Managing the Underwriting Functions and Profitability Paradoxes of Nigerian Insurers: A Pooled Panel Model Study

Akpan, S. S[a*]**, Nnamseh, M. P**[b]**, Etuk, S. G**[c]**, Edema, A. J. M**[d]**, Ekanem, B. C**[e]**,** [a,e]Department of Insurance & Risk Management, University of Uyo, Nigeria, [b]Department of Business Management, University of Uyo, Nigeria, [c]Department of Marketing, University of Uyo, Nigeria, [d]Department of Business Management, University of Calabar, Nigeria, Email: [a*]sundaysakpan@uniuyo.edu.ng

This study examined the effect of underwriting function on the profitability of insurance companies, as empirical studies in this area are seemingly insufficient for objective assessment and justification for continuous involvement in this core aspect of insurance operation. The study employed a pooled ordinary least square (OLS) regression using secondary data of panel structure drawn from audited financial statements of 20 insurers in Nigeria from 2010–2019. The results show that underwriting function measured by insurance premiums (GWP), and underwriting profit (UP), each, independently contribute significantly and positively to insurers' profitability measured by profit after tax (PAT). Jointly, the result reveals that GWP contributes to insurers' profitability significantly and positively, while UP does not, thus suggesting inefficient underwriting operations. The study concluded that underwriting function positively and significantly influences the profitability of insurance companies in Nigeria. It was recommended that insurers should strive towards efficiency in their underwriting operations. This will not only generate a more premium collection, it will improve underwriting profit to a level that it contributes significantly and positively to insurance profitability independently, and jointly. Although, with zero underwriting profit performance, they can still perform better in business operations.

Keywords: *Underwriting functions, Insurance, Gross premium, Underwriting profit, Investment function, Insurance profitability.*

Introduction

Naturally, every firm operates based on two main objectives, which are profit maximisation, and shareholders' wealth maximisation. A firm's profitability enables the firm to withstand the competition, and challenges emanating from the industry. Nguyen (2006) posited that profitability is one of the reasons firms exist, and it is the most effective objective of financial management. This is true because financial management focusses on the maximisation of the owner's wealth, and profitability is employed to measure firms' performance. According to Pandey (2010), profit earnings help firms to survive and expand over time.

Insurance firms help in stabilising the economy by insuring or providing risk mechanisms to different sectors of the economy and through which individuals, business organisations, and the Government can transfer their different types of risk to the insurance companies for effective, and efficient management. It is through insurance that the fear associated with both the business, and social lives of individuals is removed, thereby establishing confidence in their different forms of engagement. Insurance firms play a vital role in the economy of any nation. For instance, they act as financial intermediaries and portfolio managers, create employment opportunities, and also help in economic development by providing the risk cover, pooling resources from the capital, and forecasting, among others. According to Berhe and Kaur (2017), financial services are rendered by insurance firms to boast the growth, and also the development of any economy. They further stated that insurance companies act as intermediary agencies by providing a risk transfer mechanism, hence, enabling private investment, creating job opportunities, and ensuring various development-related projects.

By nature, insurance business begins with selecting who, and what should be insured by the insurer after assessing the risk that will be involved (Rejda, 2008). Insurance companies can only perform the above functions through the process known as 'underwriting'. Isimoya (2013) defined underwriting as the process in which an insurance company, through a responsible officer, appraises the risk proposed, decides on terms and conditions of its acceptability, and establishes the rates payable, standards, and terms to be imposed on the proposer, such as a limit of coverage.

The statement by Yusuf and Dansu (2014) — which noted to ensure objective risk selection as well as management, Nigerian insurers should pay keen attention to their underwriting activities — suggests that underwriting activity could play a significant role in maximising profit as one of the cardinal goals of every organisation, including insurance firms. This implies that insurance firms must underwrite and invest in a manner that will guarantee their profitability and survival. This further suggests that underwriting function has a link with insurance profitability. However, because the integrity of insurance companies is based on their profitability, integrity has been questioned in recent times due to the economic crisis

(Kearney, 2010), there is a need for the reassessment of insurance profitability. The questioning is at the instance of the observed high volatility rate in insurance profitability between 2007–2018 (CBN, 2018). Due to the importance of profitability, efforts at its attainment are needed, and to investigate its determinants is also imperative.

