Examining The Role of the Insurance Business in Financial Inclusion in Nigeria
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ABSTRACT

This study investigated the role of the insurance business in financial inclusion in Nigeria for the period 2000-2021. The study adopted an ex-post-facto research design using secondary data from the World Bank and Central Bank of Nigeria updated to 2021. The dependent variable was financial inclusion proxied by the ratio of total bank deposits to the total population while the independent variables were insurance penetration rate, insurance density, dependency ratio, and income level. The data were analyzed using Econometric procedures while the model was estimated using the Error Correction Model technique. The findings revealed that insurance penetration, dependency ratio, and income level had negative effects on financial inclusion in Nigeria for the period studied. However, only the insurance penetration rate and income level significantly decreased the financial inclusion drive in Nigeria. The findings further revealed that insurance density increased financial inclusion significantly over the period studied. Insurance penetration, insurance density, dependency ratio, and income level jointly accounted for up to 88.04% of the changes in financial inclusion in Nigeria. The study concluded that with less than 1% insurance penetration, and an increasing dependency ratio coupled with low-income level, increased financial inclusion may not be achieved shortly and recommends that the insurance industry should strive to increase the insurance penetration rate through micro-insurance schemes and encourage insurance policies that are savings inclined to enhance financial inclusion in Nigeria.

Keywords: dependency ratio, financial inclusion, insurance, insurance density, income level, penetration.

I. INTRODUCTION

Suitable monetary services can aid susceptible visuals to ease the effect of uncertainty on objectives, ensure flexibility in spending, better manage the concerns of risks, invest in properties, and develop business outlets. Adequate access to financial services therefore will lead families to rely on informal sectors, with their deficient, untrustworthy, and costly effects. Financial inclusion, therefore, enables families and businesses to exploit financial services (Universal Postal Union, 2009). The relevance of insurance in the financial inclusion hypothesis is such that financial services are expected to reach every corner of society. Financial safety is one of the bedrocks of financial inclusion and this is where insurance comes into play. Access to and understanding of formal financial services by the under-served population can only be made efficient through the offering of micro-insurance schemes. Micro-insurance has to do with insurance policies that are carved to meet the needs of the middle class and the rural poor. Thus, advancing micro-insurance schemes is a sure way of enhancing financial inclusion in Nigeria. Financial inclusion is defined as a process that ensures ease of access, availability, and usage of financial services for all members of society (Eldomiaty et al., 2020). Accordingly, the improvement in financial inclusion facilitates higher saving rates, which are crucial for increasing capital accumulation, reducing poverty, improving economic development, and in return enhancing economic growth (Park & Mercado, 2018). There have been conflicting ideas and perspectives on who benefits from financial inclusion outcomes. Some studies argue that poor people are the ultimate beneficiaries of financial inclusion (Bhandari, 2018), others think that women are the beneficiaries of financial inclusion outcomes (Ghosh & Vinod, 2017; Demirguc-Kunt et al., 2013b; Swamy, 2014) while some think that the economy and the financial system are beneficiaries of financial inclusion (Swamy, 2014; Ozili, 2018 cited in Ozili 2020). A 2018 revised financial inclusion strategy is now in place as intended by the Central Bank of Nigeria. For this revised Strategy, financial inclusion is attained when eligible citizens have a quick entree to a large extent of formal financial services satisfying their requirements at an inexpensive rate (CBN, 2018). The norm of financial inclusion has presumed more level of significance over the years due to its seeming relevance as a facilitator of economic development It is complementary to economic growth as it contributes to poverty mitigation. Insurance products can make substantial positive changes in the lives of susceptible individuals by helping households alleviate shocks and improve the management of overheads arising out of unexpected events like health crises, demises of loved ones, robbery, or likely calamities. Financial inclusion can be regarded as the availing collection of financial services at a just price at the right place, and time without discrimination against participants (Sarma & Pais, 2010).

