

**DETERMINANTS OF PERFORMANCE OF INSURANCE  
COMPANIES IN NIGERIA**

**BY**

**IBUOWO JOHN MAYOWA**

**MGS1404958**

**DEPARTMENT OF BANKING AND FINANCE**

**(ACTUARIAL SCIENCE)**

**FACULTY OF MANAGEMENT SCIENCES**

**UNIVERSITY OF BENIN**

**BENIN CITY**

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**A PROJECT SUBMITTED TO THE  
DEPARTMENT OF BANKING AND FINANCE,  
FACULTY OF MANAGEMENT SCIENCES,  
UNIVERSITY OF BENIN, BENIN CITY**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A  
BACHELOR OF SCIENCE (B.Sc) DEGREE IN ACTUARIAL SCIENCE**

**UNIVERSITY OF BENIN.**

**OCTOBER, 2018.**

## **DECLARATION**

I declare that

- I. This project is based on study undertaken by me in the department of banking and finance (actuarial science), faculty of management science.
- II. This work has not been previously submitted for award of any degree elsewhere.
- III. This is an original work based primarily on my research and I witness that citation of previous research published or unpublished have been duly acknowledge.

**IBUOWO JOHN MAYOWA**

(RESEARCHER/STUDENT)

**DATE**

## **CERTIFICATION**

We certify that this project work on Determinants of performance of insurance companies in

Nigeria was done by IBUOWO JOHN MAYOWA in the Department of Banking and Finance is adequate in scope and content, and therefore met the requirement of the award of

Bachelor of Science (B.Sc Degree Actuarial Science, in the Department of Banking and

Finance, Faculty of Management Sciences, University of Benin, Benin City.

**DR. (MRS) G. A. NWOKOYEDR.**  
**Project Supervisor**

**DR. (MRS) E. I. Evbayiro - Osagie**  
**Ag Head of Department**

**DATE**

≥

**DATE**

## **DEDICATION**

This work is most sincerely dedicated to my Lord Jesus Christ for his love and mercy and to the Actuaries in the world.

## ACKNOWLEDGEMENTS

Several persons, in one way or the other contributed directly or indirectly to the success of my study. It will be difficult to mention all of such people here. However, some deserve it at all cost.

I wish to express my heartfelt gratitude to my amiable supervisor Dr.(Mrs) Gladys Nwokoye for her time, effort and erudite scholarly advice. It an honor, I do not take with levity

My in depth appreciation goes to my mother, Deaconess (Mrs) Olushola Sarah Ibilade Ibuowo whose sacrificial life is incomparable to none, thanks for your rare support and love you shown me all through the years you were around, words can't express how grateful I am, I wish I could pay you back but God knows how best to reward His beloved ones that's why He called you to Himself to rest from all your labors in His vineyard and to humanity, though I do not support the idea initially but He let me know later that His love surpasses all human love.

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## **ABSTRACT**

Profitability as we have come to understand has proven to be a very important factor of judging the determinant of performance of insurance industry in Nigeria.

In the past decade, the number of players in the insurance sector have escalated meaningfully with currently (32) insurance companies offering

services nationwide. This has modified the dynamics of business in this sector as the companies are faced with harder task in attaining competitive

advantage. However, the available literature is not sufficient to determine

what exactly affects how the insurance companies in the country perform.

This study sought to establish profitability as the determinant of performance of insurance companies in Nigeria. The descriptive statistics, correlation coefficient, Hausman test and panel regression were used in the analysis of the data. The result from the empirical investigation shows that fixed asset, firm size and current ratio needs an urgent attention. Hence, relevant regulatory authority such as National Insurance Commission (NAICOM) should develop appropriate measure that will enhance the effectiveness of the industry by encouraging firms to embark on more study on their internal

factors.

## **XI**

### **CHAPTER ONE**

# **INTRODUCTION**

## **1.1 BACKGROUND TO THE STUDY**

Today, we live in a world, which cannot be devoid of risks, hazards and uncertainty. Our social and business activities coupled with our ultra modern living conditions expose us to endless risk of sustaining losses, which may be small or large. Each day that passes each one of us is in danger of sustaining a loss from fire, motor accident or any other type of accident, disease, armed robbery and other crimes. Since we cannot stop these daily risks from occurring, then we should endeavor to take whatever precautions we can arrange to protect ourselves. One of the most popular and effective methods of handling this problem of risk is insurance. The purpose of insurance is to provide for the payment of monetary compensation for losses suffered by the insured victims of such losses. It therefore follows that insurance exists because, there are risks involved in living and in doing business in modern societies in which we live in. If there were no risks then there would certainly be no need for insurance since the primary function of insurance is to accept certain types of risks (P. A. Isenmila, 2002) As a result of high capacity requirements, most firms goal to generate the kind of performance that can bring the most return. Performance is termed as the organizations ability to properly utilize the available resources, both physical and human capabilities in achieving the set organizational goal and targets. There are various factors which have been established to highly determine how organizations perform both internally and externally. This also relates to the insurance companies that operates by providing protections to both individuals and organizations regarding certain speculated risk that are prone to happen. They thus have to ensure that they remain profitable while still catering for the customers well being (Baltensperger)

Organizations are seeking to create much competition between them, taking more market, more customers, more sales etc (Gupta,2008). Different theoretical frameworks available try to bring out the determinant of performance in organizations and how to manage them.

The open system theory depicts the concepts of a system as a situation where all are characterized by an assemblage or combination of parts whose relations make them interdependent Resource Based Viewtheory (RBV) connects the organizations exhibitions on enhancement and item advancements strategy. Whereas, the Dynamic Capabilities Theories hold that organizations should understand the capabilities which they are best in and maximizing them. Firm's

performance varies amongst economic sectors, countries and regions (Chache, 2016) avoid the firmness of the performance in the companies, it enables them in formulating strategies that will enable the organization to gain competitive advantage. Specifically, this is consequential in the insurance sector whereby the performance is critical for sustainability and survival. Poor basics in business do not only indicate low investment opportunities, but also result in diminished growth. The available material is not sufficient enough in detailing the exact factor that underline performance with the studies done being inconclusive (Kimani and Njuguna, 2016)

## **1.2 Statement of Research Problems.**

The increased competitiveness and uncertainties brought about by advancement in technology and globalization calls for organizations to be in constant check of their performance (Kimani and Njuguna, 2016). Particularly, those companies who are constantly underperforming while having diminished returns are most likely to be insolvent and may end up even collapsing. This necessitates the managements in the organization to carefully evaluate the determinants of performance in their respective organizations and how well to attain competitive advantage. However, this still proves to be a milestone as despite numerous strategies being formulated, most companies are yet to meet their desired targets (Odemba, 2013) In the past decade, the number of players in the insurance sector has increased significantly with currently 56 insurance companies offering services nationwide. Locally, a study was conducted by Odemba (2013) on life insurance products. The study revealed that insurance products acceptance in Kenya was influenced by poor customer service and complicated nature of the life insurance products. Miyienda (2015) on the impact that mergers and acquisition have in insurance organizations. The study established that mergers and acquisition have positive impact on the performance of Kenyan insurance companies, especially after the merger and acquisition take place. Kimani and Njuguna, (2016) conducted a study on the effect of financial factors on insurance penetration in Nakuru town, Kenya. The study found out that all the financial factors investigation had significant relationship with insurance penetration.

This shows inconsistency on the exact determinant of performance of the insurance sector as the studies conducted have all established mixed results. Additionally, most of the studies conducted have concentrated mainly in the developed countries with only few being conducted in the developing countries such as Nigeria. The available literature is thus not sufficient in determining what exactly affects the performance of insurance companies in Nigeria. Understanding these is an important step towards promoting the growth of this sector that plays a huge role in economic development.

### **1.3 Research Questions**

Based on the statement of research problem above, the following research questions can be formulated

- I. What is the relationship between ownership concentration and performance of insurance company
- II. What impact do return on asset has on the performance of insurance company
- III. What is the effect of asset tangibility on the performance of insurance company
- IV. What is the effect of leverage on the performance of insurance company
- V. What is the effect of current ratio on the performance of insurance company.

### **1.4 Objectives of the Study**

The main objective of this study is to investigate the determinant of profitability of quoted insurance firms in Nigeria. The specific objectives include

1. To determine the effect of ownership structure on the performance of insurance firms in Nigeria.

II. To examine the impact of return on asset on the performance of insurance company

III. To examine the effect of asset tangibility on the performance of insurance company

IV. To interrogate the effect of leverage on the performance of insurance company

V. To investigate the effect of current ratio on the performance of insurance company

### **1.5 Statement of Research Hypothesis**

The hypotheses for the study are stated in null form as follows:

Ho1: The effect of ownership concentration on performance of insurance firms is not significant

Ho2: There is no relationship between return on asset and performance of insurance company

Ho3: There is relationship between asset tangibility and performance of insurance company

Ho4: Leverage has no effect on the performance of insurance company

Ho5: There is relationship between the current ratio and performance of insurance company.