The literature shows that most studies conducted on profitability are in other sectors. The few studies carried out on the profitability of insurance sector focus on variables such as company age, company size, capital structure, loss ratio, and inflation, among others. Factors like insurance premium, and underwriting profit are thinly investigated in empirical studies, thereby leaving a gap in insurance literature on underwriting, and profitability. It is against this background of uncertainty about underwriting functions promoting the profitability of the insurance firms that the researcher considers this investigation on underwriting functions, and insurer's profitability, a worthwhile exercise. The objectives of this study are:

1. Determine the effect of premium on the profitability of insurance firms in Nigeria.
2. Ascertain the effect of underwriting profit on the profitability of insurance firms in Nigeria.
3. Establish the joint effects of insurance premium, and underwriting profit on the profitability of insurance firms in Nigeria.

In order to achieve the above objectives, the following sets of hypotheses were formulated in the null form:

H1: the insurance premium (gross written premium) has no significant effect on the profitability of insurance firms in Nigeria.

H2: the underwriting profit has no significant effect on the profitability of insurance firms in Nigeria.

H3: there is no joint significant effect of insurance premium, and underwriting profit on the profitability of insurance firms in Nigeria.

Literature Review
Review of Relevant Concepts

The concept of insurance

Insurance is the business function that concerns pooling resources together to pay compensation to the insured or assured on the happening of the insured against happenings in return for premium (Agbaje, 2005). The importance of insurance is well documented in literature with emphasis on the protection of the assets of the business against any prospective or anticipated disaster or unplanned occurrences in the operational environment of the

enterprise (Biniam, 2015; Andersson, 2005). Averring the relevance of insurance, Oke (2012) opined that the essence of the insurance business is to ensure individuals are protected both financially, and otherwise, while business enterprises are also not left out of the coverage to ensure economic, and business stability

Insurance profitability

Profitability is an important goal of every company, including insurance firms. It has to do with an increase in the financial state of an organisation (Olajumoke, 2012). Profitability explains how the absolute amounts of proceeds relate with other factors. Similarly, Ibrahim and Abubakar (2011) stated that profitability is an incredibly significant performance indicator of an insurance company, as it provides more reliable measures on how profitable the company is, and its level of income. Practically, higher-level managers see profits as earnings after expenditure (Green & Segal, 2004). For other scholars, profitability is proxied by return on asset (ROA). In the current study, profitability is seen as profit declared or profit after tax (PAT), as was also used by Hafiz (2011).

The profitability of insurance companies tends to be affected by several factors that are generally grouped into internal, industry, and macroeconomic factors. The internal factors of insurance companies' profitability are those factors that the management can control, and components that differentiate other firm's profitability, notwithstanding the external environment (Ayele, 2012; Hafiz, 2011). According to Swiss Re (2008), insurance profitability may be determined by the underwriting and investment activities of an insurer. In this study, the underwriting activities are examined.

The concept of underwriting and its functions

According to Soye and Adeyemo (2018), underwriting is the process of investigating the risk brought by the potential insured for purposes of providing coverage. It is the process of investigating, and analysing, thereby determining whether to insure or not to insure the risks available either for insurance or reinsurance businesses. This procedure also has to do with assessing, classifying, and identifying the risk to insure or not to insure based on the conditions, terms, and the limit of liability to be able to calculate the premium suitable for payment (Marcedo, 2009; Vaughan & Vaughan, 2008). The underwriting function is defined as the activities undertaken by an insurer to ascertain the insurability of potential insured, the cost, and the benefit of insurance (Angima & Mwangi, 2017). In all, the key variables highlighted in the definition of the underwriting function, which requires further explanations as used in this study, are insurance premium, which is technically referred to as gross written premium, and underwriting profit.

