Acta Universitatis Danubius
ŒCONOMICA

The Impact of Asymmetric Information on Auto Insurance Policy in Lagos State

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Abstract: This study investigates the impact of asymmetric information on auto insurance policies in Lagos State. The main objective is to determine the effect of asymmetric information on affect insurer's acceptance of risk and claims payment in auto insurance. The scope of the study is the five big insurance companies in Nigeria. The survey research design was used for this study. The study population consists of 15,341, and the sample size is 390. A structured questionnaire was used to gather responses from the respondents, simple percentages and descriptive statistics were used to analyze the study, and a chi-square test was used to test the hypothesis. Based on the findings and analysis of the data, it was clear that it is possible to reduce asymmetric information in the automobile insurance market by ensuring that systems are put in place to get accurate information from the insured and do extensive research about the subject matter. It was concluded that insurance companies in Nigeria recognize the negative impact of asymmetric information on a company's profitability and investment. It was recommended that targeted stipulations be used frequently to reduce or narrow the chances of asymmetric information auto insurance policies to take the asymmetric information factors into account and alleviate the problem areas.

Keywords: auto insurance; asymmetric information; insurance policy

1. Introduction

Even though in fact we don't know this information, the insurer makes an effort to assess the risk using observable traits that are associated with the propensity to file a claim. With perfect knowledge of an auto insurance policy, by studying how drivers behave behind the wheel and how the car is used, the insurer can determine the risk (Felix, 2017) but, Insurance firms are unable to differentiate between high and low risk clients who fall under the same risk category based on their visible qualities when they have asymmetric information (John, 2018). Asymmetric

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information, also known as information failure, occurs when one party to an economic transaction is more informed about the pertinent facts than the other. This frequently happens when the provider of a good or service has greater experience than the purchaser, but the relationship can also be the other way around. Almost all economic interactions involve information asymmetries (Harold, 2017).

Adebunmi, (2016), said that when calculating the likelihood of a claim (insurance risk) for an auto insurance policy, the majority of insurance firms already use accessible information about the vehicle, the owner, and the residential area. Numerous risk categorization variables are reliant on the policyholder's self-reported risk, which may not be given accurately, which is a negative. When most insured are applying for auto insurance policy, they fail to inform the insurer about some relevant information about the vehicle reduces the awareness of the total risk involve and this leads to information asymmetries (Minsk, 2019).Asymmetry information could be difficulty in estimating premiums and claims, Lack of education/awareness, moral hazard, irrelevant information / misinformation or Information bias

In the insurance industry, asymmetries in information are widespread. Asymmetric information before the transaction is provided by adverse selection, and asymmetric knowledge following the transaction is provided by moral hazard, are the two main problems that result from asymmetric information in a vehicle insurance policy. The cost of car insurance is frequently determined by visible characteristics related to the owner, the vehicle, and the owner's national registration address. These characteristics statistically correlate with the likelihood of an accident. This is how they deal with information asymmetry in the real world. The factors the insurer can utilize in the pricing strategy are constrained by the data's availability. The same premium cell, or alternatively, risk group, is used to categorize all contracts that share the same observable risk classification parameters, because they are thought to have a homogenous level of risk. The goal is to divide people into groups where risk differences are greater amid groups than within each group. In this case, the pricing approach is based on the idea of homogeneity, meaning that the insurer only considers the observable characteristics indicated above in terms of heterogeneity. The self-reports of the individual constitute the basis for a number of the risk classification criteria, and insurers are not allowed to share information about their policyholders. Because there are few ways for insurers to verify that a policyholder is being truthful about their risk profile, it follows that a high risk profile can pass for a low risk profile. The purpose of the study is to look into how asymmetric information may affect auto insurance policies in Lagos State. The research's specific goals are to assess how asymmetric information affects insurers' acceptance of risk in Lagos State, how asymmetric acceptance affects risk ratings for auto insurance, and how much asymmetric information influences claims payment in auto insurance. The five insurance companies in Nigeria are Axa Mansard Insurance,

NEM Insurance Plc, Custodians & Alliance Insurance, Mutual Benefits Plc, and Leadway Assurance.

