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Effect of Information Provision of Cost Fire Insurance Claim on the Gross Claims of Non-Life Insurance Business in Nigeria

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Abstract

This work studied effect of information provision of cost fire insurance claim on the gross claims of non-life insurance business in Nigeria 2002 – 2022. The sole objective of this study was to appraise the effect of information provision and the average cost of fire insurance claims on the gross claims of non- life insurance business in Nigeria. Theory of average cost and model of communication were applied because it is pivotal in evaluating efficiency need for effective communication of information while the research design used was *ex-post facto.* Data used were extracted from Central Bank of Nigerian Statistical Survey (1999) and National Insurance Commission (NAICOM), Financial Annual Report (2011) and Nigerian Insurance Digest (2019). ARDL regression technique was used for data analysis and the result showed a p-value of 26% > 5% allowable error margin and a co-efficient of -0.38 (a negative sign) an indicator that cost of fire insurance claims had negative and non-significant effect on non-life insurance gross claims paid in Nigeria from 2002 – 2021 which also signify lack of adequate information. In light of the above, it was recommended that insurers should develop fire risk management strategy such as information provision, public enlightenment campaign, fire preventive techniques, firefighting tools etc. for fire insurance policyholders. Again, there should be a mandatory installation of sprinklers, fire hydrant for private homes hotels, shopping malls, fuelling stations. Also smoke alarms to create awareness before the fire struck to enable neighbourhoods to act appropriately.

Keywords: Information provision, Fire Insurance, Average Cost, Gross Claims, Non-life Insurance, Insurance Company, Nigeria.

Introduction

Different sorts of information are needed to enable fire insurance policyholders to develop fire risk management strategies such as public enlightenment campaign, fire preventive techniques, installation of firefighting tools, periodic inspections and providing relevant information to policyholders through training, seminars, workshops etc. in order to improve fire insurance claims on the gross claims of non- life insurance business in Nigeria (Jha, 2012). In the opinion of Sani et al. (2014), the best recipe for facilitating manageable cost for fire insurance claim to enhance improved gross claims of non-life insurance business in Nigeria is to provide good education, technical skills, and infrastructures to fire insurance

policyholders and the general public. This will enable them to have easy access to proper fire insurance information which is central to all fire insurance claim. Understanding the cost of fire insurance claim is essential for improve gross claims of non-life insurance business in Nigeria. This fact makes information provision in different areas of fire insurance claim vital for appropriate response to fire outbreak. These areas of information provision include fire preventive techniques, firefighting tools and need for periodic inspections and training of policyholders through seminars, workshops etc. other areas include need for installation of smoke alarms to create awareness before fire outbreak to enable appropriate response either to snuff the fire, call fire service centre, salvage anything useful (if possible) or scamp for safety given the prevailing circumstance. Optional installation of sprinklers, fire hydrant for private homes, public buildings i.e. hotels, shopping malls, petrol stations, liquefied gas plants, cinema halls, churches etc is also vital for controlling fire outbreak. (Agbo et al, 2022).

However, fire has continued to pose a daunting challenge to life and property of individuals, organisations and government. Fire is the actual ignition of what should not to be on fire and also described as the destructive burning of something ((Hall 1985). Three basic ingredients of fire are fuel, heat, and oxygen. Once, one of these elements is taken out fire instantaneously extinguishes. Currently, wild fire havoc has been on the headline of different news platform across European countries claiming many numbers of lives and properties. In Nigeria, a number of fire outbreak in market places, government buildings, schools, private homes, vehicles have been recorded. A total of 4,541 calls were made to the Federal Fire Service (FFS) between 2020 and 2021, (Guardian, 2021). Hence, to prevent fire or interrupt already ignited fire requires prompt information dissemination application of fire control measure technique that will eliminate one of the elements i.e., oxygen, heat and fuel. Fire is essential to mankind and the value of it cannot be overemphasised which include cooking, heat production, burning of combustible waste and many more. Conversely, the negative impact of fire is quite massive and incomprehensible thus, the main reason of fire insurance (Encyclopaedia, 2008).