### **1.6. Significance of the Study**

The research will be of value to the management and employee of various insurance companies in Nigeria. It will help them understand the factors surrounding them that can help their performance.

The results of the research will also be of value to the government and policy makers, especially the National Insurance Commission (NAICOM) who will use it to formulate policies that will improve the performance of insurance in Nigeria. Therefore, the findings of the study will help the government through its agencies to make appropriate policies toward improving the performance of insurance company.

This study will form a basis for further research and also provide scholars with more literatures

### **1.7 Scope of the Study**

The scope of the study centre on determinant of performance of the insurance companies in Nigeria. The study also attempt to suggest how

good performance can be determined by some micro and macro factors.

However the study shall cover between the periods of 2012 to 2016, this restriction is unavoidable because of the non -availability of some data.

Due to the nature of the study, the scope shall cover insurance company licensed by National Insurance Commission (NAICOM) and listed on the

Nigerian stock exchange (NSE)

### **1.8 Limitations of the Study**

The limitation of the study is that it will capture a short period of time

compared to a longitudinal study that would capture the effect of time. Also the inability to obtain accurate and reliable data will be a problem. Lastly

required finance may be incurred in course of this study.

### **1.9 Methodology**

For the purpose of this study, the methodology that will be applied is Data Envelopment Analysis (DEA). DEA is a linear programming based technique for measuring the relative performance of organizational units where the presence of

multiple inputs and outputs make comparison difficult. Efficiencies and target set for inefficient units can be determined with the aid of this model. Measuring

Efficiency it is

Efficiency =  $\frac{\text{output}}{\text{input}}$

Input

Under this model the problem will be run n times in establishing the relative efficiency scores of all the decision making units (DMU's). Each of the

DMU selects inputs and outputs weight that maximize its efficiency score.

A DMU will be considered efficient if it obtains a score of 1 while of less than 1 will be regarded as inefficient.

## **1.10 DEFINITION OF TERMS**

**INSURANCE:** It is an agreement usually between two parties usually a contractual agreement between the insurer and the insured whereby upon payment of premium the insurers promises to indemnify the insured in case of a loss.

**INSURANCE POLICY:** It is an evidence of the insurance contract containing the conditions of the contract.

**PREMIUM:** Monetary consideration for the risk undertaken.

**INDUSTRY:** It is the production of goods and services within an economy

**RISK:** It is the potential of gaining or losing something of value.

**PERFORMANCE:** The action or process of performing a task or function with application of knowledge, skill and abilities.

**FINANCIAL SYSTEM:** It is a system that allows the exchange of funds between lenders, investors and borrowers. It operates at National, global and specific firm level.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter presents the conceptual and theoretical review of literature in this area. This is done under the following sub-headings;

#### **2.2 Conceptual Issues**

Firm Performance is measure by some determinant which has a direct or indirect impact on the company. Measuring performance of a company shows us how the company is doing or coping with the internal and external environment surrounded by the company.

Measuring the performance of insurance companies has gained awareness from the last couple of years, because insurance sector is not only an avenue for money saving, but also serves as a vehicle to channel funds in an appropriate way from surplus economic sectors to deficit sectors so as to support the investment activities in the economy

#### **2.2.2 FINANCIAL PERFORMANCE**

Financial performance is defined as a subjective measure which determines how well the organizations use their available resources to generate more revenues. The financial performance measures the financial soundness and health of the organization in monetary terms and thus, can be used to compare the performance of different corporations within any particular industry or between industries (omasete,2016). The financial performance of the insurance companies plays a pivotal role in the growth of the industry as a whole, which ultimately contributes to the success of an economy.

Financial Performance broadly refers to the level of achievement reached by an organization, which is an essential part of financial risk management. It is the way towards evaluating performance of the operations in financial standings and can form the basis for comparison of firms in the same industry over time. A Financial performance report outlines the financial outlook of an organization that reports the budgetary wellbeing of an organization which facilitates different stakeholders and speculators to take their venture decision. There are various approaches to gauge

financial strength, but all measures should have same consideration. The Profitability ratios indicate the overall effectiveness of the company. The ratios used give an overview regarding the net earnings in comparison to debt, assets, shareholders equity and sales over a fixed period Profitability ratios create a combination of evaluation of a company's control, growth and success in converting investments into profit. Lenders are intrigued by profitability ratios since they demonstrate the organization's ability in repayment of both interest and loaned funds (Njuguna and Arunga, 2012). Shareholders have special interests towards profitability as investors. Profitability level indicates the speed and amount of return they expect to get from their investments in the firm. In this research paper the researcher focused on ROA as a measure of financial performance of insurance companies. Return on the owner's equity (ROE) ratio is the Net profit after the taxes divided by Total shareholders' equity (PAT E). The ratio is an expectation by shareholders for the money invested in the firm. Return on the Assets ratio is computed as the Net profit after taxes divided by the Total assets (PAT)/ (TA). The ratio (ROA) indicates the level of the operating efficiency for the firm based on all assets employed.

### **2.3 DETERMINANTS OF FINANCIAL PERFORMANCE IN INSURANCE INDUSTRY**

Generally, there are two kinds of performance, financial performance and non-financial performance. Financial performance stresses on variables related directly to financial report. Financial performance is an important tool used by actuaries in the process of decision making on underwriting and investment activities of the insurance company. The financial performance of insurance companies is also relevant within the macroeconomic context since the insurance industry is one of the financial system' components, fostering economic growth and stability. The financial performance of insurance companies can be analyzed at micro and macroeconomic level, being determined both by internal factors represented by specific characteristics of the company and external factors regarding connected institutions and macroeconomic environment. Identifying the factors that contribute to insurance companies' financial performance is useful for investors, researchers and financial analysts. Akhavein and Humphrey (2015) Contend that the factors underpinning the financial performance of financial service firms are often difficult to discern because of lack of the intangible nature of output and the lack of transparency over resource allocation decisions. However, (Burca and

Batrinca 2014) argued that these factors could be further classified as internal, industry and macroeconomic factors. Nevertheless, financial performance with regard to insurance companies has been usually expressed in as a function of internal determinants.

Akotey (2014) further revealed that profitability proxies for financial performance can also be appraised at the micro and macro levels of the economy.

### **2.3.1. Company Size**

Studies have been conducted to examine the effect of size on the financial performance of an insurance company. For example, Hardwick (2011) suggested that large insurers are likely to perform better than small insurers because they can achieve operating cost efficiencies through increasing output and economizing on the unit cost of innovations in products and process development. A positive relationship must exist between company size and its financial performance is expected, since large firms have more resources, good risk diversification and better expenses management. Similarly, the research conducted on the relationship among firm characteristics including size, age, profitability and growth indicated that large firms are found to grow faster than small firms.

Hence, most of the researchers in insurance have found a positive relationship between size and profitability. Sommer(2016) have established a positive correlation between size and profitability. Similarly,

Asimakopoulos [2009] found that the profitability of companies is positively affected by size, sales growth and investment.

### **2.3.2. Liquidity**

Liquidity is the ability of an organization to fund increase in assets and meet obligation as they come due without incurring unacceptable losses. The risk of financial institution comes with being force to borrow or

sell assets in a short period of time under stressed conditions. It is the risk that a sudden surge in liability withdrawals may require a financial institution to liquidate assets in a short period of time and at a low price, such as when liability holders demand immediate cash for their financial claims. Liquidity risk is sometimes called consequential risk because liquidity problem generally occurs after a firm experiences a severe loss from credit market or operational risk. Because of its tendency to compound other risk, it is difficult or impossible to isolate liquidity risk.

Liquidity measures the ability of management in insurance and re-insurance companies to fulfill their immediate commitments to policyholders and other creditors without having to increase profits on underwriting and investment activities and/or liquidate financial assets

Adams & Buckle [2009]. Empirical evidences with regard to liquidity revealed almost inconsistent results. Many studies has show that liquidity has a significant important on financial performance of insurance companies. Ahmed [2011] in his study in Pakistan found that ROA has statistically insignificant relationship with liquidity. On the other hand, Hakim & Neamie [2005] observed that liquidity and investment are the important determinants of bank's profitability, which also applies to insurance.

