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RESEARCH ARTICLE

Determinants of Takaful Investment in the Northwest Region of Nigeria: A Pilot Study

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Abstract: Despite being a relatively new phenomenon, Takaful represents a powerful revolution in Islamic banking. Takaful aims to offer Shari'ah-compliant indemnity against any kind of bodily or material damages resulting from accidents or natural disasters as a risk-reducing contractual agreement. The need for this inquiry is driven by the question of what influences people's desire for Takaful investing. The purpose of the inquiry is to determine what motivates Takaful to invest in Nigeria's Northwest. The research assesses the importance of the specified socioeconomic and demographic factors that determine Takaful investment in Northwest Nigeria using logistic regression. People who are clients of Takaful businesses in the Northwest region self-administered the questions for the pilot study. The key conclusions indicate that duration of use, takaful indemnification, and distribution of surplus are important factors that influence takaful investment in Nigeria's northwest. Despite being a pilot study, the results offer an understanding of the Takaful idea and its determinants among households in the study area.

Keywords: Islamic finance, Islamic-insurance, takaful investment, Islam, Nigeria.
JEL Classification Codes: C34, C38, G01, G21
KAUJIE Classification Codes: H13, J13

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1. INTRODUCTION

The insurance sector has grown significantly throughout the years. Additionally, the globalization and privatization trends have had a significant impact on the insurance industry, which has directly increased portfolio investment and trade (Segodi & Sibindi, 2022; Chaudhury & Das, 2014). Despite being a few decades old, the Takaful (Islamic insurance) sector of the Islamic finance industry is rapidly expanding (Ansari, 2022). According to Ali, Raza, Puah, and Amin (2019), Takaful is an Arabic phrase called "kafalah" that refers to a joint guarantee among contributors. The Holy Qur'an, which is cited frequently by specialists in Islamic finance as the foundation for Takaful, states: "And cooperate in virtue and righteousness, and do not cooperate in sins and transgression," Q5:2. To protect a person from loss or danger, Takaful requires each member to fulfil their obligation by donating to the Takaful fund (Hemrit, 2020). Takaful was made available to the public firstly in Sudan in 1979, and it has since evolved and

developed in several other jurisdictions, as evidenced by the growth in the total amount of contributions to Takaful as well as the rise in the proportion of powerful players in both Takaful and re-Takaful (Sherif & Shaairi, 2013).

Over the past few years, the Islamic finance sector has experienced substantial growth, and Islamic insurance is one of the most promising areas with room for further expansion (Tolefat & Asutay, 2013). Conventional insurance, which involves the transfer of risk from one party to another for a fee, has been ruled null and void because it includes unethical acts like interest (Riba), gambling (Maysir) and uncertainty (Gharar) which are all forbidden in the Islamic financial and economic system (Salman & Hassan, 2020). In a traditional insurance contract, the insured pays an amount (premium) to the other party (insurer) in exchange for financial protection against any unforeseen loss that should occur during the predetermined time frame. The insurance company is allowed to receive both the profit and the full amount of the paid premium if the loss does not occur within the allotted time. Moreover, the inclusion of Gharar in standard insurance contracts deprives one of the parties of certain knowledge, impairing their capacity to make wise judgments. As a result, conventional insurance predicated on the existence of Gharar was forbidden by Islamic jurists. In addition, traditional insurance is a zero-sum game in which one party seeks to financially benefit at the expense of the other. The insured is placing a wager on the occurrence of a loss while the risk is being assigned to the insurer by the insured for a certain premium, and the insured will lose that if nothing happens. However, due to the lack of assurance, the potential for deceit, and the likelihood of hostility developing between the parties, this conduct is categorically forbidden by Islamic law. Allah says in Quran 5:90 “O you who believe verily liquor, gambling, throwing of stores and the worship of idols are the dirty acts of the Satan, so abstain from them so that you may prosper.”

In addition, interest is involved in traditional insurance, particularly when premiums are invested in fixed deposit accounts, bonds, treasury bills, etc. and Islam forbids all business interactions with interest. This is evident in Quran 2:275 where Allah says “and Allah has permitted trade and prohibited interest.” As such, the idea for the practice of Takaful, which is in favour of a cooperative method based on the Shariah principles, comes to the forefront with the removal of the prohibited components of the conventional insurance system (Ansari, 2022). According to Abdulkadir, Sapian, Ibrahim, and Shukor (2021), people and businesses are regularly prone to a variety of risks. If these risks are not addressed, a chain of unfavourable outcomes, including a low standard of living, business closures, and socio-economic instability, will result. The Takaful subsector has also gotten the concentration of practitioners, academics, and policymakers as a real tool in boosting social wellbeing, long-term sustainability and company resilience (Abdulkadir, Sapian, Ibrahim, and Shukor, 2021). Additionally, Islam has already established a framework for alternative risk transfer in which risk is shared among a group of participants rather than transferred (Ansari, 2022). This framework forbids Takaful firms from investing in companies that do not adhere to Shariah law. Consequently, the components of Riba, Gharar, and Maysir are removed.

