



## Demand for non-life insurance: A Sub-Saharan region panel data analysis

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### Abstract

The non-life insurance industry is experiencing an ongoing increase in competitive pressures, which has resulted in an increase in the buying power of customers and a shift in their preferences in response to these dynamics. These shifts in the external environment are both propelling innovation within the non-life industry and compelling insurers to centre their strategies on the needs of their clients. The requirements of customers who purchase personal lines of insurance are consistently changing, accompanied by a gradual but discernible shift in consumer preferences regarding distribution channels. There has been an expansion of the insurance industry in developing countries. This growth is promising, but it has shifted the insurance industry's focus away from life coverage and towards non-life policies, especially in Sub-Saharan Africa. Non-insurance demand drivers in African markets were investigated as part of this study. A fixed-effects model analysis of the data revealed that income, unemployment, and urbanisation negatively impacted the demand for non-life insurance in the thirty Sub-Saharan countries surveyed between 2011 and 2021. To a large extent, inflation, domestic credit, and interest rates influence the demand for non-insurance products. Therefore, the study's findings highlight that player in the insurance industry who look forward to this growth can explore the demand for non-life insurance products through macroeconomic disturbances in the economy.

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## 1. Introduction

The International Monetary Fund (IMF) has projected that the GDP in Sub-Saharan Africa will expand by 3.7% in 2021 and 3.8% in 2021-2028, respectively. In the newly released IMF list, which ranked countries worldwide based on real gross domestic product (GDP) growth estimates in 2020, 19 of the top 50 countries were located in Sub-Saharan Africa (IMF, 2021). Due to its comprehensive nature, GDP is one of the most popular metrics for gauging economic health. Africa's business prospects should improve through the continent's robust economic growth and rising disposable income.

The promise that one will be relieved of anxiety regarding the possibility of experiencing monetary hardship in the event of a loss gives insurance its attractiveness. People have a greater responsibility to protect their assets and improve their standard of living as a result of increases in both their level of productivity and income. It is a common practice for healthcare and other types of services to become progressively more

expensive as their quality increases. As a result, the significance of having insurance and the possibility of having extra money to spend have been brought to light.

Life and non-life insurance contribute to a nation's Gross Domestic Product and societal welfare (Sojung & Jean, 2011). This is due to the growth-supportive qualities shared by both life and non-life insurance. Risk is transferred, losses are indemnified, losses are pooled, and unforeseen costs are covered. Non-life insurance not only helps policyholders manage risk but also serves as a valuable economic intermediary (Rejda, 2011). Although non-life insurance expenditures have a considerable effect on the economy, there is limited knowledge about the economic factors that influence them. Furthermore, there are scant studies regarding factors that influence the adoption of non-life insurance. Some of the factors identified by a few scholars include culture, income, education, economic freedom, and law (Lee & Chiu, 2012).

Gross premiums in Africa (excluding South Africa) grew at a rate that was almost two and a half times faster than the region's Gross Domestic Product (GDP) between 2007 and 2016. More recently, McKinsey and Company projected that the insurance market in Africa would expand at compound annual growth rates of 7 percent per year between 2020 and 2025. Although this prediction was made before COVID-19 arrived on the continent, it is anticipated that the pandemic will only delay rather than completely halt future potential growth.

As the insurance sector expands in developing countries, researchers are considering its role in the broader context of financial growth. Over the past 10 years, the insurance industry's contribution to Africa's economy has doubled, yet demand is still substantially lower than the global average (Swiss, 2015). Policymakers and industry stakeholders should consider and promote advantageous conditions to encourage insurance uptake across continents.

