to increase by 0.1014 units. This positive relationship is an indication for the more the firm ability in utilizing its asset; the more profit of the firm.

### **Enterprise Management risk**

#### **Firm Size**

The variable firm size is used as a proxy to measure enterprise risk management and it has a positive relationship with the profitability of insurance companies. The finding of this study is consistent with the finding established by *Woldemihail (2017)*. The result of regression output reveals firm size and profitability have a positive relationship and statically significant at 5 percent significance level. This implies that; 1 percent increase in firm size will cause the profit of insurance companies to increase by 0.00207 units. In this case, since the functional form between profitability and firm size is lin-log; the coefficient on the beta should have to be divided for 100 in order to make interpretation. The size of the firm can affects the financial performance of insurance companies in many ways. For example, large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Larger insurers can achieve operating cost efficiencies through increasing output i.e. they are able to realize economies of scale especially in terms of labor costs, which is the most important factor for delivering insurance services.

Moreover, the findings of the regression result show the value of R-Square, also known as the Coefficient of determination; which is a commonly used statistic to evaluate model fit. R-squared defined that the square of a correlation coefficient; it must lie between 0 and 1. If this correlation is high, the model fits the data well, while if the correlation is low (close to zero), the model is not providing a good fit to the data. The adjusted R-squared compares the explanatory power of regression models that contain different numbers of predictors and it could control the extremes and the biasedness of the model. The value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008). R-squared statistics and the adjusted R-squared statistics of the model was (63%) and (60%) respectively. The result of this estimation particularly the adjusted R-Squared indicates that the changes in the independent variables explain 63% of the changes in the dependent variable. This means technical reserve (which is measured by safety ratio), company size, liquidity ratio, claim settlement ratio, cost to income ratio, asset utilization ratio, and firm size collectively explain 63% of the changes in financial performance. Thus these variables collectively, are good explanatory variables to identify the effects of risk management on insurance companies' financial performance in Ethiopia. However, the remaining 37% of changes were explained by other factors that are not included in the model. Overall reliability and validity of the model were further enhanced by the Probability (F-statistic) value (0.000) which indicates strong statistical significance. Thus the null hypothesis of the overall test of significance that all coefficients are equal to zero was rejected as the p-value was sufficiently low (less than 0.05)

## 5. CONCLUSION :

This study was conducted to examine the effect of risk management on the financial performance of insurance companies in Ethiopia. In doing so, non-life insurer's data was used to study the subject of interest. The study was conducted through secondary panel data which covers a 9 years range (2009-2017) with total observation of 90; the sampling technique adopted was purposive sampling technique and the insurance companies were selected purposively from total population of the study. In order to estimate the extent of the effects of each variable on financial performance; several tests were needed to be done. Firstly a multicollinearity test was checked through correlation matrix in order to see if there was any issue between variables; assumptions of classical linear regression model were tested and confirmed that the model is viable. Selection of appropriate model was made by Housmen test and confirmed the study to adopt random effect panel model.

The finding of the study reveals that; the financial performance of insurance companies can be affected by financial, operational and enterprise management risk. Financial risk which is measured by liquidity ratio and technical reserve (safety ratio) have a mixed effect on financial performance of insurance companies; in which, liquidity ratio found statically affecting the financial performance of the insurance companies positively at 1 percent significance level. On other hand; technical reserve (safety ratio) found negatively affecting the financial performance of the insurance industry but it is not statically significant in affecting profit. Secondly; the operational risk which is measured by claim settlement ratio, cost to income and asset utilization ratio; have different implications on the financial performance of the insurance companies. In this case, claim settlement ratio found statically significant at 5 percent significance level and negatively affects the profit. Besides, cost to income ratio has a negative relationship with profit and statically significant at 1 percent significance level. And finally the asset utilization ratio of the firm has a positive relationship with profit and statically significant at 1 percent significance level. The last explanatory variable of this study was enterprise risk management; which is measured by firm size or company size. The finding of the study reveals; the size of the insurance company has a positive relationship with profit and statically significant at 5 percent significance level. Finally, the study comes up with the conclusion of there is a strong relationship between risk management and financial performance of insurance companies in Ethiopia from the perspectives of financial, operational and enterprise management. The study recommends that; claims managers in Ethiopian insurance industry must effectively manage their claims processes, in order to reduce the number of claims for every earned premium. In doing so, good claim management embraces: proactive in recognizing and paying legitimate claims; assessing accurately the reserve associated with each claim; reporting regularly; minimizing unnecessary costs; avoiding protracted legal disputation and whatever possible, handling claims expeditiously.

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