The Takaful market's gross contributions increased steadily, if slowly, from $5 billion in 2006 to $27.07 billion in the year 2018 (IFSB, 2015, 2020). Takaful, however, contributes the lowest to the overall assets of Islamic finance, with a tiny proportion lower than 2%, unlike the banking and capital market divisions (IFSB, 2020, 2019). Similar to this, only a handful of countries accounted for 91% of global contributions in the Takaful market in 2018. Saudi Arabia, Iran, United Arab Emirates, Malaysia, and Indonesia were named as the top five countries contributing

to the takaful market (IFSB, 2020). These countries are located in the Southeast Asia, the Gulf Cooperation Council (GCC) and the Middle East, three subregions of the world (IFSB, 2020). There has been a notable increase in concern in the Takaful subsector recently, particularly in nations with a Muslim majority like Nigeria (Abdulkadir, Sapian, Ibrahim, & Shukor, 2021).

Nigeria has the largest population and most impressive market on the African continent, with a growing middle class with disposable income and a sizeable population of young people, all of which point to a perfect market for insurance. The insurance market in Nigeria is still underdeveloped and sluggish in light of all these aspects as well as the fact that the majority of the population is Muslim (Ardo & Saiti, 2017). Furthermore, Enhancing Financial Inclusion and Access (EFInA, 2020) claims that only 2% of adult population in Nigeria, which is projected to number 106 million in 2020, participates in insurance programs. According to the research, women, young people, those with lower levels of education, micro, small, and medium-sized companies (MSMEs), and the northern part of the nation are the least users of financial services (Central Bank of Nigeria [CBN], 2018 EFInA, 2020). In comparison to other parts of the nation, the Northwest region of the northern zone has the largest proportion of financial exclusion and has the lowest rate of insurance penetration (EFInA, 2020).

In light of this, the purpose of the pilot project is to evaluate the factors that influence takaful investment in Nigeria's northwest. The concept and justification of takaful, as well as the study objective, are covered in the first section. While part three describes the empirical study methods, including sample description, data sources, and model formulation, section two evaluates pertinent literature. Presentations of empirical facts, as well as conclusions and recommendations, are found in sections four and five, respectively.

2. LITERATURE REVIEW

Every person may encounter different threats, including financial ruin, property damage, accidental death, and fire, among others. Every Muslim is expected to have complete faith in fate, or Qadr, even if it is unfavorable. To counteract these unfavorable difficulties and problems, Muslims in Islam can participate in a Takaful plan (Salleh & Afthanorhan, 2018). This agrees with Hussain and Pasha's (2011) assertion that the primary goal of Takaful is to share earnings rather than generate revenue from losses. Numerous studies have examined the various facets of Takaful (Al-Amri & Hossain, 2017; Al Mahi, Sim, & Hassan, 2017; Husin & Ab Rahman, 2013). The notion of Takaful is still relatively new, and there are still several untapped takaful places (Ansari, 2022). Researchers in the field of Takaful research concentrated on challenges and restrictions related to the various Takaful models, as well as comparisons between takaful and conventional insurance (Ansari, 2022). Al-Amri and Hossain (2017) reported on the development literature and history of Takaful, addressing issues with effectiveness, problems with various models, and peculiarities of micro-Takaful in Indonesia. Likewise, Al Mahi et al. (2017) reviewed the research on Takaful and praised the significance of religiosity for Takaful demand. Husin and Ab Rahman (2013) conducted a literature review to provide an overview of the deconstructed theory of planned behaviour (TPB) application to study the factors influencing family Takaful programs in Malaysia. Systematically reviewed are the behavioural components and demographic variables influencing the demand for takaful. Recent literature reviews on Takaful have employed the bibliometric

method to examine the current role of Takaful (Khan et al., 2020; Nasir, Farooq, & Khan, 2021).