Liedtke (2007) stated that insurance companies serve as risk managers, allowing corporations and other organisations to take precautions against monetary loss. Insurance, as a sector of the economy, contributes to the security of the monetary system by mitigating risk. The industry also helps lower potential investment costs by shielding businesses from monetary disaster. Arena (2008) noted that insurance agencies boost economic activity. There is cause for concern about Africa's commercial and economic development due to the continent's low level of non-life insurance demand, despite the continent's high expected growth rates. This is because of the impressive growth prospects for the continent. Between 2015 and 2016, Africa's insurance per capita increased (1.7-2.7 %), which is less than the world average (6.3%) (Swiss, 2015). According to the World Bank (2015), these discrepancies highlight the lack of non-insurance products and the high probability that potential losses will not be sufficiently covered.

Due to its improved ease of doing business, its expanding middle class wanting more goods, and its strong and expanding youth population, Africa offers investors around the world favourable investment options and long-term economic prospects around the world. However, investors cannot take full advantage of these opportunities unless they have some assurance that, in the event of a typical unexpected loss, their money will be returned. However, even those whose lives are improved by the improved growth prospects (and, consequently, the increases in disposable income) are unable to purchase items that would elevate their standard of living unless they are assured that they will be protected against loss and/or damage. Companies and individuals will not be able to invest in Africa because of the dangers involved, which are still mostly unknown, unless they have access to cutting-edge insurance solutions. Generally, the beneficial effects of non-life insurance, which are closely related to business and economic growth, are the cause of higher levels of macroeconomic development. While these restrictions are well recognized, it is less clear what drives consumers' desire for a greater range of non-life insurance products. It is also unknown whether the industry is currently facing obstacles.

This research uses a panel dataset covering 30 Sub-Saharan countries from 2011-2021 in order to fill these gaps in our understanding of the factors that influence the cost of non-life insurance. Some of the ways in which we have advanced previous research are as follow: To speculate on why people don't get non-life insurance, we use a theoretical model. Second, we use evidence from a variety of places to back up our theoretical findings. This study builds on the research by other scholars such as Sojung and Jean (2011), Tiwari and Patro (2018), and Trinh, Nguyen, and Sgro (2021) on the factors that influence non-insurance. Nevertheless, because our focus is on the unexplored Sub-Saharan region, we anticipate gaining new insights.

This study aims to make a scholarly contribution by examining the factors influencing the choice of African markets. Based on the existing constraints on data availability, it was postulated that the influence of cultural impediments on the demand for non-life insurance would remain unaltered. The field of non-life insurance has received limited attention in academic research, prompting the present study to address this knowledge gap and emphasise its significance.

The present study aims to identify the determinants of demand for non-life insurance in specific African markets.

## **2. An Overview of the African Insurance Industry**

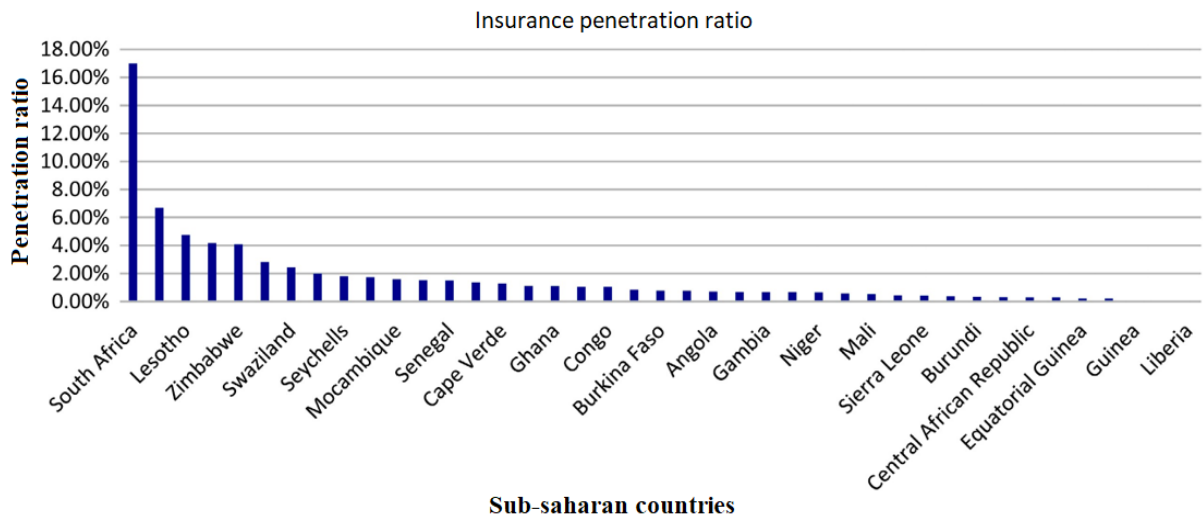
Africa is striding towards economic growth and development, and the continent's insurance sector is benefiting from this trend. Africa's insurance market hit \$61.1 billion in 2019. By 2022, the size of the African