The insurance premium or gross written premium is the amount of money charged by the insurer or paid by the insured to secure the services of the insurance (Vaughan & Vaughan, 2014). For underwriters to arrive at a sound rate for an insured to pay as premium, the professional adopts a method known as risk assessment. When an insurance applicant submits the policy form to the insurance company, the job of the underwriter is to access the information contained therein and make recommendations to the company, if to accept the risk or not (Berger, 1988). Garba and Abdulsalam (2018) postulated that premium is the rate that is charged to the insured, according to his or her expectations of loss or risk. The underwriting profit is arrived at by adding together the underwriting premium and increment from investment, deducts income taxes, loading expenses, administrative expenses, and genuine claim incurred (Soye et al., 2018). According to Apere (2015), underwriting profit is the total net premium earned resulting from fewer claims expenses incurred by insurance companies.

Theoretical Framework and Empirical

In this study, the resourced-based view theory (RBV) is applied to make an argument for the possible relationship between the underwriting functions, and profitability of insurance firms in Nigeria. The foundations of the RBV theory can be traced from the work of Barney (1986), and Wernefelt (1998), which conceptualise the firm as an administrative organisation and a collection of profitable resources; these resources could be categorised as physical, and human. The theory has earned a reputation by contemporaries of combining strategic insights that creates a distinct idea of a complex situation, such as competitive advantage, and organisational and firms' existence.

In the same vein, in support of the theory, it is stated that the resources could be material resources or human resources, and these resources are based on how they are combined, which can provide the firm with a variety of services. The above-mentioned resources, which are based on the idea of the firm involved, can be used to achieve profitability, irrespective of its application. The inference from the above suggests an insurance underwriter can be identified as a human resource, and asset to the insurance firm. Therefore, the ability of an insurance company to recruit a sound underwriter will enhance the productive underwriting functions, thereby leading to the better performance, and profitability of an insurer.

On record, different scholars have investigated the profitability of insurance firms with a few focussing on how it is affected by the core business of insurance, which is underwriting. Authors such as Soye et al. (2018) investigated how underwriting capacity has affected the income of the insurance industry in Nigeria. The findings of the study show that underwriting profit and earning assets have a positive impact on the income of insurance companies in Nigeria. For shareholder's funds and total investment, the study shows that they impacted the

income of Nigeria insurance companies negatively. This finding was current at the time the study was completed.

Angima et al. (2017) investigated the underwriting, as well as claims management effect, on the insurance firms' performance. Although, this study was carried out in East Africa, limiting it to general insurance firms, specifically. The results of the findings reveal that a significant relationship exists between the underwriting practice, claims management practice, and non-financial performance of insurance firms. Meanwhile, on the other hypothesis tested, the independent variables showed insignificant relationships with the performance of the insurance firms' financially. The above studies have a relationship with this study, in that, both consider underwriting — although with different objectives stated — with the aim of knowing how it affects the income and/or profit after tax (profitability) of insurance firms in Nigeria.

Methodology
Research Design and Data Set

The descriptive research design was used with secondary data collection. This design was considered suitable for the study since it deals with facts and data that already exists and is readily available for use. The data was drawn from 20 out of 42 insurance companies in Nigeria, whose data was up to date and available for the period covered in the study. The purposive sampling technique was adopted as only insurance companies incorporated and licensed by NAICOM, and operating since after the recapitalisation exercise to date, and also have the available data was selected. Thus, 20 insurance companies were covered in this study.