When Takaful first became popular in Malaysia, the majority of the efforts were focused on educating the public about the value of insurance and how Takaful might serve as a substitute for traditional insurance (Sherif & Shaairi, 2013). Despite the industry's existence for almost a decade, this is comparable to what is available in Nigeria. Few empirical studies have been done to identify the factors that influence Takaful investing. Additionally, the Takaful industry was left behind as per overall market penetration and shared performance (Salleh & Afthanorhan, 2018). However, there is a gap that has to be filled by in-depth empirical research in the context of Nigeria due to the underdevelopment of empirical inquiry in this field, particularly in Nigeria.

Sherif and Shaairi (2013) looked at several socio-economic and demographic factors to pinpoint the factors that drive family Takaful demand in Malaysia. It was shown that income, Islamic banking development, education, dependence ratio, and Muslim population characteristics have a positive association with Takaful demand using the Ordinary Least Square (OLS) and Generalized Method of Moments (GMM) methodologies. On the other hand, it appears that the major factors that negatively affect the overall family Takaful consumption are inflation, real interest rates, financial development, and life expectancy.

Using time-series data from two family Takaful companies from 2006 to 2016, Shah, Javeria, and Masood (2018) experimentally confirmed the relationship between macroeconomic indicators (i.e., per capita income, savings, inflation, stock and index) and the demand for Family Takaful in Pakistan. The study found that while other macroeconomic parameters, such as the KSE (Karachi Stock Exchange) composite index, have a positive significant link with Takaful demand in Pakistan, per capita income is a strong predictor of family Takaful demand in that country. Savings, interest rates, and inflation, on the other hand, have little bearing on Pakistani household Takaful demand. 143 respondents from the Malaysian Klang Valley region filled out a self-administered questionnaire for Parveen, Razali, and Salleh (2019) to collect information. The selection of Takaful operators is significantly influenced by fee payment and benefits, while the choice of investment-linked products in Malaysia is influenced by coverage and benefits, according to the study of data using descriptive statistics, correlation, and regression analysis.

Abdulkadir et al., (2021) explored the adoption of general Takaful among MSMEs owner-managers in Northwest Nigeria using a conceptual framework that was based on DOI and the Unified Theory of Acceptance and Use of Technology (UTAUT). The relevant factors that determine MSME owner-managers intention to adopt general Takaful schemes were identified by the study as relative advantage, compatibility, complexity, uncertainty, awareness, social influence, and government support. When Riaz et al., (2021) used the Structural Equation Modeling (SEM) technique to conduct a cross-sectional study of the factors influencing family Takaful plans in Islamabad, Lahore, and Karachi, they discovered that religious observance, brand recognition, and product awareness all had a favourable and significantly related to family Takaful demand. The demand for family Takaful, however, has nothing to do with the interaction between marketing and advertising. In the instance of Somalia, Barre and Mukhtar's (2022) investigation focused on the aspirations to embrace Takaful and perceived trust. Potential consumers of Takaful products were targeted in the survey using a convenience sampling technique. Additionally, the Diffusion of Innovation (DOI) theoretical model was tested using structural equation modeling (SEM), and the results show that relative advantage, compatibility, and culture have a significant positive impact on the adoption of takaful with perceived trust acting as a

mediating factor. In contrast, perceived complexity and awareness are positively related to takaful adoption but do not have a mediating effect on perceived trust.

Segodi and Sibindi (2022) used a panel of the BRICS countries as a unit of analysis from 1999-2020 and implemented panel data econometric techniques in their investigation of the factors that influence the demand for life insurance in the BRICS nations. The study discovered that the variables of income, unemployment, interest rates, and inflation hurt the demand for life insurance variable while a positive relationship between life insurance demand and the variables of economic growth and financial freedom was found. Kelikume and Otonne's study of the market for home and property insurance in Nigeria (2022) used a positivist worldview and a quantitative approach based on primary data collected from 500 legitimate renters and landlords. Low levels of education and literacy as well as a risk-averse attitude were revealed to be positive and significant drivers of the demand for home and property insurance using the logit regression and maximum likelihood estimation techniques for the inquiry. The underperformance of insurance businesses, on the other hand, has a negative and considerable effect on the demand for insurance. Moreover, the demand for home and property insurance was not significantly influenced by culture, religion, the level of service provided by insurance operators, or other economic considerations.