Similarly, fire insurance is a contract which individual or firms utilizes to hedge against financial outcomes caused by fire outbreak. Note the essence of insurance is protection against financial consequences of a negative result usually called risk induced by a named peril such as fire outbreak (Agbo, Okeke and Okeume, 2022). In response to fire incidents, it becomes important to provide relevant information to individuals and policy holders on the provisions of fire insurance. This will equip them with the relevant knowledge to adopt fire insurance as a measure to contain the financial consequences of fire outbreak. Notwithstanding the adverse effect of fire outbreak in the society, there appear to be dearth of research on the information provision of cost fire insurance claim on the gross claims of non-life insurance business in Nigeria 2002 – 2022, especially using average cost of fire insurance to evaluate effect of cost of claims on the gross claims of general insurances of insurance companies in Nigeria. A gap is thus, identified which necessitated the quest for

this work, to underscore effect of information provision of cost of fire claims on the gross claims of insurance companies.

Literature Review

Information provision of fire insurance claim is very vital to fire insurance policyholders in improvement of gross claims of non-life insurance business in Nigeria. Information according to Hornby (2010) is a fact or details about a concept such as fire insurance claim. Effective and relevant communicated information on cost of fire insurance claim is essential for improve gross claims of non-life insurance business and is translated to knowledge when it is well utilized. Knowledge of fire insurance claim is the appropriate use of information for reducing cost and improve gross claims of non-life insurance business in Nigeria. It can also equip the populace with relevant skills to respond appropriately to fire outbreak. In the other hand, fire is the actual ignition of what ought not to be on fire. It is an outcome of an interaction of fuel and oxygen to produce heat and light. Similarly, it is the destructive burning of something (Hornby, 2010). Hence, fire insurance came to bring succour to victims of fire outbreak. The journey of fire insurance followed the Great Fire of London in 1666, which devastated some 13,000 buildings ((CIIN, 2003). Fire insurance is a contract which individual or firms adopt to hedge against financial consequences caused by fire. Note the essence of insurance is protection against financial consequences of a negative result usually called risk induced by a named peril (Agbo, Okeke and Okeume, 2022). Fire in its form is not a risk but has the potentials to cause harm (risk), thus fire is a peril. Interestingly, one of the fundamental operating principles of insurance is proximate cause of loss, which must be an insured/named peril in insurance contract. Standard fire policy covers damage; to property caused by fire, lightning and explosion qualified. This is the basic fire policy thus it is considered inadequate. For exhaustive coverage especially in a business climate special perils are incorporated with additional premium.

Furthermore, the peril covered in standard fire insurance is fire and lighting. Fire peril cover fire alone while lighting covers all damages or destruction caused by it while explosion in itself is not fire rather defined damages occasion by boilers and gas meant for domestic uses only. The term 'domestic uses', by court interpretation is related to homes, not minding the occupation of the actual building (McNeeley, et al., 2014). Explosion caused by fire; earthquake or underground fire (subterranean); and its spontaneous fermentation (ignition) are excluded perils in fire insurance. The scholar went further to adduce that special available options of perils in fire insurance can be obtained with extra premium and they include perils of chemical nature, social nature, natural elements (flood, subterranean fire) and miscellaneous perils (escape of water). The special perils include perils of: chemical nature (explosion, its own internal cause); social nature (strikes, lock-downs); natural nature (flood, subterranean fire) and miscellaneous perils (escape of water). This will require extra premium charged beyond the standard fire policy. Exclusion to the special fire perils is escape of water from a normal natural or artificial water root (dam, river, lake); change in

the water table level; lightning, subsidence, frost; moveable property in the open, fences (Kramer, 2019). Excluded perils in the basic fire policy include: explosion caused by fire; earthquake, underground fire (subterranean); and spontaneous fermentation (ignition). Fire peril provides cover for fire damages while lightning covers for all destruction caused by it. Damages caused by boilers and gas meant for domestic uses are covered (Nielson, 2008). Fire insurance is a contract which individual or firms purchase to hedge against financial consequences caused by fire. Standard fire policy is regarded as the basic fire policy as the coverage is restricted to damages caused by fire, lightning and explosion.

Similarly, the payment of insurance premium entitles the insured to an indemnity in the event that the peril insured causes a loss. Section 70 of Insurance Act 2003, stipulate the conditions to pay claims where proper notices of a loss are given in writing, acknowledges or decline liability. Indemnity is one of the principles of insurance and it is a process that is triggered when a fire loss is filed for payment of claims and ends with the actual payment of the claim. It is the financial value paid to the insured who is entitled to receive payment under the insurance policy. Hence, the cost of fire indemnity comprises of; the actual amount paid to the claimant and properly documented (Mark, 2012). On the contrary, the amount expended to investigate the fire claims such as cost associated with hiring the services of loss adjusters, lawyers, medical professionals, building engineers, fire officers, accountants, arbitrators and administrative cost, are largely not recorded. Information provision aids understanding of the above principles and practices of payment of indemnity thereby motivates individuals to adopt and utilise the opportunities of fire insurance. Again, understanding cost of investigation of a fire claim is imperative because it reflects the firm's efficiency. Efficiency cannot be known on the face value, but by the application of specific indices namely average cost per claim, revenue per policy holder, average time to settle claim, return on surplus, loss ratio, expense ratio, frequency, severity, component of claim cost etc. (Guidinmetrics, 2022). Average cost per claim measures the amount of money spent on each claim filed. The average cost is derived from dividing the total cost by the total number of units within a timescale and it is imperatively involved with the aim of measuring efficiency of resource utilization to underscore insurer's level of efficiency in handling claims.