Model Specification

The study adopted the pool regression model in testing each of the hypotheses. This pooled OLS was previously used in Ghana by Eric, Samuel and Victor (2013). The statistics of interest include the t-stat, f-stat, and R2, with p-values being the benchmark for the decision of significant or non-significant relationship, as well as the benchmark for the decision on rejection or otherwise of the research hypotheses. The baseline model is presented in model 3.0. The models 3.1, 3.2, and 3.3, are used for the testing of a specific hypothesis to address each research objective.

$$Y_{it} = \beta_0 \sum_{n-1}^{n} X + \beta_n \sum_{k-n}^{k} Z + \varepsilon_{it} \tag{3.0}$$

For hypothesis 1:

$$PAT_{it} = \beta_0 + \beta_1 GPW_{it} + \beta_2 AGE_{it} + \beta_3 SZ_{it} + \beta_4 LEV_{it} + \varepsilon_{it} \tag{3.1}$$

For hypothesis 2:

$$PAT_{it} = \lambda_0 + \lambda_1 UP_{it} + \lambda_2 AGE_{it} + \lambda_3 SZ_{it} + \lambda_4 LEV_{it} + \mu_{it} \qquad (3.2)$$

For hypothesis 3:

$$PAT_{it} = \varphi_0 + \varphi_1 GPW_{it} + \varphi_2 UP_{it} + \varphi_3 AGE_{it} + \varphi_4 SZ_{it} + \varphi_5 LEV_{it} + e_{it} \qquad (3.3)$$

Where: Y_{it} = the regress and is represented by PAT = profit after tax, $\sum_{n-1}^{n} X$ = vector of explanatory variables are represented by GPW = gross premium written, UP = underwriting profit, $\sum_{k-n}^{k} Z$ = vector of the controlled variables is represented by AGE = Company Age, SZ = Size of the firm, LEV = Leverage, β_0, λ_0, and φ_0 = constant or intercept, β_{1-4}, λ_{1-4}, and φ_{1-5} = coefficient of independent and controlled variables, i = Firm (Company), t = time, ε, μ, and e = error term.

Method of Analysis

Both descriptive, and inferential statistics were used to analyse the data collected. Meanwhile, descriptive statistics were used to determine the quality of data, inferentially, and linear and multiple regression analysis was used to ascertain the relationship between the dependent, and independent variables, respectively. Despite the power of panel data, there are some econometric assumptions it may likely violate, such as the autocorrelation, multicollinearity, and heteroscedasticity problems. This study used a known statistical test to identify these problems and perform a corrective test to minimise the effects on the research outcome.

Results and Discussion
Descriptive and Correlation Statistics

Conventionally, the descriptive properties of the data come principally from the mean, and standard error, while the correlation is its coefficient. The results of the statistics are presented in Table 1. However, the discussion on the descriptive statistics is limited to the major (dependent, and independent) variables, while that of the correlation is extended to the controlled variables.

Table 1: Descriptive and correlation statistics

VAR.	MEAN	STD. DEV.	PAT	GWP	UP	AGE	SZ
PAT	1.49	6.68					
GWP	2.56	1.10	0.95				
UP	1.03	6.63	0.53	0.63			
AGE	42	14.09	-0.21	-0.22	-0.15		
SZ	7.32	.68	0.80	0.83	0.56	-0.18	
LEV	3.03	2.84	0.02	0.01	0.03	-0.24	0.03

Source: Authors' computation based on the data from various sources.

Descriptively, the mean, and standard error (shown in brackets) of the variables of this study are, as follows: PAT [1.49 (6.68)]; GPW [2.56 (1.10)]; and UP [1.03 (6.63)]. The mean value of 1.49 for PAT implies that, at the time of this study, the profit after tax of insurance firms in Nigeria stood at about 1.4 billion naira. For GPW, and UP, the mean values of 2.56, and 1.03, imply that GPW, and UP have each contributed 2.56, and 1.03 billion naira, respectively, to the profit of insurance firms in Nigeria during the period reviewed. These results suggest that each independent variable has a degree of relationship with the dependent variable and is likely to influence it significantly. This probable statement is because the values for the standard errors are greater than 'one', which suggests reasonable variance in the data set to make such an assumption conclusive. To reduce the variance and make the data analytical, a logarithm transformation was carried out on all the data using an inferential statistical analysis.