### **2.3.3. Leverage**

The degree to the level of financial leverage reflects in the insurance and re-insurance companies' ability to manage their economic exposure to unexpected losses. Low leverage provides a measure of corporate financial strength and ostensibly reduces the need for managers to increase investment earnings, for example, to build-up reserves. Leverage ratios also provide an indication of a company's long term solvency. In order to increase the leverage of the company, the company should have more insurance policies, policies of re-insurance and make use of debt. Empirical evidences with regard to leverage have found both positive and negative but statistically significant relationship with profitability. For instance, Bashir, Neri and Adams have stated

that an increase in the leverage has a positive impact on their financial performance. In contrast, for instance, Ali-shami [2008] in UAE, Malik (2011) in Pakistan and Flaminin [2009] in Sub-Saharan countries have found negative but statistically significant relationship between leverage and profitability of firms.

#### **2.3.4. Solvency**

Typically liquidity risk and solvency risk are very much related.

Solvency is the ability of an organization to hold assets to meet its long-term fixed expenses and to accomplish long term expansion and growth.

Solvency ratio vary by industry but the higher the solvency the better and the lower an organization's solvency the greater the probability that the company will default on its debt obligations.

As a general rule thumb, a solvency ratio of greater than 20 percent is considered financially healthy. Research on the property-liability insurance industry reveals that firms with greater financial strength as measured by insurance rating firms, command higher premiums Sommer [2016]. Similarly, Childambaran [2007] in her research shows that insurers with greater ratings are perceived as safer which results in higher returns. A positive linkage between solvency margin and the insurer's financial performance is expected, since the insurers financial stability is an important benchmark to potential customers.

#### **2.3.5. Underwriting Risk**

The underwriting risk emphasizes the efficiency of the insurers underwriting activity and is measured through the loss ratio, which is computed as a ratio of gross claims to gross written premium. Sound underwriting guidelines are pivotal to an insurers' financial performance.

The underwriting risk depends on the risk appetite of the life insurers'. For instance, Fama [2012] contends that organizations that engage in risky activities are likely to have more volatile cash flows than organization whose management is more averse to risk taking. Therefore, a negative

connection must exist between the underwriting risk and the insurers' financial performance, since taking more underwriting risk can affect the company's performance through higher expenses. Furthermore, insurance companies with high annual insurance losses on their financial statement will tend to increase their level of corporate management expenses ex-post (e.g., claims investigation and loss adjustment costs) would show a decline in their reported financial statement. In contrast, insurers and re-insurers with lower than expected annual losses are likely to exhibit better financial performance because for example, they do not incur such high monitoring and claim handling costs.

### **2.3.6. Volume of Capital**

Volume of Capital is viewed as the key indicator of an insurers' financial soundness and prudential standards recognize the importance of adequate capitalization with solvency as key focus area of insurance supervision. Capital is seen as a major key to protect insured and increases the stability and efficiency of financial system; it also indicates whether the insurance company has enough capital to absorb losses arising from claims. In most of the studies concerning insurance companies, volume of capital measures as the difference between total assets and total liabilities and in some cases it is measured by the ratio of equity capital to total assets. Volume of capital is used as one of the main determinants of insurance companies' profitability since it indicates the financial strength of the firm. A positive indication shows that volume of capital and insurers' financial performance is as expected, given that a greater flow of equity

gives a better financial stability and the possibility of expanding the

business Anthanasoglous [2005]. Studies conducted in different countries have found positive relationship between insurance capital and profitability.

Malik [2011] examined the relationship between volume of capital and return on assets for Pakistan insurance industry and found positive relationship between insurance capital and profitability.

## **2.4 OVERVIEW OF INSURANCE INDUSTRY IN NIGERIA**

Insurance means the act of securing the payment of a sum of money in the event of loss or damage to property, life, a person etc., by regular payment of premiums. Insurance is a method of spreading over a

large number of persons, a possible financial risk too serious to be conveniently sustained by an individual. The aim of all types of insurances is to protect the owner from a variety of risks which he anticipates. The happening of the specified event must involve some loss to the insured or at least should expose him to adversity which is, in the law of insurance, called commonly the 'risk'.

The nature of insurance depends on the nature of the risk required to be protected. An insurance contract makes available the risk coverage to the insured. The buyer of insurance pays a fixed premium in exchange for a promise of compensation in the event of some specified loss. Insurance is bought because it gives peace of mind to the holders. This comfort stage is important in personal and business life.

Though, the most important purpose of insurance is to provide risk coverage, when the contract period extends over a long time, as in the case of life insurance, premium payments comprise of two components - one for buying risk coverage and the other towards savings. The joining together of risk coverage and savings is peculiar with the life insurance and is more common in developing countries like India. In the industrially superior countries, the short duration life insurance contracts without a savings component are equally popular. In the developing economies because of the savings and the long nature of the contract, life insurance has become an important instrument of activating the long-term funds. The savings component puts the life insurance in straight competition with other financial institutions and savings instruments. In many developed countries, citizens are to a certain extent protected by social security schemes provided by the government. These schemes offer financial aid to citizens who are eligible on grounds of unemployment, old age, sickness, disability.

#### **2.4.1 Types of Insurance**

Generally there are two major types of insurance, which consist of

1. **Life insurance:** life insurance is a contract between an insurer and a policyholder in which the insurer grants payment of the sum insured upon the death of the policyholder to the named beneficiaries. The purpose of life insurance is to provide financial protection to the surviving dependent after the death of the insured.
2. **General insurance:** general insurance is a contract in which one

party called the insurer in consideration of money paid to called the premium, promise another called the insured to provide protection by bringing back the insured to the state he was shortly before the occurrence risk been listed on the policies.

#### **2.4.2 History of Insurance**

The risk protection has been a primary goal of humans and institutions throughout history. Insurance is all about protecting against such risks.

Over 5000 years ago, in China, insurance was observed as a preventative measure against piracy on the sea. Piracy, in fact, was so rampant, that as a way of spreading the risk, a number of ships would carry a portion of cargo so that if one ship was captured, the entire shipment would not be lost. In the other part of the world, nearly 4,500 years ago, in Babylonia, traders used to bear risk of the caravan trade by giving loans that had to be later repaid with interest when the goods arrived safely. In 2100 BC, the Code of Hammurabi granted legal status to the practice and that formalized the concepts of "bottomry (maritime contracts)" referring to vessel bottoms and "respondentia" referring to cargo. These provided the foundation for marine insurance contracts. Such contracts contained three elements: a loan on the vessel, cargo, or freight; an interest rate; and a surcharge to cover the possibility of loss. In effect, ship owners were the insured and lenders were the underwriters.

Life insurance came about a little later in ancient Rome, where burial clubs were formed to cover the funeral expenses of its members, as well as help survivors monetarily. With the fall of Rome, around 450 A.D., most of the concepts of insurance were abandoned, but aspects of it did continue through the Middle Ages, particularly with merchant and artisan guilds. These provided variety of insurance covering risks like fire, flood, theft, disability, death, and even imprisonment. Insurance in India can be traced back to the Vedas. For instance, "Yogakshema" the name of LIC's corporate headquarters is derived from the Rig Veda. The term suggests that a form of "community insurance" was prevalent

around 1000 BC and practised by the Aryans. And similar to the Ancient Rome, burial societies were formed in the Buddhist period to

help families, build houses, and to protect widows and children.

The object of insurance is to mitigate the suffering on the happening of a contingent event. To achieve this end, the principle of co-operation is employed, the loss suffered by a few being distributed over the community at large. Records of the origin and early history of insurance are practically non-existent. It is therefore difficult to trace the beginning of insurance.

However an admirable work has been done by several writers, in particular by Dr. C. F. Trener, the author of "The Origin and Early History of Insurance". According to him, the earliest form of insurance seems to have been a sort of "marine and land insurance," very much akin to modern

marine insurance. Initially; the travelers by land and sea were insured against the risk of losing property to which they were naturally exposed in times when robbery of caravans and piracy on the open sea were considered as respectable means of livelihood. The efforts to relieve this intolerable situation were made in Babylonia and India at a fairly early stage of their history.

The related provisions in the codes of Hammurabi and of Manu whereby a trader who was robbed on a journey through no negligence or connivance on his part was directed to be set free from debt in respect of both capital and interest on making a solemn declaration. The Greeks, too, evolved, somewhere about the middle of the fourth century B.C., a complex form of maritime contract which they must have derived from the Phoenicians and Rhodians. These are the first approaches to the modern system of contracts of insurance, by which the risks of trade were distributed between different parties.

A contract which is so comprehensive as that of the Indian contract and applying equally to sea and land traffic is not referred to even by the

Greeks. The first reference by the Greeks, about the year 350 B.C., is to a

complex form of maritime contract only. Presumably it was got from the Phoenicians and Rhodians who being initially concerned with the maritime trade modified the Babylonian land contract to suit their requirements. It is also believed that trade used to be carried on between Babylonians and Indians, and therefore this protective principle must have become known to both about the same time and was developed according to existing needs.

It is also possible that the contracts were developed independently, as both the countries must have been carrying on trade amongst other people.

