



## CONTRIBUTION OF INTRA-INDUSTRY VARIABLES ON PROFITABILITY OF INSURANCE BUSINESS IN NIGERIA

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### ABSTRACT

*This study investigated the factors that enhance the profitability of insurance organisations in Nigeria. Its specific objectives were to examine Total Premium as a factor that enhances the profitability of insurance organizations in Nigeria; analyse Total claims as a factor that enhances the profitability of insurance organizations in Nigeria; and evaluate Total Assets as a factor that enhances the profitability of insurance organizations in Nigeria. Ex-post facto research method was used in the study. Therefore, data was taken from Central Bank of Nigeria Statistical bulletin of various years. Three hypotheses were formulated for the study. The statistical technique used to analyse the hypotheses was Ordinary Least Square Regression. It was found that Total Premium contributes a positive and no significant enhancement to the profitability of insurance organizations in Nigeria; Total claims contributes a positive but no significant enhancement to the profitability of insurance organizations in Nigeria; and Total assets contribute a positive but no significant enhancement to the profitability of insurance organizations in Nigeria. Based on the findings, it is concluded that total premium, total claims and total assets contribute insignificantly to the profitability of insurance organizations in Nigeria. The study recommended that insurance companies should reduce their use of debt instruments in order to give room to their use of total premium, total claims and total assets to affect company operations; thereby allowing them to contribute meaningfully to profitability.*

**Keywords:** Profitability, Insurance.

### 1.1 Introduction

According to Irono and Akoji (2003), the nature of insurance is such that the good fortunes of the many are used to compensate the misfortunes of the few. The community makes contributions into a common fund of which those of their members who suffer losses are compensated. This community of people contributing into the common fund is described as policy holders. The policy holders know that misfortunes such as death, personal accident, burglary, auto accidents, failed credit as in banks and other financial institutions, losses and stoppage of income etc befall

humanity. They have seen it happen to their members. They have heard of it happening to others, and they know for sure that these misfortunes can happen at their own time, the only uncertainty being when, how and to whom it will happen. By insurance arrangements the policy holder (contributors) has transferred those risks to the central managers of the funds (insurance companies) with the aim that should they be the victims, they will be compensated from the central fund. In other words, insurance is all about risk transfer (Irono and Akoji, 2003).

Insurance companies are the sellers and suppliers of insurance product in Nigeria (Hamisu, 2016). According to the Nigerian Insurance Act 2003, there are two broad categories of insurance business in Nigeria: life insurance business; and non-life (General) insurance business. It is permitted under the Nigerian laws for an insurance company to engage in both, life insurance and non-life insurance activities. Insurance companies indemnify the ones who suffer a loss and stabilize the financial position of individuals and firms with possibility of transfer of different kinds of risks to insurance companies (Oke, 2012).

While enabling the economy to function, insurers take in premiums based on anticipated loss costs, keeping a small portion to cover operating expenses, and investing the rest until needed to pay claims or to hold aside to cover extraordinary losses (American Insurance Association, AIA, 2010). To operate profitably, insurers must earn more from premiums, which are invested across a range of asset classes, than they pay out in claims (Zacks, 2017).

According to Hifza (2011), profitability is the ultimate goal of wealth maximization of financial management. Profitability is one of the most important objectives of financial management because one goal of financial management is to maximize the owner's wealth and profitability is very important determinants of performance (Malik, 2011). It is necessary that insurance companies operate with profitability. Profit is the essential pre-requisite for the survival, growth and competitiveness of insurance firms and the cheapest source of funds. Without profits insurers can not attract outside capital to meet their set objectives in this ever changing and competitive globalized environment. Profit does not only improve upon insurers' solvency state but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms (Mwangi and Murigu, 2015).

There exist a number of variables that can facilitate the profitability of an insurance company. An insurer's profitability is influenced by both internal and external factors. Whereas internal factors focus on an insurer's specific characteristics, the external factors concern both industry features and macroeconomic variables. Generally, a firm's performance can be estimated by measuring its profitability, and insurer's performance is related to such potential determinants as underwriting risk, expense ratio, solvency margin, premium growth, assets growth and the size of the company (Ullah, Faisal and Zurah, 2016).

## 1.2 Statement of the Problem

Financial performance is a measure of an organization's earnings, profits, appreciations in value as evidenced by the rise in the entity's share price. In insurance, performance is normally expressed in net premiums earned, profitability from underwriting activities, annual turnover, returns on investment and return on equity. These measures can be classified as profit performance measures and investment performance measures. Profit performance includes the profits measured in monetary terms. Simply, it is the difference between the revenues and expenses. These two factors, revenue and expenditure are in turn influenced by firm-specific characteristics, industry features and macroeconomic variables.

