EFFECT OF FINANCIAL RISK ON THE PROFITABILITY OF NON-LIFE INSURANCE COMPANIES IN NIGERIA

Yohanna G. Jugu
Department of Accounting,
University of Jos, Plateau State. gjugu@yahoo.com

Gonji, B. Ponjul
Dept. of Actuarial Science,
University of Jos, Plateau State. gonjiponjul@gmail.com

Angyak, J. Ahan
Dept. of Actuarial Science,
University of Jos, Plateau State. angyakjonathan@gmail.com

Kasmwakat R. Dakung
Department of Insurance,
University of Jos, Plateau State. dakungkasmwakat@gmail.com

ABSTRACT
The purpose of this paper was to examine some of the financial risk variables that affect the profitability of Non-life insurance companies listed on Nigerian Stock Exchange. A panel research design was employed for the purpose of this study. The reason for employing this design was because the study has to do with secondary data that cut across a large population and have occurred at different point in time. This was considered suitable and appropriate for a study on Non-life insurance companies that have similar characteristics. The data was collected and analyzed after which the study established that financial risks affect the profitability of Non-life insurance companies in Nigeria. Specifically, solvency risk, leverage risk, and reinsurance risk affected the profitability (ROA) of Non-life insurance companies in Nigeria between 2008-2018. While affiliated investment risk and firm size risk did not affect the profitability of insurance companies within that same period. The findings indicated a number of implications for both the owners of insurance companies as well as the regulators of the industry. Insurance companies are saddled with the responsibility of mitigating all sort of risks that are faced by individuals and organizations hence, owners of insurance companies should pay careful and particular attention to those financial risk variables that are likely to affect their own corporate profitability. The regulators of the insurance industry in Nigeria should formulate policies that will help in enhancing the profitability of the insurance industry.

KEYWORDS*:* Financial risk, Profitability, Non-life insurance companies, investment risk.

1.0 INTRODUCTION

Organizations are face with risk that can threaten their existence if they are not properly manage. Risks management is now an essential component of the business world as well as the academia. This is because it determines the survival and growth of business organizations. Moeller (2007) opined that risk management (RM) is a new model for managing risks confronting businesses on a daily basis, which could require some strategic approaches. Mukino (2018) re-affirmed that position by asserting that risks management is the arrangement of components put together through due process within an organization to efficiently and effectively manage risk over time thereby enabling the organization to survive severe competition.

Risks in organizations could come in different forms such as theft, dishonesty among employees, loss of key employee(s) to death, injury, competition in the industry, liquidation of assets, insolvency, among others (Owolabi, Oloyede & Akinola, 2017). This could post a great danger to organizations if proper measures are not taking to avoid it or mitigate it's effect. Risk management could be in form of operational risk or financial risk. Both of the mentioned forms of risk management are imperative for the survival and growth of any organization.

Burca and Batrinca (2014), Malik (2011) and Shiu (2004) observed that the essence of establishing business organizations is to make profit, and this can be achieved through the instrumentality of financial risk management.   Effective financial risk management will help an organization to expand her size by acquiring more market shares, retain more profits in order to invest in new ventures or expand existing ones, increase her solvency margin as well as give the organization a better leverage (Amaya & Memba, 2018; Chipa & Wamion, 2017).

Non-life insurance companies are not exempted from the financial risks other businesses face on a daily basis. There is therefore, the need to investigate those financial risk variables that could enhance the profitability of insurance companies or post a severe danger to them thereby stabilizing business activities in the Nigerian economy.

Over the years, the insurance industry has experienced some challenges that resulted in various reforms. These challenges deterred the growth of the industry as well as adversely affect the ability of the various companies in the industry to handle the risk insured by various clients, which is making some people to lose confidence in the industry. Some of these challenges includes: lack of capacity to handle the needs and risks of a country like Nigeria and its ever-rising population due to slow development process and challenges in settling claims, low awareness of the need for insurance cover due to cultural/religious belief and corruption among others. The above-mentioned challenges and others can negatively affect the profitability of non-life insurance companies in Nigeria. These challenges, if not properly handle might affect the company size, solvency margin, leverage, retention ratio or re-insurance ability of non-life insurance companies. It is on this basis that the researchers decided to study the effect of financial risk on the profitability of non-life insurance companies in Nigeria using the afore-mentioned variables from 2008-2018.