Claim is a process that imposes a duty on both the insurer and the insured and it is obligatory that insurer receive appropriate notice of a loss to pay after a satisfactory investigation. Claims payment is statutory and Insurers in carrying out this function incur cost and substantial risk as highlighted earlier (Njiforti, 2022). Unfortunately, this cost incurred is not depicted in insurer's statement of account except the actual amount paid as claims to the claimant. It is a formal request of entitlement by one that has the right to do so (Microsoft Encarta 2009). Mark, (2012) emphasizes that claims loss pay-outs and their related expenses are the most significant costs to insurance organizations and subsequently have the largest impact on underwriting profits. Practically, claim is the tangibility of insurance. Claims and claims personnel are the projectors of insurance company's reputation without

bias. Claims process is triggered when appropriate notice of a loss is given to the insurer. by the insured or the insured authorised third party (Nielson, 2008). Section 70 of Insurance Act 2003, states that where an insurer is notified in writing of a loss by the insured or any other third party specified in the contract, the insurer (a) settle the claim with 90 days where he admits liability, (b) the claimant may demand the Commission to make the payment from the statutory deposit of the insurer, (c) the insurer where he does not accept liability communicate in writing to the claimant stating reasons for the decline within 90 days of the notification (Odo,2004). Hence, America and British Insurers (ABI) Statement of General Insurance Practice encourages insurers to require action on notice 'as soon as possible' after the occurrence, instead within a specified period. Certain factors should be considered before any action on notice. These include the purpose of investigation upon which the insurer incur expenses includes to determine whether, the insured is entitled to indemnity under the policy, the information obtained complied with the information in the proposal form, provision of sufficient information to enable the insurer to begin processing the claim, determine the potential severity of the claim, determine any potential recovery right that exists and finally determine if there may be any potential third-party claim (CIIN, 2004).

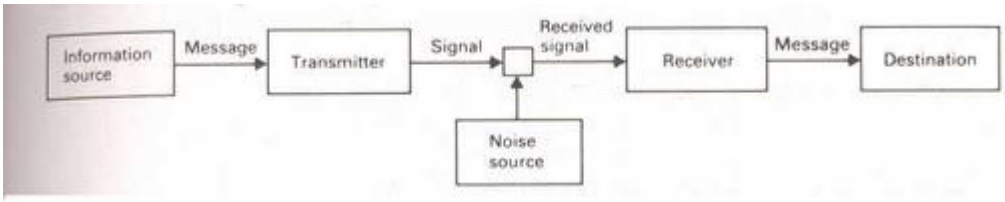
Theoretical Review

In the theoretical review, theories of average cost and model communication theory were considered. Theory of average cost as postulated by Dooley was interested in the parameter or tool for measuring efficiency (Kumar, 2015). The theory stated that the aggregate claims (gross claims) paid within the period under review is divided by the total amount on fire insurance. The result will highlight area deficiency and prompt question why or areas to consolidate. The insurer will re-evaluate assessment strategy, selection criteria, pricing of risks and possible adjustment of premium rates to reflect the reality and also to appraise re-insurance alternatives. Importantly, it may be fair to suspect fraud in the case of excessive cost of claim where the other factors such as underwriting was diligently conducted and price is fairly adequate.

Model of communication theory by Shannon and Weaver (1948)

Again, the model of communication theory propounded by Shannon and Weaver in 1948. Claude Shannon, an engineer at Bell Telephone Laboratories, worked with Warren Weaver on the classic book 'The mathematical theory of communication'. In this work Shannon and Weaver sought to identify the quickest and most efficient way to get a message from one person to another. The main goal of the theory was to discover how communication messages could be converted into electronic signals most efficiently, and how those signals could be transmitted with a minimum of error to the destined place. In studying this, Shannon and Weaver developed a mechanical and mathematical model of communication, known as the "Shannon and Weaver model of communication".