A factor can either increase or decrease the degree of profitability of an insurance company. In Nigeria the factors that enhance profitability of insurance companies has not been exhaustively studied either on a firm specific or industry wide-basis. Available literature has largely been focused on firm specific studies with minimal attention given to industry-wide considerations. In particular, there has been non-use of insurance industry based variables to determine its profitability. This raises a gap in empirical studies. Consequently, the study seeks to cover this gap. That is saying, instead of using firm-specific variables to measure the profitability of the insurance industry, internal industry-specific variables were adopted.

## 1.3 Objectives of the Study

The main objective of the study is to appraise internal industry-specific factors that enhance the profitability of insurance organisations in Nigeria. Its specific objectives are to:

1. Examine Total Premium as a factor that enhances the profitability of insurance organizations in Nigeria;
2. Analyse Total Claims as a factor that enhances the profitability of insurance organizations in Nigeria;
3. Evaluate Total Assets as a factor that enhances the profitability of insurance organizations in Nigeria

#### **1.4 Research Questions**

The study is guided by the following questions:

1. To what extent does Total Premium enhance the profitability of insurance organizations in Nigeria?
2. To what degree does Total Claims enhance the profitability of insurance organizations in Nigeria?
3. To what degree does Total Asset enhance the profitability of insurance organizations in Nigeria?

#### **1.5 Statement of Hypotheses**

The following Null Hypotheses are formulated for the study:

- 1 Total Premium contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.
2. Total Claims contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.
3. Total Asset contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.

### **REVIEW OF RELATED LITERATURE**

#### **2.1.1 Concept of Insurance**

According to Ubom (2010) every activity of industries, business organizations and the society as a whole has some risks elements. That is, the possibility of misfortune, disaster, unfavorable outcomes, danger and/or adverse situation causing injuries, damages and loss of income,

properties and/or lives. Risks threaten human existence and business investments, imposing fears on household and corporate individuals. Insurance exists to provide the avenue and mechanism of transferring risk from the person likely to suffer loss to the experts who specialize in the management of risk (Ubom, 2010). These experts are the insurance firms.

Gollier (2003) argues that insurance involved the transfer of risk from an individual to a group, sharing losses on an equitable basis by all members of the group. Agbaje (2005) defines insurance as the business of pooling resources together to pay compensation to the insured or assured on the happening of a specified event in return for a periodic consideration known as premium, therefore, an insurance contract is usually evidenced by a document called the insurance policy which is usually signed at the foot by the insurer or assurer or his agent. Insurance is often defined as the act of pooling funds from many insured entities in order to pay for relatively uncommon but severely devastating losses which can occur to these entities (Omoke, 2012).

The primary objective of insurance companies is to protect individuals and firms (known as policy-holders) from adverse events. Insurance companies receive premiums from policy-holders, and promise to pay compensation to policy-holders if particular events occur. There are two main segments in the industry: life insurance on the one hand, and non life insurance on the other.

Statutorily, Insurance Act 2003, classified insurance business into two main areas: Life Insurance Business and General Insurance Business (Non-Life).

The Act further classified Life insurance business into three categories namely:

- a. Individual Life Insurance business
- b. Group Life Insurance and Pension business
- c. Health Insurance business

Section 2(3) sub-divided Non-Life Insurance Business into the following categories:

- a. Fire Insurance business
- b. General Accident Insurance business
- c. Motor Vehicle Insurance business
- d. Marine and Aviation Insurance business
- e. Oil and Gas Insurance business

- f. Engineering Insurance business
- g. Bonds, Credit guarantee and Surety-ship Insurance business
- h. Miscellaneous Insurance Business

### **2.1.2 Concept of Profitability**

Profitability means ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market. According to Harward and Upton (1961) profitability is the ‘the ability of a given investment to earn a return from its use. It is the metric used to determine the scope of a company's profit in relation to the size of the business.

Profitability is the primary goal of all business ventures (Hofstrand, 2017). Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important. Profitability is measured with income and expenses. Income is money generated from the activities of the business. For example, if crops and livestock are produced and sold, income is generated. However, money coming into the business from activities like borrowing money do not create income. This is simply a cash transaction between the business and the lender to generate cash for operating the business or buying assets.