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Zins & Weil (2016) argued that the main barrier to financial inclusion is the basic lack of money. After using the World Bank’s global index database on 37 African countries to perform Probit estimations; they conclude the fact that the African continent is at a leading position concerning mobile money banking, especially in East Africa where more than 73 percent of Kenyans are mobile money customers. They added that in Sub-Saharan Africa, 36 out of 54 countries have mobile banking services. While in lower-to-middle income countries, around 2.5 billion people have no access to banking services. Moreover, they indicate that saving habits in the African continent are different in comparison to the world. That is, the main drives of savings in Africa are for education (21.3 percent), farm or business (19.6 percent), and old age (10.3 percent). While the main source of credit in Africa is family and friends where borrowing formally accounts for only 6.7 percent. Demirguc-Kunt and Levine (2009) noted that a well-built financial sector nurtures economic growth, and shrinks poverty and disparity while appropriate financial services for the poor can improve their wellbeing. To alleviate this financial inclusion position and in observance of global trends, this study investigated the extent to which the insurance industry has aided in providing suitable entry to financial facilities to the majority of the Nigerian populace. The scope covers the period from 2000 to 2021. The variable scope included the ratio of total bank deposits to the total population for financial inclusion and insurance business penetration, insurance density, dependency ratio, and income level for insurance business.

II. CONCEPTUAL REVIEW
A. Meaning of Financial Inclusion
The term financial inclusion has diverse meanings but similar equivalent material content and therefore will be tending to carry the same relevance. Sarma and Pias (2011) noted that the concept of financial inclusion has the availability of broad diversity of services including insurance, credit, savings, payment, and remittances services. Aduda and Kalunda (2012) that financial inclusion is a way of creating a collection of pecuniary services, at a realistic amount and right location devoid of any form of intolerance to any individual. Hariharan & Bon Publications Mark tanner’s (2012) financial inclusion as a design marked at growing the total societal populace with access to and understanding of formal financial services. Chakrabarty (2015) stated that to ensure accessibility to proper financial goods and services at a reasonable amount in a clear method by conventional institutional actors. The objective of financial inclusion includes advocating for the poor, with inadequate access to the usage of proper financial services in Nigeria. Financial inclusion ensures overcoming the marketplace resistance that interrupts the market from functioning in favor of the underprivileged. It provides instrumental and corresponding alternatives to challenge the low standard of living and stimulate inclusive growth. Financial inclusion aims at bringing the unstable populace into the formal financial system to access financial services alternating from investments, expenditures, and allocations to insurance (Sarma & Pais, 2010).

The G20 Toronto summit declaration in 2010 launched principles for innovative financial inclusion (Eldomiaty et al., 2020). These principles include, among others, developing financial literacy, and creating an institutional environment with clear lines of accountability and coordination within government. Furthermore, the UN General Assembly in 2015 emphasizes considering financial inclusion as a policy objective in financial regulation by national JEL classification –G28 priorities and legislation. The UN positioned financial inclusion as a prominent approach to achieving the 2030 sustainable development goals where financial inclusion is featured as a target in 8 of the 17 goals; for instance, eradicating poverty, promoting economic growth, and, decent jobs, and supporting industry. To enhance financial development, there is a need to enforce the rule of law and curb dowels of corruption. One of the pillars of financial development is financial access; hence, financial inclusion and governance are also interrelated (; Sharma & Tuli, 2012; Sayilir et al., 2018.) In the institutional environment hosting financial entities plays a key role in improving financial inclusion. And countries with great execution of the law, political stability, and respect for creditors’ and debtors’ rights will encourage’ involvement in the financial intermediaries. Better institutional quality increases the trust in the financial system and enhances financial inclusion (Honohan, 2008; Rojas-Suarez, 2010.). Hence, financial inclusion is more of a governance issue and less of a financial issue (Kochhar, 2010).

B. Insurance Business
The Insurance Regulatory and Development Authority of India (2014) defines insurance as a method of risk and fund pooling, transfer, and sharing among a set of organizations that are showing related kinds of risks for the profit of those who experience loss as a result of the risk. Therefore, insurance is specially formed to decrease the financial contact of unexpected events and produce financial safety. It is a risk-management system whereby the insured transfers the price of impending loss to another individual in exchange for a financial reward (premium). The variables for testing insurance business are defined; thus, The World Bank (2020) sees Dependency Ratio as the average number of economically dependent populations per 100 economically productive populations, for a given country, territory, or geographic area, at a specific point in time. Dependency Ratio which is the Age-to-population ratio. It is used to calculate the number of dependents per person. Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64 – to the working-age population – those ages 15-64 and over for a given country. Data are shown as the proportion of dependents per 100 working-age population. An increasing dependency ratio creates the need for insurance because of the financial strain occasioned by having more dependents thus increasing insurance penetration. It is argued that Income Level is a major determinant of insurance penetration as higher income means a higher tendency to buy insurance. In other words, financial inclusion is a function of higher income level which translates to increased demand for insurance. In economies, Income Level means the value or amount that they receive for their labour and product. Gini index measures the extent to which the distribution of income