According to the theory, transmission of the message involved five stages. This includes the source's message transmitter, a signal, a receiver, the receiver's message, and a destination.



Source: *Agbo (2019)*

In information theory, an information source produces a message or sequence of messages to be communicated to the receiving terminal, transmitter operates on the message in some way to produce a signal suitable for transmission over the channel, The channel is merely the medium used to transmit the signal from transmitter to receiver, The receiver ordinarily performs the inverse operation of that done by the transmitter, reconstructing the' message from the signal, The destination is the person (or thing) for whom the message is intended and finally, noise which is any factor in the process that works against the outcome of the communication process. Shannon and Weaver broadly defined communication as "all of the procedures by which one mind may affect another".

In relation to the present study, Shannon and Weaver were motivated by the desire to increase the efficiency and accuracy of transmission of information and reception. Looking at this theory, sources of information relate to all information sources of cost fire insurance claim which include newspapers, journals, personal experience radio, television etc. The message in the context of the present study refers to issues of cost insurance claim. In the other hand, the transmitter refers to the sender which means the insurance experts, NGOs, extension officers, librarians etc. As represented in the theory, signal may refer to the approach or channels adopted by the information agents to communicate the message to the general public and fire insurance stakeholders which include audio visual resources, radios, etc. The receiver as noted by the theory is an electronic device which in the context of the present study refers to tape recorders, CD ROM, etc. Furthermore, the destination refers to the people the message is intended for which also refers to the general public and fire insurance stakeholders. Finally, noise as represented in the theory includes anything that impedes the message intended for the destination. In the present study, this relates to all the problems facing the effective dissemination of information of fire insurance claim information. These include funding, language barrier, cultural bias, poor attitude of individuals to compliance to safety regulations etc. finally, the researchers adopted the theory of average cost and model of communication because theory of average cost fucus on measuring efficiency while model of communication theory focus on communicating the details of insurance principles and practice to the insured.

Review of Empirical Studies

The researchers carried out a review of related empirical studies on the effect of information provision of cost fire insurance claim on the gross claims of non-life insurance business in Nigeria 2002 – 2022. For instance, Onyekuru et al (2013) in a study titled, "Availability and Use of Mobile Phones for Information Dissemination by Public Extension Agents in Delta State, Nigeria, stated that for decades traditional forms of ICTs have been used in advisory service provision. Radio and television programs regularly feature weather and agricultural information in developing countries, and rural telecenters have provided information on education and agricultural issues. The study was guided by three specific objectives which include, ascertaining institutional support towards provision of mobile phones for information dissemination by public extension agents, to determine the frequency of usage of mobile phones for information dissemination by extension agents, and to identify the areas of agricultural extension services/information dissemination supported by mobile phone. The study adopted descriptive survey as the design for the study. Proportionate simple random sampling technique was used to select the sample for the study. A total of sixty-four (64) cells were selected for the study. Data for the study were generated using well-structured questionnaire while the data collected was analyzed using percentage and mean statistic. Findings of the study indicate that Majority of the extension agents were not provided with institutional mobile phones to aid information dissemination to rural farmers. However, about 97% of the respondents affirmed that they possess personal mobile phones, which they (92%) use to disseminate information to farmers. It was also revealed that interactions with farmers were mainly through phone calls (84.4%) and short message services (SMS) (71.9%). Finally, it also indicated that mobile phones were frequently used in disseminating information on availability of new crop varieties suitable for climate change adaptation. Akin to the present study, both studies emphasized the important of information provision to the achievement of any set goal.

Again, Rand (2020) studied California Wildfires: Can Insurance Markets Handle the Risk? The goal was to examine how fire risks will affect the California insurance market, and consequently homeowners in Northern and Southern California known for wildfire. The study was a survey design and a quantitative and qualitative data was obtained, analysed with regression technique. It was found that, the market in lower-risk ZIP codes was working well as at 2017 while the higher-risk ZIP codes had challenges and the challenges may intensify as wildfire risks increase. Similarly, it was revealed that the average number of acres burned every year may witness a substantial increase in destruction by mid-century under a business-as-usual GHG emissions scenario in the Northern California while a significant change was not visible in Southern California study area. Aggressive and successful GHG emissions control strategy was recommended for: policymakers, insurers, and homeowners, to minimise wildfire risk. Similarly, Tazmul, Irteja, Milton, Raju, Sharmin, & Humayun (2018) investigated risk of fire disaster: consequences on industry sectors in Bangladesh with the aim to find the causes and impact of fire disasters and measure to

minimise the impact. The study was descriptive and a cross-section of 20 industries at Gazipur in Dhaka. Primary data was collated using semi-structured questionnaire mainly. They found that electric short circuit and boiler explosions were the major cause of fire. High human causality during fire was caused by lack of: emergency exit route; lack of signage; inadequate staircases shortage of emergency light. They thus, recommend for institutional reform, strengthening of capacity at the individual and institutional level to curtail fire risks in the industry. These studies are closely related to the present study because both studies are concerned with fir outbreak.