2. Literature Review

2.1. Conceptual Review

Asymmetric information, also known as information failure, occurs when one party to an economic transaction is more informed about the pertinent facts than the other. This frequently happens when the provider of a good or service has greater experience than the purchaser, but the relationship can also be the other way around. Almost all economic interactions involve information asymmetries (John, 2012). Asymmetric information exists in some buyer-seller interactions, allowing one party to take advantage of the other.

2.2. Theoretical Framework

Spence first created the Signalling theory in 1973 to explain the information asymmetry in the labor market. In corporate reporting, it has been used to explain voluntary disclosure. Any action taken by a party with the intention of influencing another party's perception and subsequent actions is referred to as signaling. This assumes that one market player is in possession of sensitive information about the other participants that, for some reason, cannot be verifiedly given. The signaling hypothesis explains why businesses are motivated to voluntarily share information with the capital market. To compete effectively in the market for risk capital, businesses must engage in voluntary disclosure. Even though certain information is withheld throughout the contracts, the insurance company may utilize some of the signals the customers send to infer details about the clients' characteristics, making this information part of the client evaluation. On the other hand, customers could receive signals from other sources, including customer complaints or the media, that suggest the insurance company's habits for settling claims. This could affect the client's actions regarding whether or not to get insurance. Agency theory, which Ross and Mitnick first proposed in 1972, is another pertinent theory for this investigation. When one or more parties—referred to as the principal—contract with or employ another—referred to as an agent—to perform on his behalf some services and then delegate decision-making authority to that hired party (Agent), an agency relationship is created. The challenge in economic agency is choosing a pay structure that will encourage the agent to act in a manner congruent with the principal's preferences. The emphasis is therefore placed on the features of the incentive system, the contracting system that governs how those incentives are distributed, as well as the risk and informational contexts that affect the players' decisions (Mitnick, 2006).

2.3. Empirical Review

Cohen and Siegelmann (2010) examined empirical research on asymmetry of knowledge in insurance markets. The result shows that it is difficult to make decisions regarding the effects of private information based on the residual association between the level of insurance coverage and risk. This is in line with the body of research on the impact of hidden risk preferences. Chiappori (2006) Examine theoretically to what degree moral hazard and adverse selection models can be extrapolated while maintaining a positive correlation between insurance coverage level and risk.

Finkelstein and Poterba (2006) also suggest that if asymmetric information is available on numerous qualities, including the degree of risk aversion, rejecting (not rejecting) the notion of non-dependence between the amount of insurance coverage and risk may not be indicative of the existence (absence) of asymmetric information. This relates the work of Finkelstein and Poterba (2006) who advocate for an empirical test based on "unused observables," or traits that the insurance provider can observe but does not utilize for pricing, either willingly or due to regulatory requirements. They argue that if those characteristics have a significant impact on contract choice and risk, there is concrete proof of relevant private knowledge that is not veiled by hidden risk preferences. According to Chiappori and Salanie (2000) Because Data from insurers are particularly well suited for studies of asymmetric knowledge since they record the choice of coverage, the outcome (claim or no claim), as well as a number of policyholder factors.

3. Research Methodology

Survey research design was used for this study. Because surveys are helpful in describing the features of a big population, this study design choice was made. The population of the study comprises of the 15,341 auto insurance policies in the 5 selected insurance companies used for this study which are Leadway Assurance, Custodian & Alliance Insurance, NEM Insurance Plc, Mutual Benefits Plc, and Axa Mansard Insurance. The study adopted purposive sampling method of selection and the sample size was 390 respondents using Taro Yamane formula. Chi-square will be utilized to test the hypotheses developed in order to ascertain the impact of asymmetric information on vehicle insurance policy in Nigeria. The data gathered were analyzed using SPSS percentages 2019.

The population of the study comprises all forty-one (41) licensed non-life insurance companies operating in Nigeria as at 1st of January 2019 (National Insurance Commission, 2019.