insurance market would have increased to \$81.6 billion. The International Market Analysis Research and Consulting Group (IMARC Group) has estimated that the insurance market will be worth US\$123.8 billion in 2028, which represents a compound annual growth rate (CAGR) of 7.1% between 2023 and 2028. Africa has several emerging and developing economies, but insurance development lags far behind. However, the region's insurance industry has benefited from its overall economic growth over the past few decades (Alhassan & Biekpe, 2016). Despite being one of the most disrupted sectors, Africa's insurance industry is constantly changing and adapting to exploit new opportunities for growth. Political and economic instability on the continent slowed economic and insurance growth in the years following the global financial crisis. However, Africa's insurance market remains the world's least developed, offering tremendous room for expansion (Calderon, Iacovone, & Juarez, 2016). More than any other sector, Africa's insurance market is experiencing unprecedented levels of change, presenting new challenges and opportunities for entrepreneurs (Ehiogu, Eze, & Nwite, 2018). The insurance sector has advanced more rapidly than predicted, and this trend is expected to continue. Thus, insurance companies play a crucial role in the management of various companies' assets and the provision of substantial inflows for the expansion of the economy and the financial sector (Calderon et al., 2016). If the insurance industry is successful in resolving the financial crisis that these funds have caused, national economies will benefit as a whole.

**2.1. Insurance Penetration in Africa**

Lack of education about the importance of insurance, high product prices, selective mistrust of the industry, and the dominance of traditional distribution channels have all contributed to the continent's historically low insurance penetration. In addition, insurers have not been able to rely on the typical payment channels provided by banks for premium collection and claim payouts to reach a larger portion of the population because of low levels of market penetration for banking.

There are numerous factors that affect the insurance penetration rate; some of the factors include negative public perceptions, knowledge about insurance and products, and cultural and religious issues (Africa Insurance Market, 2020). Insurance Institute of South Africa (IISA) (2021) has stated that insurance penetration rates remain low across many Sub-Saharan African nations. A high rate of insurance penetration indicates that consumers and businesses in the country value insurance as a tool for mitigating risk and generating income. When insurance rates are low, economic expansion slows (Olayungbo & Akinlo, 2016). Akinlo and Apanisile (2014) have noted that the insurance industry largely drives economic growth in Sub-Saharan Africa. Despite the commonly known advantages of having insurance coverage, sub-Saharan Africa has poor uptake of insurance, which remains a challenge (Hamukwanza, 2021).



**Figure 1.** Insurance penetration ratio 2017.

Source: Africa Insurance Market (2020).

Figure 1 shows that in 2017, South Africa had the biggest insurance penetration rate in Sub-Saharan Africa (SSA), at 16.7 percent. Following this were Lesotho, Mauritius, and Zimbabwe, all of which had insurance penetration rates of between four and seven percent. However, as shown in the preceding graph, most SSA countries recorded a rate of less than 1%. Suggesting that many Sub-Saharan countries have challenges with insurance or have underdeveloped insurance markets. Also, it is worth noting that high insurance penetration rates were recorded in Southern African countries.