Furthermore, Kelly, Kleffner, Halek & Nickerson (2017) studied the role of insurance in reducing the frequency and severity of fire losses with the aim to provide basis of analysis of the basic economic aspects of fire risk which could serve as a foundation for both public and private policy makers. It was revealed in the study that the incidence of fire is greater in First Nations communities (frequency v number of dwellings) and the data lack geographic granularity for the urban CSDs. The study recommended that the quality and unevenness of the data should be improved, if the fire database must be widely acceptable for decision making and enhanced training of fire departments to improve the quality of data collection. CMHC (2005) highlighted fire experience, smoke alarms and sprinklers in Canadian houses with the aim of elaborating fire experience in Canadian housing, and the hypothetical inference of smoke alarms and sprinklers in new houses. The main findings reveal that the rate of fires, injuries and deaths is much minimized evidenced from the summary report of CMHC 1991. The significant drop was attributed mainly to smoke alarms according to Canadian Housing Fire Statistics comments because its alarms create awareness before the fire struck which allow the people to arm themselves on the possible action given the circumstance either to extinguish the fire before escalation or flee if otherwise. Similarly, it was argued that sprinklers improve safety even though not cost effective compared to other safety measures. It responds to high heat of open flames. CMHC's estimated that sprinkling new one- and two-family homes could produce a further decrease in fatalities, injuries and property damage without smoke alarms. It was concluded that the cost benefits from installing smoke alarms remain greater than for sprinklers in all new homes. The fact remain that it is not possible to eliminate fire risk entirely which ever method but the issue is to deploy resources wisely to minimize fire risk and its implications by providing relevant information to the general public.

More so, Smith, Dhinsa, Rajabali, Zheng, Bruin, & Pike (2018) looked at epidemiology of residential fires among children and youth in Canada. The focus of the report was to discover the impact of residential fires on children and youth, aged 0 - 19 years in five provinces from 2005 to 2015. Descriptive and Poisson regression model were employed. The study revealed that the main causes of injuries and death were smoke inhalation and burns largely for aged 0 to 4 years and 15 to 19 years, with the highest incidence of causalities. The result equally pointed a positive relationship between burn casualty rate and increasing child age. The revelation showed that injury or deaths were more among

males than females aged 5 to 9 years. The result of Socio-economic factor test indicated a significant relationship between measures of low socioeconomic status and residential fire casualties. The casualty rate was found to be significant when associated with the percentage of lone-parent dwellings. It was recommended improvement of data quality and focus more on preventive interventions among others. Egilson (2016) in related study reviewed fire-related deaths in children and youth 2005-2014. The aim was to have a clear knowledge of deaths in children and youth aged below 19 years and to identify prevention opportunities. The method was historical and it was found that the risk factor is more with children under the age of 10 years especially those within the circumstances of: substandard housing, overcrowding, with less adult supervision and in smoking environments were at greater risk. Among the findings are: eight of twenty-two had functional smoke alarms while four of the total number children were unhindered access to lighters or matches. Similarly, the panel discovered inadequate availability of residential fires data and differences in data collection and reporting requirements between jurisdictions. The panel concluded that there is a need for the consistent delivery of public information related to fire awareness, prevention and safety. The recommendations made include fire safety education and awareness; fire safety prevention such as smoke alarms; data quality and information sharing.

Finally, Momoh & Ajiboye (2018) assessed economic benefits of fire insurance on commodity markets in Nigeria and examined the economic benefits of fire insurance on commodity major markets in Nigeria. The objective was to investigate major causes of fire in the market and its effects on the occupant's business; the level of insurability of the shop occupier and the economic benefits of fire insurance. Chi – square analytic technique was employed and the results showed that fire disasters had effect on the occupants and business. Thus, recommended that fire insurance be made compulsory insurances in Nigeria and provision of effective and adequate information sharing and fire equipment to fire service brigade. These studies are also related to the present study in that in the recommendation, both studies emphasis the important of information sharing in containing fire outbreak.