The broad research objectives are to examine the effect of financial risk on the profitability of non-life insurance companies in Nigeria. The specific objectives are as follows: To examine the effect of solvency risk on the ROA of Non-life insurance companies in Nigeria. To determine the extent

to which retention risk affect the ROA of Non-life insurance companies in Nigeria. To determine the effect of leverage risk on the ROA of Non-life insurance companies in Nigeria. To examine the effect of affiliated investment risk on the ROA of Non-life insurance companies in Nigeria. To examine the effect of reinsurance risk on the ROA of Non-life insurance companies in Nigeria. Lastly, to determine the effect of company size risk on the ROA of Non-life insurance companies in Nigeria.

2.0 LITERATURE REVIEW

2.1 Conceptual framework

The variables and constructs used for this study are from the key concepts of the study. These include financial risk and profitability, which represent independent and dependent variables, respectively. Financial risk is broken into six proxies: solvency risk, retention risk, leverage risk, affiliated investment risk, reinsurance risk and company size risk. While return of assets (ROA) is standing for profitability.
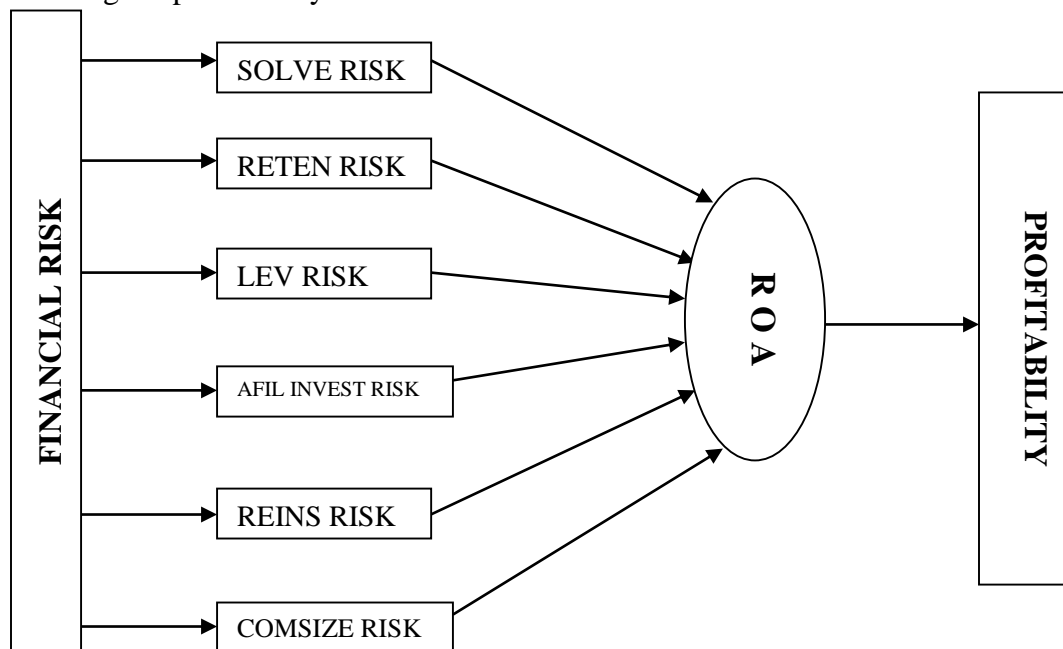
2.4 Theoretical framework

The underpinning theory for this research work is attribution theory. The theory examines the ways people determine retrospective causes for their own and for others' behavioral outcomes. The theory seeks to explain how people perceive causes for their past successes or failures that contribute to their current and future attitudes, motivation, and expectations for future successes or failures.

Effort, ability, task, strategy, and luck attribution scales are the variables identified in the theory. Among the above variables, only effort, ability and strategy are link to the variables in this research work. The researcher's variables that are linked to 'effort' are retention risk, solvency risk and leverage risk. Retention risk is the amount set aside by the insurance companies for investment

purposes. Solvency risk is the state of having enough funds or liquid assets to pay all one's debts or meet up with one's expenditure while leverage is the ability to earn very high returns when operating at high capacity utilization of facility. The aforementioned variables are the effort of the insurance companies to enhance their profitability.

The variable linked to ability is the company size and return on asset (ROA) risk. It is assumed that large companies tend to do better than small companies. Strategies are plans and actions that organizations like Non-Life insurance companies take in order to enhance their profitability. This strategy could be to reinsure their risk (reinsurance) as well as invest in other ventures (affiliated investment).