## 2.2. Macroeconomics and Non-Life Insurance Demand

It is believed that macroeconomic conditions in both developed and emerging markets affect the demand for insurance products. Dividend-paying stocks, real estate, mortgage-backed securities, and banks where insurance companies invest are vulnerable to economic shocks. Investment yields increase, and insurance firms may accept more claims when the economy thrives. During a recession, insurance companies may borrow money or deny claims to compensate for the reduced investment returns. Consequently, during an economic downturn, fewer small businesses can afford insurance (Dwilson, 2016). Due to decreased demand, insurance companies now have to compete more aggressively. Esho, Kirievsky, Ward, and Zurbruegg (2004) discovered that demand for non-life insurance has an effect on economic growth.

García (2012) notes that as economies grow, so does the need for non-life insurance in both developed and developing countries. As the economy improves, consumers are able to put more money to work. When they invest in more costly assets, they are more likely to protect them with insurance. Africa saw the greatest increases in demand for both housing and auto insurance. There is a substantial body of literature that emphasises the importance of how the growth of the financial system affects the long-term growth rates through savings and investment decisions. By investing the premiums they receive, insurance companies help the economy grow by producing more goods and services.

This strategy, combined with the benefits of other financial service products, ties insurance operations to economic expansion. Although insurance has been shown to have a positive and significant correlation with economic growth in the long run, the short-term impact of insurance premiums on economic growth may not be positive or significant (Akinlo & Apanisile, 2014).

## 2.3. Theoretical Underpinnings

The study is based on theoretical frameworks from Hakansson (1970) and Yaari (1965). The theory states that people purchase life insurance to guarantee their families care after they pass away or to have some dependable income during retirement. Utilising a vector of prices and interest rates, which include insurance premium rates, consumers seek to maximise their lifetime satisfaction. The demand for life insurance is said to be correlated with a person's wealth, expected lifetime income, the cost of life insurance policies, and the cost of policies themselves.

Lewis (1989) elaborated on this framework by taking into account the needs of those who would ultimately reap the benefits of the system. Life insurance is framed as a problem of maximization for the policyholder's beneficiaries. The insured's spouse and any children who are financially dependent on them are also protected. Given the isoelastic utility function and the presumption that the policyholder leaves no bequest, Lewis demonstrates that the following expression can accurately describe the total demand for life insurance.

$$(1 - Zp)F = \max \left\{ \left[ \frac{1-Zp}{Z(1-p)} \right]^{\frac{1}{\alpha}} C - I, 0 \right\} Z(1-p)(1)$$

Equation 1 presents that  $p$  is the probability of the primary wage earner's death,  $Z$  is the policy loading factor (the ratio of the insurance's costs to its actuarial value),  $F$  is the total amount of life insurance coverage on the breadwinner's life (a measure of the beneficiaries' risk aversion),  $C$  is the present value of each child's consumption until they leave the home and of the spouse over their predicted remaining lifespan, and  $I$  is the net worth of the family as a whole. The demand for life insurance increases as the probability of the main wage earner's death increases, the current value of beneficiaries' consumption increases, and the level of risk aversion increases. As household wealth and the loading factor increased, fewer people became interested in buying life insurance.

However, factors other than consumer demand also have an impact on number of people who purchase life insurance. The supply side of the industry influences life insurance rates and availability. Insurance companies need access to both human and informational resources to accurately determine product pricing, reserve needs, and suitable investment opportunities in financial markets. Moreover, life insurers' ability to make investments benefits from the strong protection of property rights and effective contract enforcement. The cost of life insurance can be influenced by the factors listed above.

The supply and demand for life insurance have been the subject of numerous modelling attempts, but conclusive results have been elusive due to a lack of data (Beenstock, Dickinson, & Khajuria, 1998). Supply and demand cannot be inferred from data on life insurance premiums or the total face value of outstanding policies. Insurance premiums are mixed indicators of both cost and coverage; therefore, they cannot be used to study the latter independently. Unless prices are stable across countries, which are highly unlikely, we cannot be confident in our estimates if we assume that the premium is proportional to the level of coverage. A common proxy for price premiums over life insurance in force calls for the problematic assumption that the mix of policies is stable over space and time when analysed in a cross-country or panel dataset (Browne & Kim, 1993).