From the Table, the GPW is highly correlated with underwriting expenses (UE), and the size of insurance companies with a correlation coefficient of -0.97, and 0.83, all of which are closer to 'one' than 'zero', suggesting a significant probability of multi-collinearity problems in the data set. One of the steps taken to solve this potential problem was to transform the data using a logarithm transformation. After the transformation, the size of the insurance firms was dropped from the model, since its inclusion led to the problem of multi-collinearity, as evidenced by the higher VIF value.

Results of PAT Regression on Underwriting Function

The regression results for each hypothesis is presented in Table 2. At the bottom of the table are the various diagnostic test results of the regression model. Interestingly, the f-stat (ANOVA) values of 37.95, 110.43, and 133.80 for all the models are significant at 0.001, which shows that the model is valid and is correctly specified. All VIF values are less than 'five', meaning that there is no problem of multi-collinearity in the estimated parameters. All Wooldridge f-test values are not significant, and it shows the absence of autocorrelation. However, the B-P/Cook-W chi2 (1) significant values of 44.84, 93.71, and 36.84 for the original models are significant, which indicates the presence of a heteroscedasticity problem. To correct this problem in all our results, the model two, with robust standard errors, was estimated.

Table 2: Regression result for the relationship between PAT, GPW, and UP

Variables	Gross Premium and PAT		Underwriting Profit and PAT		Underwriting Profit, Gross Premium and PAT	
	Model 1 (Pooled OLS)	Model 2 (Pooled OLS - Robust)	Model 1 (Pooled OLS)	Model 2 (Pooled OLS - Robust)	Model 1 (Pooled OLS)	Model 2 (Pooled OLS - Robust)
Constant	4.733***	4.733***	5.302***	5.302***	4.396***	4.396***
	(0.173)	(0.362)	(0.182)	(0.307)	(0.164)	(0.268)
Control Variables:						
Lnage	-0.137*	-0.137	-0.234***	-0.234**	-0.0737	-0.0737
	(0.0698)	(0.102)	(0.0796)	(0.0923)	(0.0636)	(0.0714)
Lnlev	0.0385	0.0385	0.0378	0.0378	0.0538**	0.0538**
	(0.0303)	(0.0275)	(0.0348)	(0.0313)	(0.0271)	(0.0228)
Regressors:						
Lngpw	0.361***	0.361***			0.250***	0.250***
	(0.0167)	(0.0387)			(0.0346)	(0.0396)
Lnup			0.325***	0.325***	0.0436	0.0436
			(0.0184)	(0.0404)	(0.0328)	(0.0267)
Observations	180	180	180	180	180	180
R-squared	0.736	0.736	0.653	0.653	0.794	0.794
f-stat.	163.77***	37.95***	110.43***	24.95***	133.80***	38.17***
Model Diagnostics:						
Heteroskedasticity (B-P /Cook-W χ^2)	44.84*** (0.000)		93.71*** (0.000)		36.84*** (0.000)	
Autocorrelation (Wooldridge f-test)	2.199 (0.1545)		2.199 (0.1545)		2.199 (0.1545)	
Multicollinearity (Mean VIF)	1.03		1.03		2.91	

Source: Extracted from strata output.

Note: Standard errors in parentheses except for Wooldridge f-test, and Breusch-Pagan/Cook-Weisberg test; *** $p<0.01$, ** $p<0.05$, * $p<0.1$

The first objective of this study is to investigate the extent to which GPW, as one of the underwriting functions of an insurer, influences the performance of the same insurer in terms of profit after tax (INPAT). The regression result for this test, as shown in Table 2, reveals that insurer gross premium written (INGPW), and the INPAT of insurance firms are positively related with the coefficient of 0.361, which is statistically significant at the level of one per cent. This implies that a percentage increase in GPW causes approximately a 37 per cent increase in PAT. Based on this result, the researchers reject the hypothesis that: "holding other factor constant, gross premium written does not have a significant effect on profit after tax of insurance companies in Nigeria". The R^2 value of 0.736 indicates that the model has a good fit and remarkable predicting power. Thus, with the controlled variables (LNAGE, and INLEV), GPW jointly explained about 73.3 per cent of variations in PAT in Nigeria for the

period reviewed. The remaining percentage of 26 per cent may be explained by the variables that are not included in the present model used for this analysis.