The early development of insurance was irregular and usually in fields other than life. At that time, man's attention was directed against those risks which at the moment seemed most dangerous and he could see that the vessel in which he did his trade might never come home, his house might be burnt down or broken into by robbers and bandits. These were contingencies that might happen any day; but death and its consequences were matters somewhat remote and beyond his control and extremely unpleasant to consider. One could provide for one's dependents by accumulating wealth; and though this method was often unsatisfactory, the alternative notion of insurance did not cross his mind.

But those people averse to thinking about death as an insurance risk had not the same objection to making arrangements for a proper and decent burial. They believed that a peaceful departure from this world was necessary to procure the deceased peace and happiness in his next birth.

This religious faith found expression in the ancient Roman Collegia. Some later institutions, though chiefly concerned with burial funds, extended their activities so as to protect the living and organized help for their needy members. The Roman Collegia are an example of such an institution. It is, however, improbable that life insurance or annuity business was transacted by the Romans, although during the

middle of the fourth century A.D. an attempt was made by Ulpian, Roman Prefect, to prepare a mortality table.

The next important attempt at insurance, in chronological order, was made by the Anglo-Saxon Guilds, popularly known as the Insurance Associations of the middle ages. There is evidence that members of these early guilds (unions/association), known as the Frith guilds, and each man paid a fixed amount to the common fund which was expended on feasts, fines, mass for the dead, burials and brothers in need. During the middle ages the mediaeval craftsman not only made his own wares but was his own agent in selling them, and thus had a dual capacity as manufacturer and merchant. Such people when they became numerous, in the Merchant Guilds, separated and formed Craft Guilds. With the progressive specialization in trade such Crafts Guilds grew up all over Europe.

Modern life insurance commenced first in England and Europe about the sixteenth century but the early attempts, though they resembled modern life insurance, were actually gambling, because the bases of life

insurance business, i.e., mortality tables, were practically unknown.

Further, the use of loan capital for production purposes did not develop on any large scale till about the beginning of the eighteenth century.

Investments of life insurance funds were therefore almost impossible. Thus we can broadly divide the development of life insurance into two periods, (a) attempts at co-operation prior to the eighteenth century which may be regarded as the precursors of modern insurance, and (b) the modern period of scientific insurance which began in the eighteenth century.

Life insurance business, as it is known today, is a heritage from

England. The industrial revolution accelerated the pace. The continent of Europe, America and Canada followed the same. The early insurance companies in India issued policies in sterling on the lives of Europeans 30 who were engaged in the

services of the East India Company and later on in those of the Government of India. A few companies who attempted to write business on Indian lives either came to grief sooner or later or were absorbed by others. The failure of two large English companies, the European and the Albert, about the year 1870, affected a large number of persons in this country who had reposed their faith in them. Consequent upon this, an attempt was made to float companies in India to underwrite business on Indian lives also. Thus the "Bombay Mutual" was established in 1871. It was closely followed by the "Oriental" in 1874. The Colonial Life

Assurance Company also decided, in 1870, to extend its business. Consequent upon this, an attempt was made to float companies in India to underwrite business on Indian lives also. Thus the "Bombay Mutual" was

established in 1871. It was closely followed by the "Oriental" in 1874. The Colonial Life Assurance Company also decided, in 1870, to extend its

business to Indian lives and it is from this era that modern Indian

insurance may be dated. The authoritative history of Indian insurance began to be recorded for the first time when the Government of India started publishing the returns of Life Assurance Companies in India in the year 1914. The first issue of this publication contains a reference and we find the following statement in the preface of the Indian Insurance Manual (published by Messrs. Thacker Spink & Co., Calcutta) in 1907: "This publication has been called into existence by the entire absence of any suitable treatise dealing with the business of Life and Fire Insurance in India". The name of the same was changed from the ninth issue to "The Indian Life Assurance Year Book" and from the 15th issue to "The Indian Insurance Year Book". The business of life insurance in India commenced in the year 1818 with the establishment of the Oriental Life Insurance Company in Calcutta. After a long break, then in the year 1912, the Indian Life Insurance Companies Act was enacted as the first statute to regulate the life insurance business.

The year 1956 was a historic time in the Insurance sector, when 245 Indian and foreign insurers and provident societies were taken over by the Central Govt. and nationalized them. Also LIC was formed by an Act of Parliament in 1956 with a primary capital contribution of Rs. 5 Crore by the Government of India. The General Insurance business in India can be traced from the Triton Insurance Company Ltd.; i.e. the first General Insurance Company established in the year

1850 in Calcutta by the then British Government. Then in the year 1907 the Indian Mercantile Insurance Co. Ltd. was set up which was the earliest company to transact all classes of General Insurance business. Later, in 1972 under the General Insurance Business (Nationalization) Act, 1972 the general insurance business in India was nationalized. 107 insurers were merged and grouped into 4 companies. the National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd. and the United India Assurance.

### **2.4.3 DEVELOPMENT OF INSURANCE INDUSTRY IN NIGERIA**

To understand how insurance operates in Nigeria, it is important to know the history of insurance in Nigeria. The birth of modern insurance in

Nigeria is closely associated with the arrival of British Trading Companies. These companies facilitated inter-regional trade in the country. These

foreign companies, therefore, needed to deal with some of their risks at a local level. This changed the shape of the insurance sector in Nigeria.

These trading companies were given insurance agency licenses by their foreign authorities from abroad. The licenses allowed the firms to facilitate claims supervision and issue covers. In 1918, Africa and East trade companies inaugurated the Royal Exchange Assurance Agency. This was the first insurance company in the history of insurance in Nigeria. Other agencies included: BEWAC's Legal and General Assurance, Patterson Zochonis (PZ) Liverpool and Law Union and Rock.

Due to the tragic effects of the Second World War, trade and commerce suffered both in the United Kingdom and in Nigeria. The initial years of Nigerian insurance companies witnessed slow growth between the 1920s and 1940s. Once the war got over, the insurance industry in Nigeria picked up its pace and made progress that would be embedded forever in the history of insurance in Nigeria. The first insurance company indigenous to Nigeria was the African Insurance Company Limited. This was established in 1958. On October 1, 1960, the country gained Independence from the British. At the time of Independence there were twenty five insurance companies in Nigeria. Only four of these were owned by Nigerians. In 1961 the J.C. Obande Commission report, a milestone in the history of insurance in Nigeria, was released. This led to the formation of the Nigerian Department of Insurance as part of the Federal Ministry of Trade.

This department was later transferred to the Ministry of Finance. The Insurance Companies Act of 1961 made it necessary for insurance businesses to be grouped into various classes for registration. According to provisions of the Act, the office of the Registrar of Insurance was created. The purpose was to manage insurance practice in the country. Minimum capital requirement and other regulations for registration, monitoring, and control of insurance operations- these are some other provisions that fall under the other provisions of the Act. In 1976, an Insurance Decree was released. This gave authorization to insurers, transfers, modes of operation, administrative, enforcement guidelines and penalties. By this time, the number of indigenous companies had outnumbered the foreign insurance companies. In 1997, the National Insurance Commission was established. It was given the duty of overseeing and organizing insurance in Nigeria. This body is functioning as the main insurance regulator in Nigeria. An Insurance Special Supervisory Fund was set up in 1989, which made it compulsory for insurance companies to give in 1 percent of their gross earnings to the fund. This also strengthened the Insurance Supervisory Board

## **2.5 THEORETICAL REVIEW**

The theoretical section tries to uncover whether or not the existing theories suggested determined the performance of any organization. The study adopt four main theories which are; multivariate theory, Arrow- debreu theory of general equilibrium, data envelopment analysis (DEA) theory and

Dupont theory of ratio analysis.

### **2.5.1 Multivariate Theory**

Powell (2008) asserts that multivariate analysis involves the examination of two or more variables at the same time and then consider their interactions as predictors of losses in insurance industry. According to Nyce (2007), multivariate analysis includes advanced regression and time series models which are used by business firms to predict the trends or relationships of balance sheet and profit and loss account items which enable them to know likely situations in the future. Nyce (2007) confirmed that insurers heavily depend on estimating the activities in future. This estimation helps

them to avoid adverse selection which is a situation where those who buy insurance are individuals with high chances of encountering big perils with higher claims than premiums paid. According to Nyce (2007), traditionally, insurers calculated premiums using univariate analysis which involves one factor analysis like use of only the age of an insured. But because of technology, multivariate analysis which involves many factors is nowadays used to get the premiums. This has led to predictive analytics used to determine the additional information required to get the premium, (Nyce,2007). The results produced by predictive analytics show the likely occurrences with most results showing higher probability of the event occurring.