Expenses are the cost of resources used up or consumed by the activities of the business. For example, seed corn is an expense of a farm business because it is used up in the production process. Resources such as a machine whose useful life is more than one year is used up over a period of years. Repayment of a loan is not an expense, it is merely a cash transfer between the business and the lender

### **2.1.3 Concept of Total Premium**

An insurance premium is the amount of money that an individual or business must pay for an insurance policy (Investopedia, 2017). The insurance premium is considered income by the insurance company once it is earned, and also represents a liability in that the insurer must

provide coverage for claims being made against the policy. The amount of insurance premium that is required for insurance coverage depends on a variety of factors. Insurance companies examine the type of coverage, the likelihood of a claim being made, the area where the policyholder lives or operates a business, the behavior of the person or business being covered, and the amount of competition that the insurer faces.

Actuaries employed by an insurance company can determine, for example, the likelihood of a claim being made against a teenage driver living in an urban area compared to one in a suburban area. In general, the greater the risk associated with a policy the more expensive the insurance policy will be. Policyholders are often given a number of options when it comes to paying an insurance premium. Some insurers allow the policyholder to pay the insurance premium in installments, for example monthly or semi-annual payments, or may require the policyholder to pay the total amount before coverage starts. Insurance premiums may increase after the policy period ends. The insurer may increase the premium if claims were made during the previous period, if the risk associated with offering a particular type of insurance increases, or if the cost of providing coverage increases.

Insurers use the insurance premium to cover the liabilities associated with the policies that they underwrite, as well as to invest the premium in order to generate higher returns. Insurers will invest the premiums in assets with varying levels of liquidity and return, with the amount of liquid assets often set by state insurance regulators. Regulators want to make sure that policyholders will be able to have their claims paid for, and thus require insurers to retain adequate reserves.

#### **2.1.4 Concept of Claims**

The word “claim” according to Kapoor (2008) cited in Yusuf and Abass (2013) emanated from the Latin word, “Clamare” which means to “call out”. Barry (2011) defined insurance claims as all activities geared towards monitoring insured’s compensation, restitution, repayment or any other remedy for loss or damage or in respect of doing their obligations. According to Williams (2009), claims are all about insurance and insurance is about taking up the liability or risk of the

insured against a loss and when this is done, the insured would in return get a claim as compensation for the loss.

The Farlex Financial Dictionary (2009) defined claims as a formal request to an insurance company asking for a payment based on the terms of the insurance policy. It defined a claims form as a document or request filed by a policyholder stating that an insured event has occurred and that the insurance company should provide coverage. Insurance claim is a notification to an insurance company requesting payment of an amount due under the terms of the policy (investorwords.com).

According to Yadav (2014) insurance claim is a right of insured under a contract of insurance. The insurer promises to save the insured or nominees/assignees of the insured on happening of event or risk insured. Disputes crop up in the payment of claim when the insurer and the insured understand the process of claims payment in a different way. It is obvious for the insurance company to protect and guard the interests of the policyholders. An insurance claim is the only way to officially apply for benefits under an insurance policy, but until the insurance company has assessed the situation it will remain only a claim, not a pay-out.

### **2.1.5 Concept of Total Asset**

An asset is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit. Assets are reported on a company's balance sheet, and they are bought or created to increase the value of a firm or benefit the firm's operations. An asset can be thought of as something that in the future can generate cash flow, reduce expenses, improve sales, regardless of whether it's a company's manufacturing equipment or a patent on a particular technology.

This is the sum of all cash, investments, furniture, fixtures, equipment, receivables, intangibles, and any other items of value owned by a person or a business entity. Total assets refer to the total amount of assets owned by a person or entity. Assets are items of economic value, which are expended over time to yield a benefit for the owner. It is the sum of current and long-term assets owned by a person, company, or other entity.



## 2.2 Theoretical framework

The theoretical basis for this study is the law of large numbers. The law of large numbers (or the related central limit theorem) is used in the literature on risk management and insurance to explain pooling of losses as an insurance mechanism. Also called the “law of averages”, the principle holds that the average of a large number of independent identically distributed random variables tends to fall close to the expected value. This result can be used to show that the entry of additional risks to an insured pool tends to reduce the variation of the average loss per policyholder around the expected value (Gustavson, 1994). When each policyholder’s contribution to the pool’s resources exceeds the expected loss payment, the entry of additional policyholders reduces the probability that the pool’s resources will be insufficient to pay all claims. Thus an increase in the number of policyholders strengthens the insurance by reducing the probability that the pool will fail (Gustavson, 1994).