For the second objective of this study, which was to investigate the extent to which underwriting profit (LNUP), as one of the underwriting functions of an insurer, influences the performance of the same insurer in terms of the PAT. The result in Table 2 shows that the LNUP, and LNPAT of insurance firms have a positive association with the coefficient of 0.325, which is statistically significant at the level of one per cent. This implies that a percentage increase in LNUP causes approximately a 32.5 per cent increase in PAT. Based on this result, the researchers have sufficient evidence to reject the hypothesis that: "there is no significant relationship between underwriting profit and the profitability of insurance firms in Nigeria". The economic implication of this finding is that the more underwriting profit an insurance company has, the greater their PAT. The R^2 value of 0.653 indicates that the model has a good fit and remarkable predicting power, and that the controlled variable, UP, jointly explained approximately 65.3 per cent of variations in PAT in Nigeria. The remaining 34.7 per cent of variations may be explained by variables which are not included in the model.

The last objective of this study assessed the joint effect of insurance premium and UP on the profitability of insurance firms in Nigeria. The result shows that GPW, and UP relate positively with LNPAT, with the coefficient of 0.250, which is statistically significant at the level of one per cent, and 0.0436, which is not statistically significant, respectively. This implies that a percentage increase in LNGPW causes an approximate 25 per cent increase in PAT, while an increase in UP does not. Therefore, the researchers have sufficient evidence to reject the hypothesis that: "there is no joint significant relationship between insurance premium, underwriting profit, and the profitability of insurance firms in Nigeria". The economic implication of this finding is that the greater the insurance premium, the greater their PAT. The R^2 value of 0.794 indicates that the model has a good fit and good predicting power. Therefore, taken together, the LNGPW, and LNUP, as well as all controlled variables, jointly explain approximately 79.4 per cent of the variations in PAT in Nigeria during the period reviewed. The remaining 20.6 per cent of variations could be explained by variables which are not included in the present model used for this analysis.

Discussion of Results

The result of this study is summarized in Table 3. From the results, QWP has a positive effect on the PAT of insurance companies within the period reviewed in this study. This finding is as expected. Being the total premium underwritten by an insurer, gross premium, when collected, is used in making investments from which returns are made, and profit and wealth are both maximised to fulfil the two-pronged goal of an insurance enterprise. Garba et al.

(2018) stated that the premium amount has a significant relationship with the profitability of the insurance companies. This finding is therefore supported by past empirical work.

Table 3: Summary of hypotheses testing

Ho	Hypotheses Statement	Decision
Ho1	*There is no significant relationship between insurance premium, and the profitability of insurance firms in Nigeria.*	Not Supported
Ho2	*There is no significant relationship between underwriting profit, and the profitability of insurance firms in Nigeria.*	Not Supported
Ho3	*There is no joint significant relationship between insurance premium, underwriting profit, and the profitability of insurance firms in Nigeria.*	Not Supported

Source: Researchers

As the author explained further, the premium collected improves the major, and central operations of the insurance companies, and ultimately, leads to the overall profitability of the insurance firm. An explanation offered on premium growth by Chang and Wong (2004) also supports this finding. According to the author, fast growth in premium is one of the underlying factors in the solvency of insurance companies. Solvency, in this context, describes the state of insurance firms being strong, and this can also be linked to being profitable. This finding is supported by the prediction of the RBV. This theory treats underwriting function as a firm's unique capability that can drive profitability.