Kumar, Stauvermann, Patel, Prasad, and Kumar (2022) used an eight-insurance company sample of financial data from 2010 to 2015 to examine the factors influencing insurance company profitability in Fiji as a reference country. Following the estimation of a base model, additional models are added that consist of interaction properties as part of the sensitivity analysis and provide additional insights. The overall estimation result showed that the finest income, underwriting costs, administrative costs, and capital volume have a positive association with profitability, while contingent liability and leverage as measured by the total liability over equity have a negative relationship with profitability. Yahaya, Sulaiman, and Aminu (2022) conducted an empirical investigation on the factors that influence the National Association of Road Transport Owners (NARTO-PTD) members in Kano State, Nigeria, to purchase motor vehicle Takaful. The study indicated that perception and religiosity have a substantial impact on members' support of motor vehicle Takaful, but that awareness is unimportant. This was discovered using the Partial Least Square-Structural Equation Modeling (PLS-SEM) technique of data analysis. It is clear from the assessment of relevant research that multiple variables and approaches were used to predict Takaful investment. These, it seems, produced various findings and conclusions. In addition, Malaysia was the site of the majority of the empirical investigations, and there were also a few in Nigeria. This study aims to fill a gap in the literature by examining the factors that influence takaful investment in Nigeria's northwest.

3. METHODOLOGY

3.1.Sampling and Methodological Issues

The data used in this study comes from a pilot survey that was given to a sample of 80 respondents in the northwest region of Nigeria, which is made up of the following seven states: Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara. The sample consists of eighty (80) respondents who are clients of Jaiz Takaful, Noor Takaful, and Salam Takaful, three takaful businesses in the northwest of Nigeria. As of 2022, there were a total of five Takaful operators in the area. Two, however, were disqualified because they had not been in operation long enough for

adequate data to be collected from them.

3.2.Technique of Data Analysis/Model Specification

To produce more precise categorization results, logistic regression was proven to be more precise. According to Ong, Yap, and Khong (2011), for example, the logit model is a regression that is designed to explain and predict binary (two-group) categorical variables rather than measurements that depend on metrics. So, based on a collection of predictor factors, we used logistic regression to estimate the likelihood of an occurrence. The theoretical logit model can be written as follows under Bashir and Danlami (2022), Danlami et al. (2017), and Gujarati (2009):

$$Y_i = \beta X_i + u_i \quad (1)$$

Where: Y_i, here, is equal to one (1) when an individual chooses to have a *Takaful* investment and zero (0) otherwise. Meaning:

$$\begin{matrix} 1, if the customer has any takaful investment \\ 0, if the customer has not takaful investment \end{matrix}$$

According to equation 1, Y_i= 1 if X_i is equal to or greater than a threshold value,X^* and Y_i= 0 if X_i is less than a threshold value, X^*. Note that X^* represents the joint effects of the exogenous variables (X_i) at the critical level. In addition, the equation represents a model of binary choice that estimates the likelihood that a customer will invest in Takaful in the Northwest zone of Nigeria (Y_i) given a set of factors (X_i) such as income, location of household, years of experience, duration of use, loss indemnified and surplus from *Takaful*, that are exogenous and associated with thei^{th} household.

Mathematically, this is represented as:

$$Prob(Y_i = 1) = F(\beta' X_i) \quad (2)$$
$$Prob(Y_i = 0) = 1 - F(\beta' X_i) \quad (3)$$

The function F may be represented as a probability, logistic, or normal function. According to Pindyck, Hall, and Rubinfeld (1998), the logit model uses a logistic cumulative distributive function to estimate P as follows:

$$Prob(Y_i = 1) = \frac{e^{\beta' X}}{1 + e^{\beta' X}} \quad (4)$$

$$Prob(Y_i = 0) = 1 - \frac{e^{\beta' X}}{1 + e^{\beta' X}} \quad (5)$$

Taking the natural log of equation (4) and (5) yields:

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = Z = \beta_1 + \beta_2 X_i + u_i \quad (6)$$

Where: L means the log of odds ratio. Hence, the following *Takaful* investment model is developed:

$$Ln\left(\frac{Tak.inv_i}{1 - Tak.inv_i}\right) = \beta_o + \beta_1 income_i + \beta_2 location of household_i + \beta_3 years of experience_i + \beta_4 duration of use_i + \beta_5 loss indemnified_i + \beta_6 surplus from takaful_i + u_t \quad (7)$$

Where: $Ln\left(\frac{Tak.inv_i}{1-Tak.inv_i}\right)$ stands for the log of odds of a customer undertaking *Takaful* investment and otherwise. $\beta_o, \beta_1, \beta_2, \ldots \beta_6$ are the constant and coefficients of location of household, years of experience, duration of use, loss indemnified and surplus from *Takaful* while u_t is the error term.

4. RESULTS & ANALYSIS

Table 1 indicates the estimated model for change in *Takaful* investment.