Insurance companies rely on the law of large numbers to more accurately estimate the value and frequency of future claims paid out to policyholders. When it works correctly, insurance companies become more stable than they otherwise would have been. Consumers of insurance are more likely to pay a fair and accurate premium for their coverage, and the entire financial system is more stable. However, the theoretical benefits from the law of large numbers do not always hold up in practical reality. The law of large numbers stems from probability theory in statistics. It proposes that when the sample of observations increases, variation around the mean observation declines. In other words, the average value gain predictive power and is more likely to represent the expected value.

For a basic example, consider a simple trial in which a person flips a quarter. Every time the quarter lands as heads, the person records one point. No points are recorded when it lands as tails. The expected value of a coin flip in this trial is 0.5 points, because there is only a 50% chance that the quarter will land as heads. If you only flip the coin twice — two observations — the average value could end up far from the expected value. Consecutive heads produces an average value of 1 point, while two tails has an average value of 0 points. By increasing the number of observations, the conductor of the trial is more likely to receive an average value

closer to the expected value. If there are 53 heads and 47 tails during 100 flips, the average value is 0.53, which is very close to the 0.5 expected value. This is how the law of large numbers operates.

In the insurance industry, the law of large numbers produces its own axiom. The number of exposure units, or policyholders, increases while remaining independently exposed to loss; and the probability is higher than actual loss per exposure unit will equal the expected loss per exposure unit. To put it in economic language, there are returns to scale in insurance production with regard to solvency. In practical terms, this means that it is easier to establish the correct premium - and thereby reduce risk exposure for the insurer - as more policies are issued within a given insurance class. Assuming a stable and independent probability distribution for loss exposure, an insurance company is better off issuing 500 rather than 150 fire insurance policies.

To see it another way, suppose that a health insurance company discovers that five out of 150 people will suffer a serious and expensive injury during a given year. If the company is only able to insure 10 or 25 people, it faces far greater risks than if it is able to ensure all 150 people. This is because the company is more confident with 150 policyholders that it will have sufficient premiums to cover the claims from the five individuals with serious injuries.

However, the law of large numbers is rendered less effective when risk-bearing policyholders are independent of one another. This is most easily seen in the health and fire insurance industries, because diseases and fire can spread from one policy holder to another if not properly contained. This problem is known as contagion. There are also potential insurable risks in which the law of large numbers is theoretically beneficial, but there are not enough insurance consumers to make the law of large numbers practically beneficial. Consider trying to insure a city against the risk of nuclear or biological warfare. One could theoretically insure thousands or millions of major cities to offset the cost of one realized risk, but there are not enough such cities in the world to do so.

In the context of this study the Law of large numbers outlines the primary considerations of insurers as they engage in any transaction. It is a central theory that guides their deals. Finally, all insurance consumers have different risk preferences, time preferences and financial ability to pay

for insurance. As the variety in demands increases, the potential benefit from the law of large numbers decreases, because fewer people want similar types of coverage. An example is seen in providing Deposit insurance cover to banks. Insurers in this situation are not able to increase the number of persons in the pool for Deposit insurance. Yet, on the other hand, the numbers of depositors are rising.

### 2.3 Empirical Review

Alomari and Azzam (2017) investigated the effects of a firm's micro and macroeconomic factors on performance of Jordanian insurance companies measured by return on assets (ROA) which is considered as proxy of profitability. The study utilizes a panel data of 24 listed insurance companies during the time period of 2008-2014. Findings include that liquidity, leverage and under writing risks have a negative and a significant effect whereas size of the company, market share and GDP have statically a positive and a significant effect on the profitability of the Jordanian insurance industry. Findings also include that inflation has no significant effect on the profitability of the insurance industry in Jordan.

Berhe & Kaur (2017) identified the key factors that affect profitability of insurance companies in Ethiopia. Specifically, it investigated the internal or firm specific variables (size of insurance companies, capital adequacy, leverage ratio, liquidity ratio, and loss ratio) and external or macro variables (market share, growth rate of GDP and inflation rate). In order to achieve this objective, the fixed effect model was used instead of random effect model following the result of hausman test. Panel data covering 10 years period from 2005-06 to 2014-15 were analysed for seventeen (17) insurance companies. Results of the regression analysis revealed that size of insurance, capital adequacy, liquidity ratio and growth rate of GDP were the major factors that significantly affect the profitability of insurance companies. On the other hand, leverage ratio, loss ratio, market share and inflation rate were found to have insignificant effect on insurance companies profitability. Finally, the study suggested that managers of insurance companies as well as the policy makers in the country should take crucial measures by framing policies and strategies that aimed in improving the overall profitability of insurers.

Hamisu (2016) assessed the determinants of insurance companies' performance in Nigeria. This study is descriptive in nature and used both primary and secondary sources of data collection.