Underwriting profit plays a significant role in driving the profitability of an insurance company. This positive relationship is less surprising, given that UP is premium based. In other words, UP is the total net premium earned fewer claims and expenses incurred (Apere, 2015). It should be noted that UP is not PAT. Insurance companies can survive with zero UP performance, and do better in their business operation than operating essentially as investment trust companies (Yusuf, Ajemunigbohun & Alli, 2017). These explanations do not explicitly address the relationship between UP, and PAT. In this study, that link has been established, and it is a positive relationship.

According to Soye et al. (2018), UP, along with earning assets, has a positive impact on the income of insurance companies in Nigeria. From a theoretical perspective, the ability to generate profit from underwriting activities underscores an insurer's strength, which the RBV theory states can influence profitability positively. On this basis, it can be said that these findings are supported by the RBV theory, which was applied in this study to discuss the relationship between underwriting function, and the profitability of insurance firms in Nigeria.

The result of the last hypothesis shows that when taken together, underwriting function represented by GPW, and UP jointly affect the PAT of insurance companies significantly, and positively. This finding is supported by a number of past empirical studies. For example, Soye et al. (2018) investigated how underwriting capacity has affected the income of the insurance industry in Nigeria. The authors found that UP, which is a measure of underwriting function, among other factors, influenced the income of insurance companies in Nigeria positively. Among the factors examined and found to affect the financial performance of insurance companies, premium growth — which is a term used to refer to growth in GWP — itself is a measure of underwriting function, which was found to positively and significantly influence the insurer's financial performance.

The finding of the current study is also supported by the findings of Angima et al. (2017) who found that there is a significant positive relationship between underwriting, and claims management practices employed by the firms, and non-financial performance. However, the relationship with financial performance was insignificant. Similarly, the premium, which is a measure of underwriting function, was also found to relate positively and significantly to the profitability of insurance firms.

Conclusions and Recommendations

The underwriting function is one of two core business operations of an insurance company. In this study, the profitability of insurance enterprises regarding their PAT has been examined in relation to GWP, and UP, as two of the cardinal underwriting activities. From the results of the study, we can confidently conclude that GWP, and UP each affected the profitability of insurance companies significantly. Jointly, GWP is the only underwriting function that significantly influences the profitability of insurance firms in Nigeria. Moreover, on the basis of the magnitude of effect, GWP made the greatest contribution, followed by UP.

Although insurers can survive with zero UP, we however recommend that insurers should strive at operational efficiency by minimising the underwriting-related expenses to improve upon the UP, providing an integral component of the profitability driving activity of the insurance company. Moreover, in carrying out the underwriting function by an insurance company holistically, focus should be emphasised upon ensuring increased premium collection and expending on items with the greatest return, while the quest for PAT should be relaxed. Focussing on profit as the primary aim of underwriting function could limit the firm's chance of exploiting more profitable opportunities.

REFERENCE

Agbaje, A. R. (2005). Accounting for specialized transactions: First Edition. Akins prints, Mokola, Ibadan ISBN: 978-040602-2

Andersson, J. F. (2005). Risk and insurance. education and examination of the society of Actuaries. Retrieved from www.soa.org: http://www.soa.orgfilespdfP-21-05.pdf.pdf-Adobe Reader.

Angima, C. B. and Mwangi, M. (2017). Effects of underwriting and claims management on performance of property and casualty insurance companies in East Africa. *European scientific journal*. *17*(13), 1857 – 7881.

Apere, P. (2015). The challenges of Nigerian insurance industry and possible solutions. Businessday. Retrieved from http://www.businessdayonline.com/the-challenges-of-nigerian-insurance-indutsry -and-possible-solutions-3.]\

Barney, J. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management science journal, 32*(10), 1231-1241.

Berger, L. (1988). Word-of-Mouth reputation in auto insurance markets. *Journal of economic behavior and organization,* 10, 225-234

Berhe, T. and Kaur, J. (2017). Determinants of insurance companies' profitability analysis of insurance sector in Ethiopia. *International journal of research in finance and marketing (IJRFM), 7*(4), 17,124-137.