Table 1

Estimated logit model for Takaful investment

Variables	(1) Coefficient	(2) Odd Ratio	(3) Coefficient	(4) Odd Ratio
Income	-2.18e-05	-2.18e-06		
	(1.63e-05)	(1.60e-06)		
Location of Household	2.556**	0.166*		
	(1.268)	(0.0931)		
Years of Experience	-0.0768	-0.00767		
	(0.144)	(0.0152)		
Duration of Use	1.184**	0.118***	1.302**	0.184***
	(0.565)	(0.0439)	(0.626)	(0.0709)
Loss Indemnified	2.336*	0.414*	0.941	0.163
	(1.272)	(0.237)	(1.025)	(0.175)
Surplus from *Takaful*			3.263***	0.647***
			(1.238)	(0.163)
Constant	-5.567**		-4.101	
	(2.504)		(2.672)	
Observations	36	36	28	28

Source: Researchers (2023).Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Converting odds ratio into probability:

$$Prob = \frac{Oddsratio}{1 + Oddsratio} X\ 100$$

Table 2

Odd Patios and Probability

Variables	Coefficient	Odd Ratio	Probability	Coefficient	Odd Ratio	Probability
Income	-2.18E-05	-2.18E-06	0.00			
Location of Household	2.556	0.166	33.20			
Years of Experience	-0.0768	-0.00767	-1.53			
Duration of Use	1.184	0.118	23.60	1.302	0.184	36.8
Loss Indemnified	2.336	0.414	82.80	0.941	0.163	32.6
Surplus from *Takaful*				3.263	0.647	129.4

Source: Researchers' computation (2023)

The computed logit model in Table 2 demonstrates that the likelihood of having a Takaful investment, if one has a high income, is zero after converting the odd ratios into probabilities. When compared to the expected coefficient of change in Takaful investment, Table 1's calculated coefficient of income displays a negative correlation. This

implies that there won't be any investment in Takaful during a period of high household income. This conforms to Enz's S-curve hypothesis from 2000, which claims that once insurance product saturation is reached at increased income per capita levels, insurance consumption becomes less sensitive to an increase in income. The fundamental cause of this occurrence is that people with high-income levels typically have sufficient funds to cover hazards in their current financial portfolios. Although there is a negative link between household income and investment in takaful, earlier research (Yaari, 1965; Hakansson, 1969) suggested that the demand for life insurance should be positively correlated with either an individual's predicted income or permanent income.

However, based on geography, the likelihood of having a takaful investment is 33.2% and has a favourable correlation with the likelihood of a takaful investment change. As a result, the results show that a household's chance of making a takaful investment increases by 33.2% the closer it is to the takaful company. Furthermore, the data show that having a Takaful investment is negatively correlated with years of experience, which indicates that having a Takaful investment with many years of experience is 1.53% less likely. Additionally, a high duration of use has a minor impact on the likelihood of making a Takaful investment for the estimated variable for duration of use. Consequently, given all other factors being equal, there is a 23.6% chance of owning a Takaful investment with a long duration of usage. Additionally, having a Takaful investment is highly and favourably associated with receiving Takaful indemnification. According to Table 2, 82% of households with loss indemnification had investments in Takaful. Finally, having a surplus from Takaful investments raised the likelihood of doing so by up to 129.4%.

5. CONCLUSION AND RECOMMENDATIONS

In Nigeria, the Takaful sector is growing and has a propensity to encourage development free of Riba (usury), Maysir (gambling) and Gharar (extreme uncertainty), which are all against Islamic law. This study, which was conducted as a preliminary investigation, concentrated on the factors that influence Takaful investment in Nigeria's northwest. Additionally, the results of the pilot study suggest that the logit model of Takaful investment demonstrates that the location of the household and the length of use have a favourable but less likely impact on Takaful investment in Northwest Nigeria. Additionally, there is a very high likelihood that the distribution of Takaful surplus and Takaful indemnity will have a favourable impact on Takaful investment in Northwest Nigeria. In light of this, the pilot study recommends that favourable policies that would encourage and improve Takaful investment can boost Takaful investment in the area. Particularly in the Northwest, Takaful operators should be aware that indemnity and distribution of surplus to participants and investors play a key role in promoting Takaful investment. The main drawback of this research is that there aren't many variables. The full study would include the variables ignored in this pilot study that potentially explain Takaful investment in Northwest Nigeria because this is only a pilot study. Complexity, awareness, social influence, and religiosity are all potential factors.

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