## 3. Methodology

This section discusses the data analysis methods and variables. We use a panel dataset from 30 different countries in Sub-Saharan Africa to achieve our goals. We will return to the fixed effects model to simplify the

explanation of this test. The fixed-effects model assumes that the levels of the explanatory variables are fixed and that changes in the explanatory variables affect only the dependent variable. In other words, changes in the explanatory variable have no impact on the dependent variable (Salkind, 2010).

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + \mu_{it}(2)$$

Where  $I = 1, 2, 3, \dots, N$  and  $t = 1, 2, 3, \dots, T$ , respectively. Meanwhile,  $Z$  accounts for the factors that change across the cross-sectional units at a given time but remain constant over the course of the study (e.g., location and demographic factors). Because it is automatically included in the intercept, there is no need to define the variable  $Z$ .  $\mu_{it}$  is the error term. Given this exposition, our parsimonious model takes the following form:

$$Y_{c,t} = \alpha_c + \beta_1(X_{c,t}) + \beta_2(Z_{c,t-1}) + \sum_{c=1}^c \beta_c C_c + \sum_{t=1}^{t-1} \epsilon_t D_t + \epsilon_{c,t} (3)$$

Where  $Y$  is the dependent variable that measures the penetration of insurance in country  $c$  in year  $t$ .  $\alpha_c$  is a constant. The variables relating to macroeconomics in the dataset are denoted by  $X$ . Due to the limited size of our study sample, the majority of the factors at the country level have remained unchanged. Consequently, we include a matrix of fixed dummy variables for each country. These variables serve as control mechanisms for factors held constant, and  $\epsilon$  is the error term.

In panel regression, the fixed model is one of the models of choice until the Hausman test demonstrates that it should not be. A Hausman test was conducted, and the results showed that the null hypothesis that there were no fixed effects could not be supported at a significance level of 5 percent. In this scenario, it seems that a fixed model is the best option. In addition, we investigated the impact of factors that changed over time. Based on the literature review, this study used the following model:

$$InPEN_{it} = \beta_0 + \beta_1 InINFLATION_{it} + \beta_2 InINTEREST_{it} + \beta_3 lnINCOME_{it} + \beta_4 InTRADE_{it} + \beta_5 InUNEMPLOYMENT_{it} + \beta_6 InCREDIT_{it} + \beta_7 InURBAN_{it} + \epsilon_{it}(4)$$

Where  $PEN$  is the ratio of non-life premiums to GDP for country in year  $t$ . Table 1 lists the definitions of the independent variables.

Table 1. Variables description.

Variables	Description of variables	Expected priori
Pen	Insurance penetration (Ratio of non-life premiums to GDP)	
Inflation	Inflation rates	+/-
Interest rate	Interest rates	+/-
Income	Disposable income per Capita	+/-
Trade	Merchandise trade ratios	+/-
Unemployment	Unemployment rates	+/-
Credit	Ratio of the total amount of credit extended by the banking sector to total GDP	+/-
Urbanisation	Urbanisation rates	+/-

Table 2 summarizes the descriptive statistics for the panel data on the population collected during a 20-year period. Except for the non-life variable, the population panel data support 672 observations from 2011 to 2021.

Table 2 highlights the variables used in the regression model. During the study period, social factors accounted for between 50 and 95 percent of the total observations, while macroeconomic variables accounted for a considerably more manageable 75 percent or more.

Table 2. Summary of descriptive statistics.

Name of variable	Observations	Mean	Median	Minimum	Maximum	Std. dev.
Income	670	1946.580	879.960	110.520	1440.605	2211.234
Urbanisation	670	44.223	41.278	10.588	87.636	18.220
Inflation	658	25.229	5.344	-10.670	4200.112	205.150
Trade openness	670	53.002	50.388	4.972	135.300	21.405
Interest rate	670	1.0024	0.770	0.022	13.762	1.020
Unemployment	565	12.007	9.0340	0.633	36.600	7.850
Credit	680	24.666	14.800	2.223	165.550	28.400

### 3.1. Data Collection

This study analyses the factors influencing demand for non-life insurance using secondary data. Information was collected from various sources, including the World Bank Databank, the International Labour Organization, the International Monetary Fund, and international financial statistics. To generate the regression results, the researchers used the R statistical software.