Biniam, S. (2015). Factors affecting sales performance of crop insurance at Ethiopian Insurance Corporation. Addis Ababa, Ethiopia.

CBN (2018). Central Bank of Nigeria Statistical Bulletin. Online Publication.

Chang, R. and Wong, K. A. (2004). The determinants of financial health of Asian insurance companies. *The Journal of Risk and Insurance, 71*(3), 469-499.

Eric, K. B. Samuel, A. and Victor, C. L. (2013). Determinants of profitability of insurance firms in Ghana**.** *International journal of business and social research (IJBSR), 3*(3), 13-17.

Garba, J. and Abdulsalam, H. (2011). Factors affecting the patronage of insurance services in Borno state, Nigeria. *International journal of economic development research and investment, 2*(1), 1-11.

Greene, H., and Segal, D. (2004). Profitability and Efficiency in the U.S Life insurance industry. *Journal of productivity analysis.* Kluwer Academic Publisher, Netherlands.

Hafiz, M. (2011). Determinants of insurance companies' profitability: An analysis of insurance sector of Pakistan. *Academic research international*, *1*(3), 315-321.

Ibrahim, H. and Abubakar, S. (2011). Recapitalization and profitability of insurance companies in Nigeria. *International Journal of Social Sciences and Humanities Review,* (2), 2. 114-126.

Isimoya O. A. (2013). Risk management and insurance application. 3rd edition. Malthouse press. Lagos.

Kearney, S. (2010). Measuring insurer profitability. Published by American institute for chartered property and casualty underwriters. Retrieved from http://www.aicpcu.org.

Ayele, A. G. (2012). Factors affecting profitability of insurance companies in Ethiopia*:* Panel evidence*.* Unpublished Master's Thesis, Addis Ababa University, Addis Ababa, Ethiopia.

Marcedo, L. (2009). The role of the underwriter in insurance. The international bank for reconstruction and development. The World Bank. Sourced from www.worldbank.org/nbfi

Nguyen, J. (2006). An empirical analysis of commercial bank profitability in financially liberalized markets. University of New Orleans Thesis and Dissertations, Paper 1048.

Oke, M. O. (2012). Insurance sector development and economic growth in Nigeria. *African Journal of Business Management. 6*(23), 7016-7023.

Olajumoke, O. (2012). The determinants of the profitability of insurance companies in Nigeria. University of Bath. Nigeria.

Pandy, I M (2010). Financial management. Vikas publishing house. PVT LTD. Janpura, New Delhi- 110014. India. Tenth edition. ISBN: 978-81259-3714-2.

Redja, G.E. (2008). Principles of risk management and insurance. 10th Ed*.* Pearson education, New York.

Soye, Y. and Adeyemo, D. (2018). Underwriting capacity and income of insurance companies: A case of Nigeria. *International Journal of Innovative Science and Research Technology.* 12, 15, 136-145. ISSN No:-2456-2165.

Swiss, R. (2008), Profitability of non-life insurance industry, Egypt, available at Www.Insureegypt.Com.

Vaughan, E. J. and Vaughan, T. M. (2014). Fundamentals of risk and insurance. Eleventh edition. John Wiley and Sons, Inc. Rivers Street, Hoboken, USA.

Vaughan, E.J. and Vaughan, T.M. (2008). Fundamental of risk and insurance. Tenth edition. John Wiley Sons & Inc. USA

Wernerfelt, B. (1998). A resource-based view of the firm. *Strategic Management Journal*, 5 (2), 171-180.

Yusuf, T. O. Ajemunigbohun, S. S. and Alli, G. N. (2017). A critical review of insurance claims management: A study of selected insurance companies in Nigeria. *Spoudai Journal of Economics and Business*, 67, (17), 2:69-84

Yusuf, T. O. and Dansu, F.S. (2014). Effect of claim cost on insurers' profitability in Nigeria. *International journal of business and commerce*. 3, (10), 14:01-20. (ISSN: 2225-2436) *Published www.ijbcnet.com*