2.3 Empirical review

A review of past studies shows that the profitability of insurance companies vary from country to country. For instance, Ironkwe, and Osaat, (2019) researched on Risk Asset Management and Financial Performance of Insurance Companies in Nigeria from 1986-2016. The variables used for the study were; risk asset management, claim settlement, premium valuation period, leverage risk and return on equity (ROE). Multiple Regression Analysis was used to analyze the data empirically with the aid of Eview9 Statistical Software. The researchers discovered that there is no significant relationship between claims settlement and return on asset. They also discovered that there is no significant relationship between premium valuation period and return on asset. They also discovered that there is a significant relationship between leverage risk and the financial performance of insurance companies in Nigeria.

Mukino (2018) studied the effect of risks on the financial performance of insurance companies in Nairobi, Kenya from 2012-2017. Using SPSS to analysis the research data, the study revealed that financial leverage has insignificant relationship with financial performance (ROA) while firm size is significantly related with the return on Asset (ROA) of the insurance companies in Nairobi Kenya within the period of the investigation.

Batool and Sahi (2018) examined the financial performance of the insurance companies in United State (US) and United Kingdom (UK) during global financial crisis (2007-2008). The study compare the insurance industry of US with that of UK using data from 24 insurance companies from the two insurance industries. The study used internal factors (firm size, liquidity ratio, leverage and asset turnover) and external factors-Gross Domestic Product (GDP), cost per impression (CPI), interest rate and West Texas Intermediate (WTI)- as the independent variables while return on asset(ROA) and return on equity(ROE) are the dependent variables. The study discovered that in US, firm size, liquidity ratio, leverage, asset turn over, GDP and WTI are positively related to financial performance while CPI and interest rate are negatively related. In UK, firm size, liquidity, GDP,CPI and WTI positive impact on the country's financial performance unlike interest rate which has negative impact on financial performance.

Dabo, Andrew and James (2018) investigated the impact of solvency risk on the performance of listed insurance firms in Nigeria. The study obtained secondary data from the annual report of the twenty five (25) insurance companies listed on Nigeria stock exchange. Using Stata 12 to analyze

the data, the study revealed solvency risk has a positive and significant influence on the listed insurance firms in Nigeria.

Olalekan (2018) studied the effect of liquidity risk, premium growth on the performance of quoted insurance firms in Nigeria for the period of 2011-2015. The depended variable is return on asset (ROA) while liquidity risk, leverage, claim loss ratio and premium growth are the independent variables. The study adopts a panel multiple regression techniques and data were collected from secondary source through the annual reports of the firms. The findings of the study revealed that leverage has significant but negative effect on return on assets. The claim loss ratio has insignificant negative influence on return on assets while premium growth has positive and insignificant effect on firm performance of listed insurance companies in Nigeria.

2.4 Gap in the literature and value addition

From the above empirical review, it is observed that the literature reviewed have short coming in terms of scope, location and variables used. In terms of scope, most of the studies considered the whole of the insurance industry thereby fail to consider the profitability or financial performance of other segment of the industry like life and Non-life insurance companies. In terms of location, most of the studies were conducted outside the shores of Nigeria. Moreover, the recent studies on the research topic did not use variables like solvency risk, firm size risk, leverage risk, reinsurance risk and affiliated investment risk. The studies that used some of the aforementioned variables were carried out more than five (5) years ago, therefore, time and events might have changed the outcome of such studies. This study introduced two not too familiar variables (affiliated investment and reinsurance) to this research work. This is because the two variables have the ability of determining the profitability of the insurance companies in Nigeria.

3. METHODOLOGY

The design for this study is the panel research design. The panel design is selected because the study has to do with collection of data from across large population and at different point in time. Both simple and multiple regressions were employed to analyze the data collected. For the purpose of data analysis, ordinary least simple regression was used to test each hypothesis of the study. A statistical/econometrics package Stata version 13 was used to analyze the data. The researchers used twenty four (24) Non-life insurance companies quoted on Nigeria stock exchange (as at the time of conducting this research). The research is for eleven years period (2008-2018).

3.1 Model Specification:

This study adopted Mwangi and Iraya (2014) model with little adjustment. The model is adopted because it is a description of a given system and a strategy used to approach a problem in Nigeria context and the adjustment done to the researchers' model is in the variables used for the study. The model is specified in function form as follows:

$$PROF = ß_0 + ß_1 SOLVij + ß_2 RETENij + ß_3 LEVij + ß_4 AFFILij + ß_5 REINRij + ß_6 COMSIZEij + Ut$$

Where:

$PROF = Profitability\ (ROA)$

$SOLV = Solvency\ risk$

$RETEN = Retention\ risk$

$LEV = Leverage\ risk$

$AFT = Affiliated\ investment$

$REIN = Reinsurance\ risk$

$COMSIZE = Company\ size\ risk$

3.2 Variables Measurement

Return on Asset (ROA)= Profit/loss after tax/Total asset

Solvency risk = Total liabilities/Total asset

Retention ratio= Net premium (total premium – Reinsurance)/Gross premium

Leverage= Total debt/Total asset

Affiliated investment= Total affiliated investment /shareholders fund

Reinsurance= Total asset/Reinsurance

Firm size = Log of total assets

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics
Table 1.1

Descriptive Statistics

Variable	Obs	Mean	Std Dev	Min	Max	Skewness	Kurtosis
ROA	283	1.8703	13.66541	-92.42	78.9	0.38974	2.707644
Leverage	283	31.619	24.27264	-24.63	108.58	3.7314	19.48853
Reinsurance	283	47769	9054707	0	6.63	2.2916	15.16271
Affil. invest	283	5.4571	17.36782	-78.32	104.25	4.7271	93.82384
FSize	283	7.0832	1.299963	0.01	23.16	-4.1060	27.15352
Solvency	283	37.972	48.72001	-344.12	100	0.001376	1.784433

Source: Researcher Computation, 2020.

Table 1.1 presents the summary of the descriptive statistics for the parameters used specifically Return on Assets (dependent variable), leverage, reinsure, affiliated investment (Affil invest), firm size (Fsize) and solvency margin (independent variable). It can therefore, be inferred from the

outcome of the result, ROA has a mean value of 1.87 ranging between minimum of -92.42 to a maximum of 78.9 with standard deviation value of 13.66 which implies that ROA across the industry is significantly dispersed. The skewness and kurtosis value of 0.38 and 2.7 shows that the data is normally distributed.

4.2 Panel Data Diagnostic Tests
Table 1.2
Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Probability
ROA	2.36	5	0.00

Source: Researcher Computation, 2020.

The researchers run panel data diagnostic test to determine which test to choose between fixed effect test and random effect test. The test statistics has a chi-square statistic of 2.36 with five degrees of freedom and a corresponding p value of 0.00. Since the probability is significant, thus fixed effect model is preferred over random effect model.

4.3 Interpretation of Fixed Model
Having check for all the residuals required for linear regression, the study proceed to interpret the result of Fixed Effect as presented in table 1.3.

Table 1.3
Fixed Effect

	Coef.	Std. Err	T Stat.	P Value
Leverage	-.0608	.0338333	-1.80	0.073
Reinsure	-261e-07	8.66e-08	-3.02	0.003
Affinv	-.0363	.0455311	-0.80	0.425
Fsize	-.4848	.6055441	-0.80	0.424
Solvmar	.0954	.015949	5.93	0.000
R square	0.143			
F (3, 276)	9.67			
Prob F	0.00			

Source: Researcher Computation, 2020.

The regression result is presented in the table 1.3 above. The result shows R^2 of 0.143 or 14.3%. implies that the study independent variables (leverage, reinsurance, affiliated investment, firm size and solvency margin) account for 14.3% variation in the dependent variable (return on assets), while the remaining 85.7% can be explained by other variables that are not included in the model. The result of F statistics (9.67) is significant at 5% level. This implies that the study model is fit. Leverage, reinsure and solvency margin was found to be significant on return on assets with p

value less than 10%. Affiliated investment and firm size does not have a significant effect on return investment with p value greater than 10%.

4.4 Discussion of Result

The coefficient of leverage -.0608 shows a negative and significant effect on return on assets of listed insurance companies in Nigeria given the probability value of 0.073 less than 10% significance level. Thus, insurance companies are said to have a bad leverage that is inimical to operation and growth. This finding implies that a unit percent rise in leverage will bring about -.0608 decrease in the return on assets over the observed years. The researchers therefore fail to accept the null hypothesis which says that leverage risk does not affect the profitability of Non-Life insurance companies in Nigeria. This finding contradicts with the work of Ironkwe and Osaat (2019), Batool and Sahi (2018) and Olalekan (2018).

The coefficient of reinsurance -261e-07 also shows a negative and significant effect on return on assets of listed non-life insurance companies in Nigeria given the probability value of 0.003 less than 1% significance level. Thus, insurance companies are said to have a good number of reinsurance which has not yielded the insurance company any returns. This finding implies that a unit percent rise in reinsurance will bring about -261e-07 decrease in the return on assets over the observed years. The researchers therefore fail to accept the null hypothesis which say reinsurance risk does not affect the profitability of Non-Life insurance companies in Nigeria.

The coefficient of affiliated investment -.0363 also shows a negative and insignificant effect on return on assets of listed non-life insurance companies in Nigeria given the probability value of 0.425 which is greater than 10%. This finding implies that a unit percent rise in reinsurance will bring about -0.0363 decrease in the return on assets over the observed years. The researchers therefore accept the null hypothesis which say affiliated investment risk does not affect the profitability of non-Life insurance companies in Nigeria.