Objective of the Study

The sole objective of this study is to appraise the effect of information provision of cost of fire insurance claims on the gross claims of insurance firms in Nigeria.

Methodology

Ex post facto research design was adopted for the study. Onwumere (2009) described Ex post facto research design as known as the after-the-fact research is concerned with how independent variable that exist before the study affects the dependent variable. It is considered appropriate because it involves the utilisation of data collected and archived, thus preventing the researcher to manipulate data rather analyse and interpret result (Udeze, (2005). The study cover Nigeria and insurance firms registered and regulated by the

CBN and NAICOM, precisely non- life insurance firms, (2002 – 2020). The assumes is that insurance business witnessed improved regulation and accountability given democratic expectation on the economy. Secondary data obtained from the annual financial and statistical publications specifically, sources from Central Bank of Nigerian Statistical Survey (1999) and National Insurance Commission (NAICOM) Financial Annual Report (2011) and Nigerian Insurance Digest (2019) were essentially and extensively used for this study. The data generated for this study included: gross claims of general insurance product and fire insurance claims.

The population comprises of all the Nigerian insurance industry, transacting general insurance and registered and regulated by the CBN and NAICOM. The model for this study followed the multiple equation of Lucey, 2002 and remodified to suit our purpose as

GNLINSCP= a +bi(fcp) + e

were

GNLINSCP = Gross claims paid

a = constant

bi = regression coefficient

FCP = fire Claim Paid

$_e$ = standard error term

The data analysis technique used is regression, precisely ARDL. Regression analyses seek to establish the line of 'best fit' to the observed data using the method of least square which minimises the total of the squared deviations of the actual observations from the calculated line (Lucey, 2002**)**.

In testing the hypotheses, the multiple linear regression method was used based on ARDL which permits simultaneous investigation of the effect of more than one independent variable on the dependent variable.

The choice of the hypothesis acceptability lies on the p-value. Hence, we reject H_o when the P- value is less than 5% error margin ($p < 5\%$), otherwise accept. Similarly, we accept H_o when the P- value is greater than the 5% error margin ($p > 5\%$), otherwise reject. The Autoregressive distributed lag regression result see appendix, we have the R-square value of 0.98 which shows that the independent variables jointly explain the dependent variable by 98% meaning that the unexplained variation of 2% which is attributable to other variables not included in the model is not enough to affect the result. The adjusted R^2which is 0.96 indicates that with the inclusion of more variables, the R^2 can reduce maximally to a very low rate of not more 2%. The Durbin-Watson statistic value of 2'12 with acceptable hypotheses of 1.5-2.4 indicates that there is no suspicion of autocorrelation in the model. The F-statistics which is 57 and a P-value of 0.000003 <0.05, also shows that the overall regression is significant and can be used for meaningful econometric results and analyses. However, from the empirical literature reviewed, there was no ground upon which to measure the findings of this study because most of the empirical literature reviewed

differed in all circumstances such as Kelly, Kleffner, Halek and Nickerson, (2017), CMHC, (2005) and Momoh, and Ajiboye, (2018), among others.

Findings

The outcome of the analysis revealed a P-value of 0.26 > 5% margin of error and a co-efficient of -0.38 therefore, we accept the null hypothesis because the p-value of 26% is greater than 5% allowable error and rejects the alternate hypothesis, which was not supported by the outcome given our decision criteria. The implication is that fire insurance claims paid had negative and non - significant contribution to gross claims paid on general insurances in Nigeria Insurance Industry due to lack of proper information and education of both the fire insurance policy stakeholders and the general public. Consequently, cost of fire insurance claims with a P-value of 0.26 and a coefficient of -0.38 a negative sign, (see table 5, appendix 5) indicates that the cost of fire insurance claims negatively and non - significantly affects non- life insurance gross claims paid in Nigeria within the period under review (2002 to 2020).