### 3.2. Population and Sample

This study examined 30 African countries with large non-life insurance industries from 2011 to 2021. This population was created using reliable Swiss Re Institute data by selecting countries with a high non-life insurance premium-to-GDP ratio (i.e., penetration rate) over the study period. Therefore, we focused our literature search on these countries because they make up the majority of our sample to study how macroeconomic and social factors affect non-life insurance demand in Africa. The literature review identified several factors that affect non-life insurance demand, but the regression model's variables depend on data availability.

### 3.3. Correlation Matrix

Table 3 displays the correlation coefficients in the form of a correlation matrix, which shows how interdependent the independent variables are with the problem at hand. According to Kennedy (2008), all the independent variables' estimated correlation coefficients fell below the threshold value of 0.70, indicating that multicollinearity would develop if all of them were combined in a regression model.

Table 3. Correlation matrix.

???	Income	Inflation	Trade openness	Domestic credit	Unemployment	Urbanisation	Interest rate
Income	1						
Inflation	-0.066 (0.1134)	1					
Trade openness	0.4005*** (0.000)	0.1280*** (0.0017)	1				
Domestic Credit	0.4023 (0.000)	-0.0625 (0.112)	0.078* (0.0644)	1			
Unemployment	0.5059*** (0.000)	-0.0472 (0.29)	0.2229*** (0.000)	0.3326*** (0.000)	1		
Urbanisation	0.6115*** (0.000)	-0.0736 (0.056)	0.3272*** (0.000)	0.3166*** (0.000)	0.4691*** (0.000)	1	
Interest rates	0.1444*** (0.0002)	-0.0450 (0.248)	0.1980*** (0.000)	0.2800*** (0.000)	0.4973*** (0.000)	-0.0532 (0.1542)	1

Note: P-values are indicated by the values in parentheses; \*\*\*, \*\*, and \* indicate significance at 1%, 5%, and 10%, respectively.

In the present investigation, it is noteworthy to mention the aforementioned scenario did not occur, as the variables exhibited the high level of significance at the 1% threshold. This observation implies that the variables under consideration did not exhibit any significant multicollinearity concerns.

## 4. Regression Results

Our fixed-effects regression model, which also passed our tests for external validity, showed the strongest link between non-life insurance penetration and macroeconomic variables that were not linked to insurance. The Breusch and Pagan Lagrange Multiplier Test shows that ordinary least squares (OLS) regression analysis are not a good way to explain how non-life insurance demands change. The Hausman and robust Hausman tests show that the estimates from the fixed-effects model are a good. Table 4 is a summary of the tests that were done on the study's external validity.

Table 4. Diagnostics tests.

Name of test	Results	Conclusion
Breusch and Pagan Lagrange multiplier test	$\chi^2 = 660.4$ Prob > $\chi^2 = 0.000$	There is no panel effect (RE) (Reject $H_0$ )
Hausman test	Hausman $\chi^2 = 71.30$ Prob > $\chi^2 = 0.000$	FE is the most efficient estimator (Reject $H_0$ )
Robust Hausman	Sargan-Hansen $\chi^2 = 27.120$ Prob > $\chi^2 = 0.0001$	FE is the most efficient estimator (Reject $H_0$ )

The fixed-effects model output shows that socioeconomic factors played a significant role in non-life insurance demand over the period studied, but when the variables tested were considered, socioeconomic factors only accounted for 17.8% of the variation in penetration rates. Nearly 82% of the variance in penetration rates cannot be accounted for by the factors tested, suggesting that consumers in this region are driven by factors other than those tested.