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Data Presentation and Analysis

Table 4.1. Demographic Data of the Respondents

VARABLES		**FREQUENCY**	**PERCENTAGE** (%)
SEX	Male	220	56.4
	Female	170	43.6
	Total	**390**	**100**
AGE (YEARS)	25 – 30	120	30.8
	31 – 40	52	13.3
	41 – 45	68	17.4
	46 – 50	150	38.5
	Total	**390**	**100**
WORK EXPERIENCE (YEARS)	1 -5	125	32.1
	6 -10	78	20
	11 -15	42	10.8
	16 -20	96	24.6
	21 -25	49	12.6
	Total	**390**	**100**
EDUCATIONAL QUALIFICATION	SSCE	150	38.5
	OND	28	7.2
	B.Sc/HND	66	16.9
	M.Sc/MBA	79	20.3
	OTHERS	67	17.2
	Total	**390**	**100**

Source: Field survey 2022

The data showed 56.4% of the respondents were male while 43.6% of the respondents were female. It can also be seen that 30.8 % of the respondents were between the ages of 25 and 30 years, 13.3% were between the ages of 31 and 40 years old, while 17.4% respondents were between the ages of 41 and 50 years, and 38.5% of the respondents were 50 years and above. It can also be seen that 32.1% of the respondents have worked from 1-5 years and 20% have worked 6-10 years while 10.8% had worked from 11 – 15 years also 24.6% had worked for 16-20 years and 12.6% had worked for 20 years and above**.** The data also showed that 38.5% represent SSCE 7.2% of the respondents were OND, 16.9% of the respondents were holders of B.Sc/HND while 20.3% of the respondents were M.Sc/MBA holder holders while 17.2% represent other qualifications

Table 2. Effect of Asymmetric Information on Insurer's Acceptance of Risk.

S/N	Statement	Sa (%) 5	A(%) 4	U(%) 3	D(%) 2	Sd(%) 1	Total (%)
1	Asymmetric Information Has Negative Effect On The Insurer's Acceptance Of Risk	99 (27.5)	99 (27.5)	80 (20.5)	94 (24.1)	18 (4.6)	390 (100)
2.	Most Insurance Companies Do Not Get Premium Rating Right Due To Asymmetric Information	102 (26.2)	96 (24.6)	56 (14.4)	85 (21.8)	51 (13.1)	390 (100)
3	Most Auto Insurance Policy Are Not Properly Rated Due To Asymmetric Information Provided By The Insured	76 (19.5)	83 (21.3)	93 (23.9)	59 (15.1)	79 (20.2)	390 (100)
4	Insured Risk Are Poorly Measured Due To Asymmetric Information By The Insured	97 (24.9)	101 (25.9)	89 (22.8)	84 (21.5)	19 (4.9)	390 (100)
5	There Is No Relationship Between Asymmetric Information Insurers' Acceptance Of Risk	89 (22.8)	96 (24.6)	99 (25.4)	78 (20.0)	28 (7.2)	390 (100)

Source: Field survey 2022

To examine the effect of asymmetric information on insurer's acceptance of risk 99 of the respondents representing 27.5% strongly agreed that asymmetric information has negative effect on the insurer's acceptance of risk and 96 respondents representing 24.6% agreed that most insurance companies do not get premium rating right due to asymmetric information even though 59 respondents representing 15.1% disagreed that most auto insurance policy are not properly rated due to asymmetric information provided by the insured.

Table 3. Impact of Asymmetric Acceptance on the Rating of Risk of Auto Insurance

6	Risk are not properly rated when customers provide asymmetric information	99 (27.5)	99 (27.5)	80 (20.5)	94 (24.1)	18 (4.6)	390 (100)
7	Proper risk rating is directly related to the information provided by the insured	89 (22.8)	96 (24.6)	99 (25.4)	78 (20.0)	28 (7.2)	390 (100)
8	Asymmetric information reduces the risk rating models of most insurance company	97 (24.9)	101 (25.9)	89 (22.8)	84 (21.5)	19 (4.9)	390 (100)