The firm size has a negative and insignificant effect on return on assets of listed insurance company in Nigeria. It was discover that the size of the firm does not determine or is not a yardstick to measure returns on assets of an insurance companies in Nigeria. The findings reveals that a unit percent rise in the level of firm size will bring about -48% rise in return on assets of non-life insurance companies. Insurance company are therefore advised to put more effort in considering other variables that will affect their performance. The researchers therefore accept the null hypothesis which says firm size risk does not affect the profitability of non-Life insurance companies in Nigeria. This study therefore, does not support the views of Mukino (2018) and Batool and Sahi (2018).

Lastly, solvency risk has positive and significant effect on return on investment of non-life insurance companies in Nigeria. This indicate that the higher the solvency margin the higher the return on assets of insurance companies in Nigeria. A unit percent increase in solvency margin will lead to 0.9% increase in return on assets of insurance companies in Nigeria. The study

therefore fail to accept the null hypothesis that says solvency risks do not affect the profitability of non-life insurance companies in Nigeria. The result of the study is in line with the study of Dabo, Andrew and James (2018).

5   CONCLUSIONS AND RECOMMENDATION

Base on the findings from the study, the study concludes that some financial risk affect the profitability of Non-life insurance companies listed on Nigerian Stock exchange. Specifically, solvency risk, leverage risk and reinsurance risk significantly affect the profitability of Non-life insurance companies in Nigeria. It also discovered that affiliated investment and firm size do not affect the profitability of insurance companies in Nigeria in a significant way. Following the finding, the study recommends that the management and regulators of non-life insurance companies in Nigeria should effectively manage solvency risk, leverage risk and reinsurance risk so as to increase the financial base of insurance companies in Nigeria.

The study suggested that the same study should be carried out in other aspects of the insurance industry such as life insurance companies and reinsurance companies by future researchers.

REFERENCES

Amaya, A. P., & Memba, F. (2015). "Effect of Risk Management Practices on Financial Performance of   Life Assurance Firms in Kenya: A Survey Study of KISII County". *International Journal of   Economics,   Commerce   and   Management   3*(5). Available at   *http://ijecm.co.uk*

Batool, A., & Sahi, A. C. (2018). "Determinant of the Financial Performance of the Insurance Companies in the US and UK during Global financial crisis (2007-2016)". *International Journal on Accounting Research. 7(1), 194.*

Burca, A., & Batrinca, G. (2014)."The Determinants of Financial Performance in the Romanian Insurance Market". *International Journal of Academic Research in Accounting, Finance and Management Science.* 4,299-308.

Chipa, M. E., & Wamiori, G. (2017). "Effects of Risk Management on Financial performance of Insurance Companies in Mombasa County Kenya". *Imperial Journal of Interdisciplinary Research (IJIR). 3(5), 2454-1362.*

Dabo, Z., Andrew, H., & James, K. H. (2018). "Solvency Risk and Financial Performance: Evidence from Listed Insurance Firms in Nigeria". *Crawford Journal of Business and Social Science (CJBASS). VII (II), 125-133.*

Ironkwe, U.I., & Osaat, A. S. (2019). "Risk Asset Management and Financial Performance of s Insurance Companies in Nigeria". *International Journal of Advanced Academic Research*
/   *Accounting Practice*. 5(4), 2488-9849

Malik, H. (2011)."Determinants of Insurance Companies Profitability: An Analysis of Insurance Sector of Pakistan". *Journal on Academic Research International.* 1(3), 315-321.

Moeller, R. R., (2007). Understanding the New Integrated Enterprise Risk Management Framework. Acid free paper.

Mukino, M. A. (2018). "Effect of Risks on the Financial Performance of Insurance Companies list on Nairobi Securities Exchange". A thesis submitted at the school of Business, University of Nairobi.

Owolabi, A. O., Oloyede, A. F., & Akinola, T. A. (2017). "The Impact of Risk Management on the   Profitability of Insurance Companies in Nigeria. *International Journal of Marketing and Technology.* 7(6) 2249-1058.

Olalekan, I. L. (2018). "Effect of Liquidity Risk, Premium Growth on the Performance of Quoted Insurance Firms in Nigeria": *A panel data analysis American finance & banking Review.* 2(1)

Shiu, Y. (2004). "Determinants of the financial performance of United Kingdom General Insurance Company". *British Actuarial Journal,* 10 (5), 1079-1110.