The secondary data for this study were obtained from the annual accounts of the insurance companies for the years 2007 to 2014. This study used Return on Assets, Return on Equity and Earnings per Share as surrogate of performance. In order to achieve the objectives of this study, multiple regression analysis was performed. In an attempt to meet the multiple regression assumptions, robustness tests were also conducted. From the result of test of hypotheses, the ANOVA tables presented the p-values for hypothesis one, two, three and four as  $p=0.036$ ,  $p=0.000$ ,  $p=0.000$  and  $p=0.000$  respectively, meaning that there is a statistically significant relationship between the study variables at the 95.0% confidence level since the p-values are less than 5% level of significance. The variables considered most significant are; equity ( $\beta=10.23$ ), gross written premium ( $\beta=4.91$ ), liquidity ( $\beta=0.26$ ), leverage ( $\beta=0.04$ ), company's age ( $\beta=0.02$ ), solvency ( $\beta= -0.89$ ) and assets tangibility ( $\beta= -24.03$ ). In the case of variables used to test the hypothesis four and rated according to their contributions are; economic factors ( $\beta=0.53$ ), technological factors ( $\beta=0.29$ ) and environmental factors ( $\beta=0.11$ ). From the findings of the study, equity capital make the strongest contribution which contradicted the general opinion that Gross written premium was the major determinant of insurance companies' performance in Nigeria. It is therefore, recommended that stakeholders in the Nigerian insurance industry in collaboration with their regulatory body; National Insurance Commission should consider further consolidation in the Nigerian insurance industry. This will help their retention capacities to underwrite big businesses and also to deepen insurance across the country. The negative contribution of asset tangibility to the performance of insurance companies in Nigeria validated the fact that insurance companies do not require large volume of fixed assets. What they need is to make sure that they have available funds in the event of loss suffered by anyone under their insurance policy. This will increase the number of insurance policy holders and at the same time will enhance the performance of insurance companies in Nigeria. By doing this, the contribution of the companies to the GDP will increase and continues to grow.

Ondigi (2016) assessed the factors that affect profitability of insurance firms in Kenya, case of firms listed on the NSE. It evaluated the effect of firm size, effect of liquidity, effect of equity and also established the effect of debt on profitability of insurance firms in Kenya, case of firms listed on NSE. The target population was all the 6 insurance firms listed on the NSE and a census was done over a period of 5 years from 2010 to 2014. Secondary data was obtained from the

annual published financial statements which were quantitatively analyzed using descriptive statistics like mean and percentages. The study found out that liquidity of insurance firms was one of the major determinants of Kenyan insurance firms' profitability. Equity has a direct influence on insurance firms' profitability. The study therefore recommends that insurance firms should maintain adequate liquidity levels though in the form of short term marketable securities in order to realize profits for the insurance firms. The study also recommended that equity when not utilized becomes a liability to the insurance firm as interest paid on such is incurred, insurance firms therefore should aggressively identify viable investment opportunities and link such opportunities to their equity from clients.

Shala, Ahmeti, Berisha and Ahmeti (2016) examined the factors affecting the profit of insurance companies in Kosovo for the period 2009-2012 to 11 insurance companies. The study was quantitative in nature. It adopted the longitudinal time dimension, specifically, the panel method and ordinary least square regression. For this study, ROA is taken as the dependent variable, while size, growth, life expectancy, age, fixed assets ratio, liquidity ratio, leverage and capital volume were selected as independent variables. Secondary data are taken from annual reports of insurance companies, published on the CBK web site. The results show that the ratio of the volume of liquidity and capital are significantly and positively related to acquisition. In contrast, the size of the company and the ratio of fixed assets showed a significant, but negative relationship with corporate profitability.

Ullah, Faisal and Zurah (2016) analyze the determinants that serve as significant predictors of non-life insurance firms' profitability in Bangladesh. It analyzes panel data of eight different insurance companies—selected using convenience sampling method from the years 2004-2014 to assess whether any significant relationship exists between Profitability (ROA), and certain independent variables - Underwriting Risk, Expense Ratio, Solvency Margin, Premium Growth, Asset Growth, and Company Size using an Ordinary least squares (OLS) regression model. This paper found significant inverse relationship between Underwriting Risk, and Size, with Profitability (ROA). There is also a significant positive relationship between Expense Ratio, Solvency Margin, and Growth, with the Profitability (ROA).