As shown in the fixed-effects model output, socioeconomic factors played a significant role in non-life insurance demand over the period studied, but when the variables tested were considered, socioeconomic factors only accounted for 17.8% of the variation in penetration rates. Nearly 82 percent of the variance in

penetration rates cannot be accounted for by the factors tested, suggesting that consumers in this region are driven by factors other than those tested.

Table 5. RE and FE model results.

Dependent variable: Non-life insurance penetration						
Coef.	Fixed effects			Random effects		
		t	P>t	Coef.	z	P>z
Constant	1.357(1.064)	1.55	0.147	-1.1270.556)	-1.82	0.059*
Income	-0.944(0.167)	-3.6	0.000***	-0.455(0.1233)	-3.17	0.003***
Inflation	0.0983(0.045)	2.01	0.020**	0.086(0.034)	2.34	0.029**
Trade openness	-0.046(0.059)	-0.74	0.408	0.166(0.051)	2.16	0.075**
Domestic credit	0.123(0.055)	2.77	0.002***	0.212(0.067)	3.95	0.000***
Unemployment	-0.514(0.253)	-2.40	0.017**	0.135(0.168)	0.67	0.384
Urbanisation	0.601(0.407)	-1.44	0.080*	0.178(0.211)	0.88	0.355
Interest rates	1.050(0.271)	3.66	0.000***	0.004 (0.059)	0.07	0.958
F (7,011)/Wald $\chi^2$	7.32			34.24		
Prob > F/ $\chi^2$	0.000			0.000		
R-squared	0.178			0.179		
Countries	32			32		
Observations	564			564		

Note: All variables are transformed into the natural logarithm for the estimation; \*\*\*, \*\* and \* denotes significance at 1%, 5% and 10% respectively.

Table 5 indicates that the income variable had a statistically significant negative coefficient. The results show, with a 1% level of significance, that the demand for non-life insurance products is greater at lower income levels. These data indicate that African customers do not highly value non-life insurance products, as they use their own resources to cover expenses that could be insured against. When the risk of being laid off is high, people are almost twice as likely to consider purchasing unemployment insurance. Consequently, African consumers must be informed about the benefits of insurance before they are convinced to purchase it. This research disproved the hypothesis that increasing urbanization rates would negatively affect demand for non-life insurance. This result is consistent with the data from Africa's life insurance sector collected by Alhassan and Biekpe (2016).

In contrast to the findings of Beenstock et al. (1998), Browne, Chung, and Frees (2000), and Esho et al. (2004), we find that income does have an impact on the demand for non-life insurance (2004). Demand for non-life insurance is also positively correlated with market growth and commercialization, as was previously discussed in the context of life insurance. Inflation, on the other hand, has a substantial positive effect on the demand for non-life insurance. Consumption of luxury goods like cars, houses, and electronics, as well as production, investment, and construction, all benefit from moderate inflation.

Contrary to our hypothesis that higher inflation would reduce demand for financial services to compensate for inevitable losses, the projected coefficient of 0.09 (at the 5% significance level) suggests that higher inflation increases demand for non-life insurance. Insurance is more likely to be considered a purchase by African consumers during recessions because they have less faith in their own resources. Contrary to these results, Outreville (2013) does not link inflation to the need for property liability insurance. Many parts of insurance operations, such as claims, technical provisions, and general expenses, are negatively impacted by inflation, making it a major factor in the insurance industry. The technical results and financial performance of an insurance company suffer when the cost of claims payments and the reserves needed to cover those payments rise due to inflation (Suheyli, 2015). Inflation has been shown to reduce demand for life insurance in a number of empirical studies, including those by Chang and Lee (2012) and Lee and Chang (2015). While Hwang and Gao (2003) and Lee and Chang (2015) find a positive correlation for China, Elango and Jones (2011) find no such relationship in their survey of transition markets.