### 2.5.2 Arrow- Debreu Theory of General equilibrium

This theory is about how optimally or efficiently, preferred resources are allocated by organizations; it is about general equilibrium and according to classical economists, it is a theory of value, driven by the cost of production and no profit condition hence ignores [7:49 PM, 4/30/2024] Mr Finland: the influence of demand

on value (Duffie and Sonnenschein, 1989). The theory is about cost-benefit analysis and is concerned with the allocation of commodities between individuals or nations under environment of uncertainty. Where there is enough information about the preferences of clients, resource allocation can be decentralized as a competitive equilibrium after a redistribution of initial resources through lump sum taxes. But financing of goods with lump sum taxes does not change the efficiency of a competitive resource allocation (Laffont, 2002). Prices are set higher by organizations during peak hours to shift demand to off peak hours and reduce capacity costs in an efficient manner (Dana, 1999). In many situations, individuals are allocated to positions with limited capacities for example family members must be given household chores or college students must be assigned to popular courses with limited enrollments (Hylland and Zeckhauser, 1979). In insurance industry, the theory teaches that under given situations, where contingent- claims markets are complete, risks will be allocated in an optimal manner (Ball and Mankiw, 2007). This involves a

time series uncertainty of whether the situation facing a person in future will be a lucky one or not and hence calls for allocation of risks in an efficient manner in that the insurance companies tend to implement results that they think the insured persons would achieve on their own if they were left to trade the risks on their own. Foss et al. (1999) asserts that the Arrow- Debreu theory assumes that insurance agents should be able to have enough information about the future states of nature of contracts to enable them predict all the future contingent events in a prudent manner and write policies which will take care of those contingent occurrences at the lowest cost.

### **2.5.3 Data Envelopment Analysis (DEA) Theory**

Data envelopment analysis involves application of benchmarking analysis which drives insurance firms towards the best practices in the market (Barros and Obijiaku,2007). The analysis calculates efficiency of resources without using a production formula since the theory assumes that the production formula of the fully efficient decision making unit is known in advance; the theory uses multiple outputs to evaluate the efficiency (Huang, et al., 2012). According to Wu et al. (2007), data envelopment analysis is used to get the most successful unit amongst a set of observed ones and isolate those not efficient when compared to the most successful unit. It also shows the amount of the inefficiencies and improvements that can be put on the units which are not efficient. DEA determines which decision making unit (DU) represents the best practice. Wu et al. (2007), explains that DEA uses linear programming to analyze each decision making unit comprehensively in case of many input-output situations and measures each DU's performance relative to an envelopment surface composed of other decision making units and finally shows how the analyzed decision making unit can improve to be efficient.

In the insurance industry, data envelopment analysis is used to measure efficiency in productivity where factors like cost of equity capital and labor are considered to be inputs while premium income and new businesses written are the outputs; efficiency of the inputs used is measured compared to output produced (Bawa and Ruchita, 2011). Data envelopment analysis is of great importance in insurance industry since it

helps in finding out efficiency required by insurance from the increasing risks that continue to be experienced (Bawa and Ruchita, 2011).

#### **2.5.4 DuPont Theory of ratio analysis**

DuPont model is a technique used to determine how profitable a business firm is by use of traditional performance management tools through the integration of items from balance sheet and profit and loss account. According to Mitchell, et al. (2013), the traditional role of DuPont formula is to help rational investors decide on the optimal investments to undertake

but has since evolved into a modern tool used to find out the strength, weakness and likely improvement on the capital structure of an organization that will help maximize stock holders' wealth. The first Du Pont model was developed before nineteen seventies when firms' main goal was that of maximizing return on assets (ROA), (Lies and Maranville,

2008). According to (Liesz and Maranville, 2008), Brown F. D. Who was an electrical engineer had been contracted by General Motors company to analyze their finances after which he discovered a relationship that existed between total asset turnover, net profit margin and return on assets. He found out that return on assets is equals to net profit margin multiplied by total asset turnover, which is actually profitability multiplied by efficiency.

Gitman (1998) as cited in Liesz and Maranville (2008) contend that, "in the 1970s the generally accepted goal of financial management became "maximizing the wealth of the firm's owners" "and focus shifted from return

on assets to return on equity" (Liesz and Maranville, 2008) which then led to the modified DuPont model now commonly known as, DuPont identity, where return on equity is equals to return on assets multiplied by total assets and divided by equity. This was to cater for the ways institutions

leverage their operations and the modern goal of organizations which is maximization of owners' equity. Raza, et al. (2013), contend that insurance firms when measured according to their net income levels do not rank the same as when measured using return on equity and usually the best performers in terms of net income do not manage to perform in terms of return on owners' equity. Policy holders therefore do not like the highly performing insurance firms but the insurers which give them high returns on their investments and hence support DuPont method of measuring an insurance firm's performance (Raza, et al., 2013)

## **2.6 EMPIRICAL REVIEW**

There are not many research papers on business performance in insurance industry and most of the papers on financial performance are focused on banks and listed companies. Most of the studies on performance in insurance industry are recent, being performed after 2000. The financial analysis of a company is an important tool used by actuaries in the process of decision-making on underwriting and investment activities of the insurance company (Burca & Batrinca, 2014) Studies has been conducted both locally and internationally, trying to establish what exactly determines how organization performance. Bedi and Singh (2011) evaluated the overall performance of life insurance industry between pre and post economic reform era, covering the period 1980 to 2009. The study revealed that there is an enormous improvement in the performance of Indian life insurance industry due to the policy of LPG. In addition to this, there is also a huge change in the investment pattern of LIC, Which show an increasing trend toward the investment in stock market by LIC from 60% to 93% from 1980 to 2009 due to the effective regulation of SEBI and increasing transparency of stock market.

Chaudhary and Kiran (2011) studied the recent trend in life insurance industry in term of various indicators like growth in total number of offices of life insurers, growth in number of individual agents working in life insurance industry, number of products and riders, growth of life insurance business and premium income, lapse / forfeiture ratio and settlement of death claims in Indian life insurance industry. The result of study indicated an improved sign of performance in terms of number of offices, number of agents, new business policies, and premium income etc.

Burca and Batrinca (2014) study, in order to determine the factors that influence the financial performance (return on total assets ratio) in the

Romanian insurance market during the interval 2008-2012, tested 13

explanatory variables: insurance financial leverage, company size, number of years since the company operates in the Romanian market, growth of

gross written premiums, equity, total market share, diversification, underwriting risk, investment ratio, reinsurance dependence, retained risk ratio, solvency margin and growth of GDP per capita. The study found that there is a positive relationship between size and financial performance, since larger firms have more resources, a better risk diversification, complex information systems and a better expenses management. The linkage between the growth of gross written premiums and insurers' financial performance is not positive, as expected, as in some cases, an excessive growth of underwritings generates a higher underwriting risk and the necessity to increase the volume of technical reserves. The underwriting risk emphasizes the efficiency ratio of gross claims to gross written premiums. Mumo, (2017) conducted a study on the factors influencing on the performance insurance companies. the data collection method was based on structured approach due to the target population and the nature of the work. The study showed that organization structure affect the performance of insurance companies through innovation and organization learning. The study also concludes that large firms are more stable and mature, therefore generates greater sales because of their great production. the

Study however concentrate on two main variables namely; size and

organizational structure with giving consideration to other factors. Owino, (2017) conducted a study on the organizational factors and performance of insurance brokerage firms performance in Nigeria. Primary data was obtained using self administered questionnaires. Descriptive

statistics were used to generates frequencies, percentage mean score and derivation while correlation and multiple regression analysis were used to ascertain the relationship between pairs of variables and the influence of the variables of performance. It was found that information technology integration and advancement had the greatest effect on the performance of

insurance brokerage firms, followed by organization structure and discontinuous innovation.

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## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter describes the research method and procedures used in conducting the study. It outlines the research design, population and sampling design, data collection and data analysis. The chapter attempt to develop a model for determinant of performance of insurance companies in Nigeria.

#### **3.2 RESEARCH DESIGN**

The research design adopted for this study is the casual and longitudinal research design, which is very applicable in management and social sciences. In an Ex-post-facto research which involves secondary data in which response in the nature of a factor and effect on individuals are being studied, the researcher does not have the ability or opportunity to vary or manipulate the independent variables.

#### **3.3 POPULATION OF THE STUDY**

The population of this study is made up of all insurance firms licensed by the National Insurance Commission (NAICOM) and listed on the Nigeria Stock Exchange (NSE). For ease accessibility of data, this study shall use thirty two (32) insurance companies as the sample. This gives a total observation of one hundred and seventy seven (177). The data cover between 2012-2017.)