Conclusion

It is right to infer that this work has covered a gap with regards to the title using average cost of fire insurance claims in Nigeria. However, that the findings revealed a negative and non -significant result may not represents a complete reality however it is based on the available data used. Accordingly, we argued that more work needs to be carried out on this topic since we have a negative but not significant effect. The negative outcome shows complexity of fire insurance claim payments and scarce information provision of fire insurance claim. The dilemma associated with the result are two folds namely: 1. High cost of investigation and negotiation is because of the sum insured (claims amount). The sum insured quoted in fire insurance contract is quite substantial thus, insurers are always diligent in investigating fire claims for some of the following reasons: negligence of the insured, extent of the operation of proximate cause (insured peril) in the train of event, to know their extent of liability if liable; existence of subrogation and contribution; breach of utmost good faith, among others. 2. Inappropriate underwriting of the subject matter of insurance or elements of unethical practices by the insured who may wish to invade his obligations using various delay tactics to frustrate the insured. It is obvious and overwhelming the extent of fire damage to human life and property, yet insurer accepts the contract. The aim of the insured is not to make profit from fire insurance contract to obtain respite of mind. Thus, the insured would wish to have his property rather remaining safe while the insurer with profit intent would want a situation of no incident of fire outbreak.

Recommendation

- In light of the above, stakeholders should endeavour to provide timely relevant information of fire insurance claim to the general public and fire insurance policy stakeholders.

- It is also recommended that timely and relevant fire insurance claim should be provided to the general public and insurance stakeholders policy makers.
- Insurers should develop and inculcate fire risk management strategy for fire policy holders such as: fire preventive techniques, firefighting tools and periodic inspections subject matter and training of policyholders. This is in line with the findings of CMHC (2005) on the impact of fire experience, smoke alarms and sprinklers which reduced the rate of fires, injuries and deaths based on the summary report of CMHC 1991. Installation of smoke alarms to create awareness before the fire struck which enable neighbourhoods to act appropriately either to snuff the fire, call fire service centre, salvage anything useful (if possible) or scamp for safety given the prevailing circumstance.

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Appendix

Appendix 1 Data Presentation

Table 1. showing the trend of claims expenditure of five classes of non-life insurance and the gross claims of all non-life insurance (General Insurance) Businesses - All Companies (N' Thousand) in Nigeria, since 2002 to 2020

YEAR	GNLINSCP	MCP	FCP	GACP	MACP	OGCP
2002	6,856.15	2818.65	1,857.87	109.285	900.88	0
2003	502894	3,040.17	1,681.74	2,266.79	1,240.57	0
2004	395085	3,476.24	2,724.43	2,852.92	1,361.42	0
2005	280753	3,733.39	2,766.71	3,138.16	1,266.22	0
2006	778140	20,734.98	6,662.98	15,239.75	10,493.41	0
2007	1065177	6,196.12	1,793.39	3,829.06	1,904.23	0
2008	26,377,511	9,935.50	6,076.60	4,467.50	3,185.00	235
2009	19,604,310	13,040.29	15,124.74	6,567.45	4,556.60	7,372.95
2010	30,527,364	13,219.03	7,794.06	6,444.45	2,965.17	3,713.64
2011	34,722,397	13,291,078	6,430,331	6,360,527	2,474,338	4,028,714
2012	46,128,350	12,992,188	10,081,792	9,652,564	4,466,215	5,520,296
2013	58,644,860	14,498,546	10,715,126	9,427,949	6,089,461	14,019,172
2014	51,061,483	14,611,040	9,927,699	9,333,284	4,862,544	9,006,810
2015	54,649,328	16,248,051	13,246,931	9,797,955	7,255,627	4,224,306
2016	57,757,978	17,431,999	16,128,948	8,563,869	6,506,830	4,642,957
2017	70,522,613	17,653,890	23,877,109	8,655,291	5,981,826	10,929,363
2018	98,704,627	17,575,282	19,020,694	10,091,838	9,925,040	38,258,052
2019	70,522,613	17,653,890	23,877,109	8,655,291	5,981,826	10,929,363
2020	98,704,627	17,575,282	19,020,694	10,091,838	9,925,040	38,258,052

Sources: Central Bank of Nigeria Annual Survey and National Insurance Commission (NAICOM) Annual Reports 2002 – 2010. Nigerian Insurance Digest (NIA) 2011 – 2020

Appendix 2

Table 2, showing the log transformed variables of claims expenditure of five classes of non-life insurance and gross claims of all non-life insurance Business - All Companies (N' Thousand) in Nigeria, since 2002 to 2020