As domestic credit to the private sector, as a share of GDP, increases, the demand for non-life insurance in a region increases. Numerous government agencies and non-governmental organizations (NGOs) may depend heavily on local treasury departments for risk management, and most private sector companies recognize the pressing need to acquire non-life products. Insurance is an important consideration for borrowers to keep in mind, as lenders may require it prior to granting loans to the private sector. This trend may be explained by the increasing popularity of credit insurance in Africa's retail and banking sectors. Researchers have looked at how rising private domestic credit affects the demand for non-life insurance for the first time.

Eventually, Africa's rising youth population is good news for the rising continent's non-life insurance market. It's possible that the expanding market will call for the development of new kinds of non-life insurance policies. According to the Financial Sector Development report, "having a larger risk pool reduces the risk for insurers and enables them to offer more affordable products" (Chamberlain, Camargo, & Coetze, 2017). If steps are taken to address the market's idiosyncrasies, consumption can be boosted.

Theoretical predictions show a positive and statistically significant correlation between interest rates and

demand for non-life insurance products. The literature has not consistently considered the real interest rate as a potential factor influencing demand for life insurance. In theory, a higher real interest rate should make life insurance policies more profitable for potential buyers; thus, there should be a positive relationship between the interest rate and the demand for life insurance. This finding is supported by Elango and Jones (2011) and Beck and Webb (2003). Li, Moshirian, Nguyen, and Wee (2007) discovered an inverse correlation between these two factors. This result can be attributed to real interest rates reflecting a preference for current consumption over future consumption or to the expectation of higher returns for the same amount of invested capital. Consequently, when real interest rates are high, fewer people consider purchasing life insurance.

The more liberalized trade there is, the less demand there is for non-life insurance. Feyen, Lester, and Rocha (2013) discovered that the volume of external trade appears to have a positive and significant effect on the non-life sector, which is consistent with their findings.

As cities grow, the demand for non-life insurance skyrockets. As urban populations expand, the concentration of risk increases, as does the percentage of income devoted to non-life insurance. For example, Kohara (2001) discovered that city dwellers are less likely to suffer income losses than those living in rural areas. This implies that in developed countries, spending on non-life insurance products, such as optional packages to cover the income loss of an insurance product may decline over time. Insurers can save money on advertising, policy distribution, underwriting, and claims processing when they have a larger customer base (Beck & Webb, 2003). Hwang and Gao (2003) and Rae and Wang (2015) demonstrate a positive correlation. Beck and Webb (2003) study did not reveal any proof to support the hypothesis of a positive correlation. Treerattanapun (2011) found that urbanization had no effect on the non-life sector, whereas Sojung and Jean (2011) determined that there was a positive correlation between urbanization and the demand for non-life insurance.

## 5. Conclusion

The result of this research may prove useful for non-life insurers who are looking to enter new markets or develop existing ones, especially in countries with middle-income economy. This research provides policymakers in different countries with suggestions that may help them craft effective regulations for the expansion of the non-life insurance sector, a key economic growth engine.

Our study has several policy implications. In particular, non-life insurance can thrive in many economies because of government policies that promote urbanization. By fostering an environment that encourages economic freedom (characterized by high levels of individual autonomy and minimal government spending), Sub-Saharan countries can see an increase in demand for non-life insurance. In countries with high per capita incomes (e.g., South Africa) and lower-middle-income countries such as Ghana, Nigeria, and Zimbabwe, measures taken to slow urbanization could be beneficial in two ways: they would reduce the urban population and congestion, and they would also increase the potential for the growth of non-life insurance markets. This study also provides practical economic implications, shedding light on the factors that multinational non-life insurers should consider when aiming to expand their market. Our results indicate that socioeconomic factors such as income, urbanization, and insurance coverage are influential in determining the demand for non-life insurance.

The primary drawback of this study is that only 30 countries were chosen for the panel regression. However, the lack of data in certain countries prevented their inclusion in the analysis. The other main issue with a fixed-effects model is the potential for unobserved heterogeneity due to characteristics that change over time but have not been considered.

Future research can explore cultural influences in the sub-Saharan region and what may drive the demand for non-insurance products. Additionally, the sample countries encompass Middle Eastern and North African nations.

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