Hailegebreal (2016) conducted a study on the determinants of profitability of Ethiopian insurance industry. The study attempts to examine the firm specific factors which are age of

company, size of company, leverage ratio, liquidity ratio, premium growth, technical provision, underwriting risk, solvency, re-insurance dependency and tangibility of assets and macroeconomic factors; GDP and Inflation on profitability of Ethiopian insurance industry. Nine insurance companies from the total of 17 insurance companies established before 2008 were included in the study. Secondary data that was collected from the financial statements (Balance sheet and income statements) of insurance companies; and annual reports of National bank of Ethiopia are the major sources of data for this study. This study found that under writing risk, technical provision, leverage and inflation have negative and significant effect whereas premium growth, age of the company, solvency ratio and GDP have statically positive and significant relationship with the profitability of Ethiopian insurance industry.

Kazeem (2015) investigated the impact of firm specific characteristics on the financial performance of listed insurance firms in Nigeria. Financial performance is the dependent variable while age if insurance company, firm size, premium growth, loss ratio, liquidity and leverage are independent variables. The population of the study consists of thirty (30) listed insurance firms as at 31st December 2013. Twelve of the listed insurance firms are selected to form the sample of the study for the period of eight years (2006-2013). The study employed multiple regressions as tool for analysis. Secondary data obtained from the financial statements of the companies were analyzed. Panel data techniques (fixed and random effects model) were utilized to investigate the impact of firm specific characteristics on financial performance and Hausman specification confirmed that random effect model is more appropriate. The result shows that firm size, loss ratio, liquidity, and leverage are the most important determinants of financial performance. Hence, firm size, loss ratio and leverage are negatively related. In contrast, liquidity ratio is positively and significantly related with financial performance. Lastly, age of insurance company and premium growth are not significantly related with financial performance of listed insurance firms in Nigeria. For insurance companies to achieve a greater profit and competitiveness in the market, it is therefore recommended that the companies should conduct careful evaluation and take into consideration firm specific characteristics (firm size, loss ratio, liquidity and leverage) that influence the financial performance of the company before making major business decision as this will go a long way in improving their financial performance.

Kaya (2015) study investigates the firm-specific factors affecting the profitability of non-life insurance companies operating in Turkey. For this purpose, data of 24 non-life insurance companies operating in Turkey from the period 2006–2013 were brought together to obtain 192 observed panel data sets. In this study, profitability is measured by two different variables: technical profitability ratio and sales profitability ratio. According to the empirical results, the firm-specific factors affecting the profitability of Turkish non-life insurance companies are the size of the company, age of the company, loss ratio, current ratio, and premium growth rate.

Boadi, Antwi and Lartey (2013) to find out the determinants of the profitability of insurance firms in Ghana. Secondary data on financial reports were collected from sixteen insurance firms in Ghana for the period 2005 to 2010. The study was quantitative in nature. It adopted the longitudinal time dimension, specifically, the panel method and ordinary least square regression. The study discovered that, apart from tangibility which has a negative relationship, there is a positive relationship between leverage, liquidity and profitability of insurance firms in Ghana. It was also concluded that, the profitability model adopted has been explained in respect to all the independent variables and that the degree of error is less than 20%. Finally, it is suggested that the explanatory variables used in this study should be regressed on Return on Equity to find their extent of relationship on profitability.

Sambasivam and Ayele (2013) paper examined the effects of firm specific factors (age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets) on profitability proxied by Return on Assets. Profitability is dependent variable while age of company, size of company, volume of capital, leverage liquidity ratio, growth and tangibility of assets are independent variables. The sample in this study includes nine of the listed insurance companies for nine years (2003-2011). Secondary data obtained from the financial statements (Balance sheet and Profit/Loss account) of insurance companies, financial publications of National Bank of Ethiopia are analyzed. From the regression results; growth, leverage, volume of capital, size, and liquidity are identified as most important determinant factors of profitability hence growth, size, and volume of capita are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. The age of companies and tangibility of assets are not significantly related with profitability.

Almajali, A. Y. Alamro, S. A. & Al-Soub, Y. Z. (2012) study aimed at investigating the factors that mostly affect financial performance of Jordanian Insurance Companies. The study population consisted of all insurance companies' enlisted at Amman stock Exchange during the period (2002-2007) which count (25) insurance company. The data collected was analysed by using a number of basic statistical techniques such as T-test and Multiple- regression. The results showed that the following variables (Leverage, liquidity, Size, Management competence index) have a positive statistical effect on the financial performance of Jordanian Insurance Companies. The researcher recommended that a high consideration of increasing the company assets will lead to a good financial performance and there is a significant need to have highly qualified employees in the top managerial staff.