9	There is no relationship between asymmetric information and risk rating	53 (33.8)	23 (14.7)	33 (21)	29 (18.5)	19 (12.1)	390 (100)
10	Proper risk rating is achieved when insured are honest about the information provided on their auto insurance policy	102 (26.2)	96 (24.6)	56 (14.4)	85 (21.8)	51 (13.1)	390 (100)

Source: Field survey 2022

Assessing the impact of asymmetric acceptance on the rating of risk of auto insurance, 99 and 96 respondents representing 27.5% and 24.6% respectively strongly agreed and agreed with the fact that risk are not properly rated when customers provide asymmetric information and also that proper risk rating is directly related to the information provided by the insured, while 19 and 85 respondents representing 12.1% and 21.8% respectively strongly disagreed and disagreed with the fact that there is no relationship between asymmetric information and risk rating and that proper risk rating is achieved when insured are honest about the information provided on their auto insurance policy

Table 4. Asymmetric Information Affects Claims Payment in Auto Insurance.

11	Asymmetric information affects proper claims management	89 (22.8)	96 (24.6)	99 (25.4)	78 (20.0)	28 (7.2)	390 (100)
12	Insurance companies have issues with claims management due to asymmetric information provided by insured	97 (24.9)	101 (25.9)	89 (22.8)	84 (21.5)	19 (4.9)	390 (100)
13	Prompt claims settlement is directly proportional to the information provided by the insured	89 (22.8)	96 (24.6)	99 (25.4)	78 (20.0)	28 (7.2)	390 (100)
14	Well managed claims are based on accurate information supplied by the insured	76 (19.5)	83 (21.3)	93 (23.9)	59 (15.1)	79 (20.2)	390 (100)
15	Most unsettled claims are due to asymmetric information by the customers	102 (26.2)	96 (24.6)	56 (14.4)	85 (21.8)	51 (13.1)	390 (100)

Source: Field survey 2022

To examine the extent to which asymmetric information affects claims payment in auto insurance**.** 89 and 101 respondents representing 22.8% and 25.9% respectively strongly agreed and agreed to the fact that asymmetric information affects proper claims management and that insurance companies have issues with claims management due to asymmetric information provided by insured this fact however

59 respondents representing 15.1% strongly disagreed that well managed claims are based on accurate information supplied by the insured and 51 respondents representing 13.1% strongly disagreed that most unsettled claims are due to asymmetric information by the customers.

Test of Hypothesis

H_{01}: Asymmetric information does not have significant effect on insurers' acceptance of risk

Table 5. Descriptive Statistics

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Asymmetric information	390	2.68	1.291	1	5
insurers' acceptance of risk	390	2.59	1.286	1	5

Source: computation from SPSS 2022

Chi-Square Test

Table 6. Test Statistics

	Asymmetric information	insurers' acceptance of risk
Chi-Square	11.949[a]	15.834[a]
df	4	4
Asymp. Sig.	.018	.003

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 78.

Source: computation from SPSS 2021

The results of the above hypothesis test indicate that the null hypothesis, according to which asymmetric information has no significant impact on insurers' acceptance of risk, is rejected. The first chi-square test value, which is 11.949, has a p. Value of 0.018, and the second, which is 15.834 has a p. Value of 0.0003. We can consequently draw the conclusion that asymmetric knowledge has a substantial impact on insurers' risk acceptance.

H_{02}: Asymmetric information does not have any significant effect on rating of risk on auto insurance.

Table 7. Descriptive statistics

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Asymmetric information	390	1.79	.211	1	5
rating of risk on auto insurance	390	1.07	.216	1	5

Source: computation from SPSS 2022

Chi-Square Test

Table 8. Test Statistics

	Asymmetric information	rating of risk on auto insurance
Chi-Square	21.946[a]	17.337[a]
df	4	4
Asymp. Sig.	.011	.007

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 78.

Source: computation from SPSS 2022

The above hypothesis test demonstrates that the second, which has a chi-square test result of 17.337 has a p. result of 0.007, and the p. Values are at the 5% level of significance, thus we reject the null hypothesis that asymmetric information has no substantial impact on insurers' risk acceptance. Therefore, we can infer that asymmetric information significantly affects insurers' risk acceptance.