YEAR	LNGCLAMS	LNMORT	LNFIRE	LNGACC	LNMARN	LNOIGA
2002	8.8329	7.9440	7.5271	4.6939	6.8033	
2003	13.1281	8.0196	7.4275	7.7261	7.1233	
2004	12.8868	8.1537	7.9100	7.9560	7.2162	
2005	12.5454	8.2250	7.9254	8.0513	7.1437	
2006	13.5646	9.9395	8.8043	9.6316	9.2585	
2007	13.8786	8.7316	7.4918	8.2503	7.5518	
2008	17.0880	9.2038	8.7122	8.4045	8.0662	5.4595
2009	16.7912	9.4754	9.6240	8.7898	8.4243	8.9055
2010	17.2341	9.4894	8.9611	8.7709	7.9942	8.2197
2011	17.3628	16.4024	15.6768	15.6653	14.7214	15.2089
2012	17.6469	16.3798	16.1262	16.0827	15.3120	15.5239
2013	17.8870	16.4895	16.1871	16.0591	15.6220	16.4559
2014	17.7485	16.4972	16.1108	16.0490	15.3970	16.0134

2015	17.8164	16.6035	16.3992	16.0976	15.7972	15.2563
2016	17.8717	16.6738	16.5961	15.9630	15.6883	15.3508
2017	18.0714	16.6863	16.9884	15.9736	15.6042	16.2069
2018	18.4076	16.6820	16.7610	16.1272	16.1105	17.4598
2019	18.0714	16.6864	16.9884	15.9736	15.6042	16.2069
2020	18.4076	16.6820	16.7610	16.1272	16.1105	17.4598

Sources: Own compilation from E-View 10.0

LNGCLMS= Log of Gross claims of non-life insurance business,

LNFIREC= Log of Fire insurance claims,

Appendix 3;

Table 3: SUMMARY OF UNIT ROOTS TEST RESULTS

Variable	ADF Statistic	Critical Values @ 5%	Prob Val	STATIONARY
LNNLGCP	-3.4788	-3.0403	0.0214	I(0), Intersect Only
LNMCP	-4.3612	-3.7104	0.0158	I(1) Trend & Intersect
LNFCP	-4.5790	-3.3710	0.0107	I(1) Trend & Intersect
LNGACP	-4.3202	-3.7104	0.0170	1(1) Trend & intersect
LNMACP	4.4886	-3.7104	0.0126	1(1) Trend & intersect
LNOGCP	4.7131	-3.9336	0.0173	1(0) Trend & intersect

Source: Author's e-view 10 output with data in Appendix One to six.

Appendix 4

Table 4: Basic Descriptive Statistics/ Standard tests for Normality:

	LNNLGCP	LNNLMCP	LNNLFCP	LNNLGACP	LNNLMCP	LNNLOGCP
Mean	17.72348	14.91943	14.76096	14.31421	13.88101	14.13293
Median	17.81645	16.49729	16.18717	15.97368	15.60424	15.52394
Maximum	18.40764	16.68647	16.98843	16.12724	16.11057	17.45986
Minimum	16.79126	9.203869	8.712201	8.404584	7.994690	5.459586
Std. Dev.	0.490280	3.154963	3.255091	3.229544	3.280493	3.905434
Skewness	-0.366529	-1.275451	-1.243837	-1.276057	-1.241732	-1.287524
Kurtosis	2.983257	2.635726	2.635868	2.639791	2.604154	3.089338
Jarque-Bera	3.569343	3.596556	3.423936	3.598309	3.425655	3.596047
Probability	0.752261	0.165584	0.180510	0.165439	0.180355	0.165626
Sum	230.4052	193.9526	191.8925	186.0847	180.4532	183.7281
Sum Sq. Dev.	2.884498	119.4455	127.1474	125.1594	129.1396	183.0290
Observations	13	13	13	13	13	13

Source: Author's e-view 10 output with data in table 4.3.

Appendix 5. Table 5; Result of Fire insurance claims on gross claims of non-life insurance

Null Hypothesis: D(LNFIRE) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.579086	0.0107
Test critical values:	1% level	-4.616209	
	5% level	-3.710482	
	10% level	-3.297799	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNFIRE,2)
Method: Least Squares
Date: 08/11/21 Time: 15:08
Sample (adjusted): 2004 2020
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (LNFIRE(-1))	-1.196272	0.261247	-4.579086	0.0004
C	1.002959	0.988213	1.014923	0.3274
@TREND("2002")	-0.034470	0.087644	-0.393292	0.7000

R-squared	0.600958	Mean dependent var	-0.007517
Adjusted R-squared	0.543952	S.D. dependent var	2.621321
S.E. of regression	1.770213	Akaike info criterion	4.138862
Sum squared resid	43.87117	Schwarz criterion	4.285900
Log likelihood	-32.18033	Hannan-Quinn criter.	4.153478
F-statistic	10.54200	Durbin-Watson stat	2.017080
Prob(F-statistic)	0.001611		