Ayele (2012) examined the effects of firm specific factors (age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets) on profitability proxied by ROA. Profitability is dependent variable while age of company, size of company, volume of capital, leverage liquidity ratio, growth and tangibility of assets) are independent variables. The sample in this study includes nine of the listed insurance companies for nine years (2003-2011). Secondary data obtained from the financial statements (Balance sheet and Profit/Loss account) of insurance companies, financial publications of NBE are analyzed. From the regression results; growth, leverage, volume of capital, size, and liquidity are identified as most important determinant factors of profitability hence growth, size, and volume of capita are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. Lastly, age of company and tangibility of assets are not significantly related with profitability.

## **METHODOLOGY**

### **3.1 Research Design**

The research design used in the study is *Ex-post facto*. This is the design that involves the use of already organized data.

### **3.2 Source of Data**

Secondary data was used in the study. The data were taken from Central Bank of Nigeria Statistical Bulletin of various years.

### **3.3 Model Specification**

The model used in the study was based on Ondigi (2016) whose model is stated thus:



$$ROA = f (FS + E + L + D)$$

Where:

ROA = Return on Assets

F = Firm Size

E = Equity

L = Liquidity

D = Debt

In application to this study the model above is altered to accommodate industry-wide variables.

Therefore, the general model for this study is

$$PI = f (TP + TC + TA)$$

Where

PI = Profitability of Insurance industry proxied by growth rate of Total Income

TP = Total Premium of insurance industry proxied by growth rate of Total Premium

TC = Total Claims of insurance industry proxied by growth rate of Total Claims

TA = Total Asset of insurance industry proxied by growth rate of Total Asset

### 3.4 Description of Model Variables

PI = Profitability: This refers to the total profit of the entire insurance industry in a particular financial period.

TP = Total Premium: This refers to the total premium income generated by the whole insurance industry in a given business year.

TI = Total Claims: This refers to the total claims paid by all the insurance industry in a year.

TA = Total Asset: This refers to the total value of the assets of the entire industry in a year.

### 3.5 Data Analysis Technique

Ordinary Least Squares (OLS) statistical technique was applied to the study. This is a method for estimating the unknown parameters in a linear regression model, with the goal of minimizing the differences between the observed responses in some arbitrary dataset and the responses predicted by the linear approximation of the data (visually this is seen as the sum of the vertical distances between each data point in the set and the corresponding point on the regression line - the smaller the differences, the better the model fits the data). The hypotheses tests were carried out at 5 percent level of significance.

## DATA ANALYSIS AND RESULTS PRESENTATION

### 4.1 Data Analysis

#### Restatement of Hypothesis One

**H<sub>0</sub>:** Total Premium contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.

**H<sub>1</sub>:** Total Premium contributes positive and significant enhancement to the profitability of insurance organizations in Nigeria.

**Table 4.1.1 Result of Hypothesis one test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14420.23	4869.065	2.961602	0.0142
PREMIUM	0.706267	0.632914	1.115898	0.2906
R-squared	0.110734	Mean dependent var		16692.69
Adjusted R-squared	0.021807	S.D. dependent var		15490.69
S.E. of regression	15320.85	Akaike info criterion		22.26283
Sum squared resid	2.35E+09	Schwarz criterion		22.34365
Log likelihood	-131.5770	Hannan-Quinn criter.		22.23291
F-statistic	1.245228	Durbin-Watson stat		1.529214
Prob(F-statistic)	0.290562			

Source: Author's calculation using Eviews 9.0

At 0.021807 the Adjusted Coefficient of Determination indicates that only 2.1807% of the variation in Profitability can be explained by the model. S.E. (Standard Error of regression) at 15320.85 shows that the observations are far from the fitted regression line. The Durbin Watson value of 1.529214 shows a positive autocorrelation. This means that the direction of influence of past on present values will not change.

The Decision rule guiding the study holds that a p-value of 5 percent or lower is considered to be statistically significant. That is to say, where p-value is equal to or less than five percent the null hypothesis is rejected and its alternative accepted.

At 0.2906 the p-value is higher than the level of significance. Thus the null hypothesis is not rejected. This shows that Total Premium contributes a positive and no significant enhancement to the profitability of insurance organizations in Nigeria.

### Restatement of Hypothesis Two

**H<sub>0</sub>:** Total Claims contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.

**H<sub>1</sub>:** Total Claims contributes positive and significant enhancement to the profitability of insurance organizations in Nigeria.