### 3.4 SOURCE OF DATA

Secondary data were used for this study. The data were obtained from the National Insurance Commission (NAICOM), annual report and statement of account of the sampled firms (32 insurance firms in Nigeria)

### 3.5 PRELIMINARY TEST

The preliminary tests adopted are descriptive statistics used to summarize the properties of variable and present them in a more convenient form. Therefore, the unit root test was carried out using the Augmented Dickey Fuller (ADF) test in order to determine whether the variables are stationary

and in what order they are integrated also. This was determined as

$$\Delta Y_t = a + bT + \sum_{i=1}^m \Delta Y_{t-i} + \epsilon_t$$

... (1)

$$+ \epsilon_t, \Delta Y_{t-1} + \epsilon_t$$

Where  $a$  represents the drift,  $t$  represents deterministic trend and  $m$  is a lag length large enough to ensure that  $\epsilon_t$  is a white noise process.

#### 3.5.1 MODEL SPECIFICATION

The goal of the study was to ascertain determinant for performance of insurance companies in Nigeria. The study used ordinary least square to determine the relationship between financial risk and performance. The following model was used for the study

Model I

$$PATMit = a_0 + a_1 \Delta Z_{t-1} + a_2 \Delta Z_{t-2} + a_3 \Delta Z_{t-3} + a_4 \Delta Z_{t-4} + a_5 \Delta Z_{t-5} + a_6 \Delta Z_{t-6} + a_7 \Delta Z_{t-7} + a_8 \Delta Z_{t-8} + a_9 \Delta Z_{t-9} + a_{10} \Delta Z_{t-10} + a_{11} \Delta Z_{t-11} + a_{12} \Delta Z_{t-12} + a_{13} \Delta Z_{t-13} + a_{14} \Delta Z_{t-14} + a_{15} \Delta Z_{t-15} + a_{16} \Delta Z_{t-16} + a_{17} \Delta Z_{t-17} + a_{18} \Delta Z_{t-18} + a_{19} \Delta Z_{t-19} + a_{20} \Delta Z_{t-20} + a_{21} \Delta Z_{t-21} + a_{22} \Delta Z_{t-22} + a_{23} \Delta Z_{t-23} + a_{24} \Delta Z_{t-24} + a_{25} \Delta Z_{t-25} + a_{26} \Delta Z_{t-26} + a_{27} \Delta Z_{t-27} + a_{28} \Delta Z_{t-28} + a_{29} \Delta Z_{t-29} + a_{30} \Delta Z_{t-30} + a_{31} \Delta Z_{t-31} + a_{32} \Delta Z_{t-32} + a_{33} \Delta Z_{t-33} + a_{34} \Delta Z_{t-34} + a_{35} \Delta Z_{t-35} + a_{36} \Delta Z_{t-36} + a_{37} \Delta Z_{t-37} + a_{38} \Delta Z_{t-38} + a_{39} \Delta Z_{t-39} + a_{40} \Delta Z_{t-40} + a_{41} \Delta Z_{t-41} + a_{42} \Delta Z_{t-42} + a_{43} \Delta Z_{t-43} + a_{44} \Delta Z_{t-44} + a_{45} \Delta Z_{t-45} + a_{46} \Delta Z_{t-46} + a_{47} \Delta Z_{t-47} + a_{48} \Delta Z_{t-48} + a_{49} \Delta Z_{t-49} + a_{50} \Delta Z_{t-50} + a_{51} \Delta Z_{t-51} + a_{52} \Delta Z_{t-52} + a_{53} \Delta Z_{t-53} + a_{54} \Delta Z_{t-54} + a_{55} \Delta Z_{t-55} + a_{56} \Delta Z_{t-56} + a_{57} \Delta Z_{t-57} + a_{58} \Delta Z_{t-58} + a_{59} \Delta Z_{t-59} + a_{60} \Delta Z_{t-60} + a_{61} \Delta Z_{t-61} + a_{62} \Delta Z_{t-62} + a_{63} \Delta Z_{t-63} + a_{64} \Delta Z_{t-64} + a_{65} \Delta Z_{t-65} + a_{66} \Delta Z_{t-66} + a_{67} \Delta Z_{t-67} + a_{68} \Delta Z_{t-68} + a_{69} \Delta Z_{t-69} + a_{70} \Delta Z_{t-70} + a_{71} \Delta Z_{t-71} + a_{72} \Delta Z_{t-72} + a_{73} \Delta Z_{t-73} + a_{74} \Delta Z_{t-74} + a_{75} \Delta Z_{t-75} + a_{76} \Delta Z_{t-76} + a_{77} \Delta Z_{t-77} + a_{78} \Delta Z_{t-78} + a_{79} \Delta Z_{t-79} + a_{80} \Delta Z_{t-80} + a_{81} \Delta Z_{t-81} + a_{82} \Delta Z_{t-82} + a_{83} \Delta Z_{t-83} + a_{84} \Delta Z_{t-84} + a_{85} \Delta Z_{t-85} + a_{86} \Delta Z_{t-86} + a_{87} \Delta Z_{t-87} + a_{88} \Delta Z_{t-88} + a_{89} \Delta Z_{t-89} + a_{90} \Delta Z_{t-90} + a_{91} \Delta Z_{t-91} + a_{92} \Delta Z_{t-92} + a_{93} \Delta Z_{t-93} + a_{94} \Delta Z_{t-94} + a_{95} \Delta Z_{t-95} + a_{96} \Delta Z_{t-96} + a_{97} \Delta Z_{t-97} + a_{98} \Delta Z_{t-98} + a_{99} \Delta Z_{t-99} + a_{100} \Delta Z_{t-100} + \epsilon_t$$

$$\Delta Z_{t-1} + a_{32} \Delta Z_{t-2} + a_{33} \Delta Z_{t-3} + a_{34} \Delta Z_{t-4} + a_{35} \Delta Z_{t-5} + a_{36} \Delta Z_{t-6} + a_{37} \Delta Z_{t-7} + a_{38} \Delta Z_{t-8} + a_{39} \Delta Z_{t-9} + a_{40} \Delta Z_{t-10} + a_{41} \Delta Z_{t-11} + a_{42} \Delta Z_{t-12} + a_{43} \Delta Z_{t-13} + a_{44} \Delta Z_{t-14} + a_{45} \Delta Z_{t-15} + a_{46} \Delta Z_{t-16} + a_{47} \Delta Z_{t-17} + a_{48} \Delta Z_{t-18} + a_{49} \Delta Z_{t-19} + a_{50} \Delta Z_{t-20} + a_{51} \Delta Z_{t-21} + a_{52} \Delta Z_{t-22} + a_{53} \Delta Z_{t-23} + a_{54} \Delta Z_{t-24} + a_{55} \Delta Z_{t-25} + a_{56} \Delta Z_{t-26} + a_{57} \Delta Z_{t-27} + a_{58} \Delta Z_{t-28} + a_{59} \Delta Z_{t-29} + a_{60} \Delta Z_{t-30} + a_{61} \Delta Z_{t-31} + a_{62} \Delta Z_{t-32} + a_{63} \Delta Z_{t-33} + a_{64} \Delta Z_{t-34} + a_{65} \Delta Z_{t-35} + a_{66} \Delta Z_{t-36} + a_{67} \Delta Z_{t-37} + a_{68} \Delta Z_{t-38} + a_{69} \Delta Z_{t-39} + a_{70} \Delta Z_{t-40} + a_{71} \Delta Z_{t-41} + a_{72} \Delta Z_{t-42} + a_{73} \Delta Z_{t-43} + a_{74} \Delta Z_{t-44} + a_{75} \Delta Z_{t-45} + a_{76} \Delta Z_{t-46} + a_{77} \Delta Z_{t-47} + a_{78} \Delta Z_{t-48} + a_{79} \Delta Z_{t-49} + a_{80} \Delta Z_{t-50} + a_{81} \Delta Z_{t-51} + a_{82} \Delta Z_{t-52} + a_{83} \Delta Z_{t-53} + a_{84} \Delta Z_{t-54} + a_{85} \Delta Z_{t-55} + a_{86} \Delta Z_{t-56} + a_{87} \Delta Z_{t-57} + a_{88} \Delta Z_{t-58} + a_{89} \Delta Z_{t-59} + a_{90} \Delta Z_{t-60} + a_{91} \Delta Z_{t-61} + a_{92} \Delta Z_{t-62} + a_{93} \Delta Z_{t-63} + a_{94} \Delta Z_{t-64} + a_{95} \Delta Z_{t-65} + a_{96} \Delta Z_{t-66} + a_{97} \Delta Z_{t-67} + a_{98} \Delta Z_{t-68} + a_{99} \Delta Z_{t-69} + a_{100} \Delta Z_{t-70} + \epsilon_t$$