H_{03}: There is no significant effect of asymmetric information on claims payment

Table 9. Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Asymmetric information	390	2.68	1.291	1	5
claims payments	390	2.59	1.286	1	5

Source: computation from SPSS 2022

Chi-Square Test

Table 10. Test Statistics

	Asymmetric information	claims payments
Chi-Square	10.949[a]	14.834[a]
df	4	4
Asymp. Sig.	.018	.003

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 78.

Source: computation from SPSS 2022

The results of the above hypothesis test indicate that the null hypothesis, according to which there is no significant impact of asymmetric information on claims payment, is rejected. The chi-square test value of 10.949 has a p. Value of 0.018, and the second, with a chi-square value of 14.834, has a p. Value of 0.0003. We can consequently draw the conclusion that asymmetric information has a major impact on claims payment.

4. Discussion of Findings

A chi-square test was carried out to analyze the impact of asymmetric information on auto insurance policy in Lagos State. The result showed that the independent variable has significant effect on auto insurance policy with the respective p-value to be less than 0.05 and the chi-square values as 11.949, 21.946 and 10.949. The acceptance of the null hypotheses was evident from the P-value (i.e. $p< 0.05$). The result is consistent with the findings of (Adaoglu, 2017; Ahmed and Javid, 2016; Odesa and Ekezie, 2015), who emphasized that asymmetric information affect the premium rating of insurance companies and premium rating affect the patronage of insurance products. However, this result did not agree with the findings of Amidu and Abor (2016), John and Muthusamy (2017) and Kania and Bacon (2015) where they maintained that asymmetric information does not affect auto insurance policy because the insurers always do some background check of the information provided by the insured before the auto insurance policy is provided to the insured.

5. Summary, Recommendations and Conclusions

The result indicated a strong and positive significant influence of asymmetric information on auto insurance policy, profitability and asset of insurance companies. The P- value obtained (i.e. 0.11, 0.18) which was lower than the prescribed significance value of 0.05 showed the statistical significance of the result. The result is confirmed by the studies of Farooq, Saoud and Aguenaou (2016), Salminen and

Martikainen (2018) who alluded to the fact that that asymmetric information is one of the major issues in the insurance industry in Nigeria as it has negative effect on premium rating. The result was also consistent with the findings of John and Muthusamy (2016) and Odawo and Ntoiti (2017). However, it disagreed with the findings of Anil and Kapoor, (2018), Baker and Powell (2017) who emphasized that most insurance companies do not do proper background checks and that affect their premium rating. The majority of insurance firms profit from having access to specific information about policyholder driving habits in auto insurance, which is unavailable to the insurance company. This data is linked to insurance data, providing clear evidence that most policyholders' driving behavior does not correspond to the statistics and this affects the judgement of the insurance companies in premium charge and claims payment in the long run. It is clear in so many related research that asymmetric information has negative effect on premium charging, investment and profitability of insurance companies in Nigeria.

According to the study, insurance providers in Nigeria are aware of the detrimental effects that asymmetric information has on their profitability and investment however, In order to ensure that all legitimate claims are resolved and only fraudulent and in genuine claims owing to asymmetric information are rejected, the individuals involved in processing the claim as well as the company as a whole either directly or indirectly discharge their obligation in a professional manner. The difficulties in managing claims, however, have had a significant impact and continue to do so on the public's impression of how Nigerian insurance companies handle insured claims. It is evident from this study that there is still considerable opportunity for development and improvement in the insurance business sector in Nigeria with regard to how to acquire accurate information from insured in order to boost information accuracy, which will favorably impact investment and profitability. The study also revealed that asymmetric information is a problem that undermines the mutual trust between insurers and insureds. The expansion of this mutual trust will foster the market for insurance's improvement and quick growth. The following suggestions were made: to resolve asymmetric information concerns, an honest approach by the insurer and the proposer as well as the proposers' education in insurance topics may be helpful. In order to take into account the asymmetric information factors and to address the problem areas, targeted stipulations should be employed regularly to decrease or narrow the likelihood of asymmetric information auto insurance plans.

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