**Table 4.1.2 Result of Hypothesis two test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20900.97	5039.736	4.147234	0.0020
CLAIMS	-0.007960	0.005205	-1.529328	0.1572
R-squared	0.189551	Mean dependent var		16692.69
Adjusted R-squared	0.108507	S.D. dependent var		15490.69
S.E. of regression	14626.14	Akaike info criterion		22.17002
Sum squared resid	2.14E+09	Schwarz criterion		22.25084
Log likelihood	-131.0201	Hannan-Quinn criter.		22.14010
F-statistic	2.338845	Durbin-Watson stat		2.189548
Prob(F-statistic)	0.157178			

Source: Author's calculation using Eviews 9.0

At 0.108507 the Adjusted Coefficient of Determination indicates that only 10.8507% of the variation in Profitability can be explained by the model. S.E. (Standard Error of regression) at 14626.14 shows that the observations are far from the fitted regression line. The Durbin Watson value of 2.189548 shows no autocorrelation. This means that the direction of influence of past does not affect the present values at all.

Going by the earlier stated Decision rule that a p-value of 5 percent or lower is considered to be statistically significant; at 0.1572 the p-value is higher than the level of significance. Thus the null hypothesis is not rejected. This shows that Total claims contributes a positive but no significant enhancement to the profitability of insurance organizations in Nigeria.

### Restatement of Hypothesis Three

**H<sub>0</sub>:** Total Asset contributes no positive and significant enhancement to the profitability of insurance organizations in Nigeria.

**H<sub>1</sub>:** Total Asset contributes positive and significant enhancement to the profitability of insurance organizations in Nigeria

**Table 4.1.3 Result of Hypothesis three test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22139.56	5456.952	4.057129	0.0023
ASSET	-0.013225	0.008449	-1.565201	0.1486
R-squared	0.196778	Mean dependent var		16692.69
Adjusted R-squared	0.116455	S.D. dependent var		15490.69
S.E. of regression	14560.79	Akaike info criterion		22.16106
Sum squared resid	2.12E+09	Schwarz criterion		22.24188
Log likelihood	-130.9664	Hannan-Quinn criter.		22.13114
F-statistic	2.449853	Durbin-Watson stat		2.256843
Prob(F-statistic)	0.148603			

Source: Author's calculation using Eviews 9.0

At 0.116455 the Adjusted Coefficient of Determination indicates that only 11.6455% of the variation in Profitability can be explained by the model. S.E. (Standard Error of regression) at 14560.79 shows that the observations are far from the fitted regression line. The Durbin Watson value of 2.256843 shows no autocorrelation. This means that the direction of influence of past does not affect the present values at all.

Going by the earlier stated Decision rule that a p-value of 5 percent or lower is considered to be statistically significant; at 0.1486 the p-value is higher than the level of significance. Thus the null hypothesis is not rejected. This shows that Total assets contribute a positive but no significant enhancement to the profitability of insurance organizations in Nigeria.

#### **4.2 Implication of Findings**

Directionally, the results of all the hypotheses tests were positive. This fosters an increasing interaction between profitability of the insurance industry and the respective variables total premium, total claims and total assets of the Nigerian insurance industry. It shows that a unit increase in total premium, total investment and total assets will not encourage a decrease in the profitability of the Nigerian insurance industry. This is in line with Hailegebreal (2016) who found that premium growth have statistically positive and significant relationship with the profitability of Ethiopian insurance industry.

On the other hand, in terms of magnitude, it was found that the respective variables total premium, total claims and total assets made insignificant contribution to the profitability of the Nigerian insurance industry. That is to say, that each variable made negligible contribution to the profitability of the Nigerian insurance industry.

## 5.1 Summary of Findings

The findings of the study are:

1. Total Premium contribute a positive and no significant enhancement to the profitability of insurance organizations in Nigeria.
2. Total claims contribute a positive but no significant enhancement to the profitability of insurance organizations in Nigeria.
3. Total assets contribute a positive but no significant enhancement to the profitability of insurance organizations in Nigeria.

## 5.2 Conclusion

Without profits insurers can not attract outside capital to meet their set objectives in this ever changing and competitive globalized environment. Profit does not only improve upon insurers' solvency state but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms (Mwangi and Murigu, 2015). However, the profitability of an insurance company is subject to factors that can make or mar it. Based on the findings enumerated above, it is concluded that total premium, total claims and total assets contribute insignificantly to the profitability of insurance organizations in Nigeria.

## 5.3 Recommendation

The study recommends that insurance firms should invest in equities with significant returns. Their stock and bonds investment portfolio should be diversified. Also insurance companies should reduce their use of debt instruments in order to give room to their use of total premium, total claims and total assets to affect company operations; thereby allowing them to contribute meaningfully to profitability.

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