$$a_{60} \Delta Z_{t-60} + a_{61} \Delta Z_{t-61} + a_{62} \Delta Z_{t-62} + a_{63} \Delta Z_{t-63} + a_{64} \Delta Z_{t-64} + a_{65} \Delta Z_{t-65} + a_{66} \Delta Z_{t-66} + a_{67} \Delta Z_{t-67} + a_{68} \Delta Z_{t-68} + a_{69} \Delta Z_{t-69} + a_{70} \Delta Z_{t-70} + a_{71} \Delta Z_{t-71} + a_{72} \Delta Z_{t-72} + a_{73} \Delta Z_{t-73} + a_{74} \Delta Z_{t-74} + a_{75} \Delta Z_{t-75} + a_{76} \Delta Z_{t-76} + a_{77} \Delta Z_{t-77} + a_{78} \Delta Z_{t-78} + a_{79} \Delta Z_{t-79} + a_{80} \Delta Z_{t-80} + a_{81} \Delta Z_{t-81} + a_{82} \Delta Z_{t-82} + a_{83} \Delta Z_{t-83} + a_{84} \Delta Z_{t-84} + a_{85} \Delta Z_{t-85} + a_{86} \Delta Z_{t-86} + a_{87} \Delta Z_{t-87} + a_{88} \Delta Z_{t-88} + a_{89} \Delta Z_{t-89} + a_{90} \Delta Z_{t-90} + a_{91} \Delta Z_{t-91} + a_{92} \Delta Z_{t-92} + a_{93} \Delta Z_{t-93} + a_{94} \Delta Z_{t-94} + a_{95} \Delta Z_{t-95} + a_{96} \Delta Z_{t-96} + a_{97} \Delta Z_{t-97} + a_{98} \Delta Z_{t-98} + a_{99} \Delta Z_{t-99} + a_{100} \Delta Z_{t-100} + \epsilon_t$$

PATM = profit after tax margin

ROA = return on asset

Own conc = ownership concentration

D-TASST = debt to total asset

LEV = leverage

C-RATIO = current ratio

FSIZE = firm size

FAGE = firm age

eit= error term

50

### **3.6 METHOD OF DATA ANALYSIS**

for the purpose of carrying out analysis, the study employed ordinary least square model to determine performance of insurance companies in Nigeria. Data analysis will be done using e-views 7.0 software. For determining the relationship, the study used return on asset (ROA) as a proxy for performance of insurance companies as a dependent variable and independent variable comprising of liquidity ratio, firm size, solvency

ratio and volume of capital.

#### **3.6.1 TEST OF SIGNIFICANCE**

An F- test statistics was used in assessing to what degree of independent variable determines the variation in the dependent variable/ effectiveness of the model as a whole in explaining the dependent variable given at 1% conservative level. T-test was used to assess the level of significance for the individual regression constraints/ assessing whether the individual coefficients are statistically significance of the model which was set at 5% conventional level of significance.

## **CHAPTER FOUR**

### **EMPIRICAL RESULTS**

#### **4.1 INTRODUCTION**

This chapter discusses the results obtained from the estimation of the specified model for this study. The main objective of the study is to evaluate the determinants of profitability of quoted insurance firms in Nigeria. To achieve this, we selected quoted insurance firms in Nigeria that have consistently published their audited annual financial reports between 2012 and 2017. A sample of thirty two (32) quoted insurance firms formed the sample size of this study; to ensure fair representation of the

population, by way of elimination method based on set criteria. This formed an unbalanced panel data for the study.

With the specified model, we started by conducting the descriptive statistics, followed by the correlation test, thereafter, the panel least squares method was used to estimate the specified model to produce both the fixed and random effect results respectively.

The variables as in the model include profit after tax margin (PATM) which form the dependent variable, while the explanatory variables include: ownership concentration(OWN\_CONC), return on asset (ROA), Fixed asset to Total Asset

(FASSET), debt to total asset (D\_TASST), current ratio (C\_RATIO) and firm size (FSIZE) and firm age (FAGE) respectively.

The descriptive statistics of the data in the variables are presented thus presented in Table 4.1 below.

Table 4.1: Descriptive Statistics

Variables

Mean

PATM

9.2406

OWNCONC

54.0169

ROA

6.5278

FASSET

35.6130

D\_TASST

62.4159

C\_RATIO

1.47932

FAGE

29.5762

FSIZE

17.77955

No of Cross Section

32

All data observation

177

Min

-56.23

-25.69

1.41

13.7

0.27

3

13.76

Max

120.22

100

53.96

98

106.22

31.13

53

22.28

Jarque-Bera

212.5938(0.0)\*

5.3339 (0.06)\*

374.1422(0.0)\*

6 48845 (0.03)\*\*

8.04266 (0.01)\*

95724.77(0.0)\*

13.06987 (0.0)\*

6.56466(0.03)\*\*

Source: Author's computation (2017) Note: \* and \*\* implies 1% and 5% level of significance respectively

The above Table 4.1 shows the mean for each of the variables, their maximum and minimum values and Jarque-Bera (JB) normality test statistics results. The results provide some insight into the nature of the selected firms that were used in the study. That is to say that the relatively small difference between the maximum and minimum values of firm size (FSIZE) shows that the selected sampled firms are not dominated by either large or small firms.

Furthermore, looking at the mean values, it is observed that on the average, over the reference period (2012-2017), all the variables indicate positive value respectively. This implies that there is high level of influence emanating from all the variables of interest such that can engender the profitability and thus boost performance of the sampled quoted insurance firms in Nigeria. This also means that sampled firms are more inclined to

high debt to total assets ratio over the reference period. For the profitability indicator (PATM), the average value shows that over the reference period, the profitability of the sampled firms was about 9.2%.

This clearly shows that most quoted sampled insurance firms are not efficiently using their assets adequately in generating enough profit to engender their performance over the period under review. The low

average value of profit margin when compared to the maximum value indicates that most of the selected insurance firms in Nigeria are still not efficiently using their total assets in generating adequate profit to better the performance of the firms.

However, looking at the Jarque-Bera (JB) statistics after adjusting for all missing data and extreme values, result shows that all the variables are normally distributed at 1% level of significance to an extent, the overall distribution of the data justifies the reliability of the data collected for drawing generalization. In examining the association among the variables, we employed the Pearson correlation coefficient technique and the results are presented in Table 4.2 below.

#### **Table 4.2 CORRELATION MATRIX**

P ATM OWNCONG R O A FASSET D\_TASST C\_RATIO

FAGE

FSIZE

P AT M 1.0000

OWNCONC 0.0302 1.0000

R O A 0.1686 0.0777 1.0000

F A S ST -0.1129 0.33 38 0.0627

1.0000

D\_TASST 0.0275 - 0.1543 -0.3666

-0.3207 1. 0 0 0 0

C\_RATIO 0.0490 - 0.1483 0.0239

0.1919

-0.0431 1. 0 0 0 0

FAGE

-0.2576 - 0.15 70

0.1018

0.0611 - 0.0164 0.0898

FSIZE 0.1735 - 0.0938

-0.1387

0.2742 0. 4 9 7 8 0. 0 2 5 2

1.0000

-0.1468 1.0000

Source: Author's computation (2018)

The above Table 4.2 presents the association between the profitability after tax margin and its various determinants. The results show that all the

explanatory variables have positive association with the dependent variable (PATM) except FASSET, and FAGE which indicates negative association respectively. This implies that firms with more ownership concentration, return on assets, debt to total assets ratio, and current ratio are likely to generate higher revenue and thus influence performance of the firms as measured by profitability after tax.

For the firm size (FSIZE) and FAGE variables, While FSIZE show a positive association with profitability, the FAGE indicate a negative association. This implies that firms tend to generate lower profit as they as they grow older, while the larger the firm in terms of log of total assets the more the profitability.

The correlation test also reveals that no two explanatory variables were perfectly correlated. This implies that there is absence of multicollinearity problem in our model. Multicollinearity among explanatory variables may result to wrong signs or implausible magnitudes in the estimated model coefficients, and the bias of the standard errors of the coefficients.

## **4.2 Regression Results**

In order to investigate the drivers of profitability(PATM) and to test our formulated hypotheses, we used unbalanced panel data regression analysis since the data had time series (2012 to 2017) and cross-section properties. The unbalanced panel data regression results obtained are presented and discussed below.

Table 4.3:

OWNCONC.

ROA

FASSET

D\_TASST

C\_RATIO

FAGE

FSIZE

R-Squared

Adj-R-Squared

F-Statistic

Source: Authors computation (2018).

PATM Unbalanced Panel Regression Results

Expected Sign

(Fixed Effect)

-41.034

(-0.25)

[0.80]

0.386

(0.03)

[0.04] \* \*

1.250

(3.55)

[0.00]\*

-0.322

(-1.75)

[0.08]\*

0.698

(2.51)

[0.01]\*

-0.221

(-0.32)

[0.75]

0.888

(0.67)

[0.50]

-2.075

(-0.20)

[0.83]

0.33

0.15

1.82502(0.00) \*

(Random Effect)

-6.495

(-0.42)

[0.67]

0.016

(0.22)

[0.81]

0.478

(2.95)

[0.00]

-0.57

(-0.77)

[0.44]

0.022

(0.23)

[0.81]  
0.472  
(0.76)  
[0.44]  
-0444  
(-3.55)  
[0.00]  
1.397  
(1.70)  
Γ0.097  
0.13  
0.10  
3.8974(0.00)\*

Table 4.3 presents the two unbalanced panel data estimation results obtained when we estimated (the fixed effect and random effect) versions of the model. The results reveal that there are difference in the magnitude and signs of the coefficient of the two results. The results obtained with respect to the fixed effect method shows that the R-squared and adjusted R-squared values were 0.33 and 0.15 respectively. This indicates that all the independent variables jointly explain about 15% of the systematic variations in profitability (PATM) across the quoted sampled insurance firms in Nigeria over the six-years reference period (2012-2017). The explanatory power of the model can be seen as though not too strong, because the F-statistics (1.8250) and its -value (0.00) show that the revenue growth (PATM) unbalanced panel fixed regression model indicates that it is generally significant at 1% level.

On the other hand, the results with respect to the random effect technique show that the R-squared and adjusted R-squared values were 0.13 and 0.10 respectively. This indicates that all the independent variables jointly explain about 10% of the systematic variations in profitability (PATM)

across the quoted sampled insurance firms in Nigeria over the six-year reference period (2012-2017). The explanatory power of the model can be seen as strong, because the F-statistics (3.89741) and its p-value (0.00)

Show that the revenue growth unbalanced panel random regression model indicate that it is generally significant at 1% level too. However, in selecting the most preferred from the two unbalanced panel data models, the Hausman test was conducted and the result shows a very low probability value of (0.01) which implies that we should reject the null hypothesis ( $H_0$ ) (which assumes that random effect model is preferred to fixed effect model). This implies that we should adopt the fixed effect panel regression results in our study for the discussion of findings, policy formulation and recommendation(s) accordingly.

The empirical findings with respect to the fixed effect unbalanced panel estimation looking at the coefficients indicate that ownership concentration variable (OWN CONC.) reveal a positive and significant impact on profitability. This means that the ownership concentration is a key driver of profitability. This again implies a direct relationship with profitability and in a significant manner. This implies that as ownership structure increases, profitability has the tendency to also increase. The implication of the result is that a unit change in ownership concentration has the tendency to cause an increase of about (0.3876) units of profit margin. The degree of the impact of this relationship implies that decision that dictates changes in ownership structure should be guided seriously as it has the tendency to have direct effect on profitability. This result suggests that we reject the hypothesis one ( $H_{01}$ ) which states that the effect of ownership concentration on profitability is not significant.

the empirical findings with respect to the return on assets (ROA) variable indicate a positive and highly significant impact on profitability. This means that the return on asset has a direct relationship with profitability and it is a key determinant of changes in profit margin. This outcome conforms with a priori expectation that as return on asset increases, profit is expected to also increase. The implication of the result is that a unit change in return on asset has the propensity to cause an increase of about (1.2504) units of profitability. This result suggests that we reject the hypothesis two ( $H_{02}$ ) which states that the effect of return on asset on profitability is not significant.

Additionally, the empirical outcome with respect to the fixed asset tangibility (FASSET) as measured by fixed asset to total asset ratio, reveals a negative but insignificant impact on profitability. This means that the fixed asset to total asset ratio has an inverse relationship with profitability though in an insignificant manner. This also means that for the sampled firms, their fixed assets to total asset ratio were not tangible enough to generate enough income to boost profitability. This implies that a unit change in fixed asset to total asset ratio has the tendency to cause a decrease of about (-0.3218) units of profitability. This also means that the growth in fixed assets does not necessarily influence profit margin. This result suggests that we accept the hypothesis three (Ho,) which states that the effect of fixed asset to total asset ratio on profitability is not significant.

For the debt to total asset ratio (DEBT \_TASST), result reveals a positive and highly significant impact on profit after tax margin (PATM). This means that profit margin has a direct relationship with debt to total asset ratio.

Thus, as debt to total asset ratio increases, profitability significantly increases too.. The implication of the result is that a unit change in debt to total asset ratio has the tendency to cause an increase of about (0.6984) units in profit margin. This result suggests that we reject the hypothesis four (Ho) which states that the effect of debt to total asset ratio on profitability is not significant. With respect to current ratio variable (C\_RATIO), result reveals a negative and insignificant impact on profit margin. This means that the current ratio has an inverse relationship with profitability though in an insignificant manner. The implication of the result is that a unit change in current ratio has the tendency to cause a decrease of about (-0.2212) units profitability.

This result suggests that we accept the hypothesis five (Hos) which states that the effect of current ratio on profitability is not significant.

For the other explanatory variables firm age (FAGE) and firm size (FSIZE), results show a positive but insignificant impact of FAGE on profitability This implies that the older the firm, the more they generate profit. In other words, younger firms have the tendency to generate lower profit. We also find that firm size (FSIZE) variable show a negative but insignificant impact on profitability. This implies that the larger the firm, the lower their profit margin. This also means that size of the firm in terms of how large the assets are is not a function of profitability of the firm. This could also mean. This could also mean that the firms engage in other activities

that do not depend on the size of such firms to improve on their profitability. It could also be a pointer that there are leakages that cause a diversion of part of the profit. Another tendency is the fact that the assets may be under utilize, thus, not able to generate enough profit no matter the size. Overall, the model is found to be generally satisfactory even though the predictive power is weak, it only means that there are other variables that are key to determining the behaviour of profitability outside the variables that indicate positive and significant impact on the profit margin in this study. This no doubt becomes another area for further research.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

This study examined the determinant of profitability of quoted insurance firms in Nigeria. There is no doubt that the survival of any insurance firms or depends largely on the quality mechanisms put in place to ensure the performance of the organization. This study modeled selected internal factors of selected insurance companies in Nigeria using unbalanced panel data model to establish the factors that determine the profitability of quoted insurance firms in Nigeria. For this purpose, seven internal factors, i.e., ownership concentration, return on asset, fixed asset to total asset, debt to total asset, current ratio, firm size and firm age were taken as explanatory variables, whereas profit after tax margin (PATM) was used as a dependent variable.

#### **5.1 SUMMARY OF FINDINGS**

Determinant of profitability of quoted insurance firms cannot be underestimated. It has been well researched in the advanced economies than in the developing economy like Nigeria. Haven carried out detailed

empirical review and data analysis; the following specific findings are made:

i. Ownership concentration has a positive and significant impact on profitability of insurance firms in Nigeria.

ii. Return on asset has a positive and significant relationship with profitability of insurance firms in Nigeria.

Fixed asset to total asset has a negative and insignificant impact on profitability of insurance firms in Nigeria.

iv. Debt to total asset has a positive and significant relationship with profitability of insurance firms in Nigeria.

Current ratio reveals a negative and insignificant impact on profitability of insurance firms in Nigeria

vi. Firm age show a positive and insignificant impact on profitability of insurance firms in Nigeria

vi. Firm size has a negative and insignificant impact on profitability of insurance firms in Nigeria.

## **RECOMMENDATION**

In view of the findings in this study, following recommendations are raised.

Firstly, since insurance is a business organization and as such return on asset is a very important factors to be considered in a business. Insurance firms in Nigeria should look carefully at factors that contribute to the increase in return on asset of the organization and take adequate measure to see that such factors is well taken care of. Secondly, relevant regulatory authority in the country such as (National Insurance Commission) should develop appropriate policy that will enhance effectiveness of the industry by encouraging firms to embark on more policy that will improve the profitability of firms. Finally, since firm size has no significant

relationship with profitability which is not suppose to be, because firm size is expected to have a positive relationship with profitability, which insurance firms need to increase in terms of size so as to affect their profitability?

## **CONCLUSION**

Insurance companies help to manage individual and corporate risk, therefore is very crucial and occupies important position as they are known throughout the globe, these companies deal with a host categories of risk which have direct impact on their profitability. Thus determinant of profitability in this industry requires that a better approach should be put in place in order to improve their performance. The industry should carefully analyze factors that contribute to the performance of the firms. The study investigates determinant of profitability of quoted insurance firms in Nigeria for a period of (6) years (2012 to 2017). The descriptive statistics, correlation coefficient, Hausman test and panel regression were used in the analysis of the data. The result from the empirical investigation shows that fixed asset, firm size and current ratio needs a urgent attention.

Hence, relevant regulatory authority such as National Insurance Commission (NAICOM) should develop appropriate measure that will enhance the effectiveness of the industry by encouraging firms to embark on more study on their internal factors.

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