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(or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. According to World Bank (2020), a Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Insurance Density refers to number of policyholders by geographic area (Country, state etc.) usually expressed as a ratio of premium to population. It is an alternative measure of insurance penetration just as it is one of the major determinants of financial inclusion. Higher insurance density means that majority of the population has one form of insurance policy and this is believed to represent increased insurance penetration and financial inclusion. By end of the year 2021, World Bank (2020) reported that insurance density in Nigeria was measured at $6 which makes the country to be among the least ranked in Africa.

Insurance penetration rate is the amount of insurance premium in a country expressed as a percentage of the Gross Domestic Product (GDP). The insurance penetration rate is expressed as the ratio between insurance premium volume and GDP. The higher the penetration rate, the more developed the insurance market (Alhassan, & Fiador, 2014). In other words, insurance penetration rate measures the growth of insurance premium vis-à-vis the growth in the GDP.

C. Theoretical Framework

1. Financial literacy theory of financial inclusion

The financial literacy theory of financial inclusion states that financial inclusion should be achieved through education that increases the financial literacy of citizens. This theory argues that financial literacy will increase people’s willingness to participate in the formal financial sector. The financial literacy theory can make people aware of financial products and services that are available to them. When they become aware of existing financial products and services that can improve their welfare, they will be willing to participate in the formal financial sector by owning a bank account. Also, through increased financial literacy, people can take advantage of other benefits in the formal financial sector such as investment and mortgage products.

The financial literacy theory of financial inclusion links insurance as a financial institution saddle with the responsibility of pooling funds from the risk owner in exchange for financial compensation at the time of loss. Thus, Financial literacy theory provides a platform for insurance education, awareness, and penetration hence increasing financial inclusion.

Financial literacy theory addresses the ‘willingness’ not ‘capacity’ to participate in the formal financial sector. Financial literacy through education can improve the willingness of people to participate in the formal financial sector but it does not necessarily improve ‘capacity’ to participate in the formal financial sector where capacity is measured as having money which P.K. Ozili Theories of Financial Inclusion can be used to perform one or more transactions.

D. Empirical Review

There is very scanty literature linking insurance to financial inclusion. However, this study tried to extract a few related works on financial inclusion. Of particular interest is the study of Anyanwu, et. al (2018) which evaluated the effect of available microfinance’ products in rural communities through rent savings, child education, and new newborn daily savings accounts on women empowerment. They adopted a descriptive survey design using two hundred (200) questionnaires distributed to respondents, of which one hundred and ninety (190) were fully completed and utilized for the analysis. Haven checked for internal reliability of the responses via the Alpha Cronbach’s test, they proceeded to apply Pearson correlation and regression estimations. From the regression estimation, they were able to identify a positive and significant relationship between women's empowerment and microfinance’ products. They recommended the creation of more women-tailored cutsey microfinance banks as this will avail them the opportunity to choose from different products and services which suit their needs specifically. Consequently, they held that collateral for women to access finance from these microfinance banks should be community/socially based rather than individually based.

Kimutai (2015) assessed factors influencing the financial inclusion of the rural population in Marakwet West Sub County. The objectives of the research were to determine how financial education, infrastructure access, network connectivity, and agent quality influence financial inclusion by KCB agents in Marakwet West Sub County. The study was guided by agency theory. The study was conducted in Marakwet West Sub County KCB Mtaani agent outlets. The study used a survey research design approach. Information from the Kapsowar KCB branch shows that 156 agents had been registered by December 2014. The manager at Kapsowar KCB Branch acted as a key informant for the research. The sample size involved 113 respondents who were selected through a simple random sampling technique. Data was collected through the use of questionnaires and interviews. The validity, piloting, and reliability procedures were undertaken to ascertain whether the instruments are effective. Data collected were analyzed using descriptive and inferential statistics. The results of the research are presented in tables. The study found that the four factors; financial education (r=0.126), infrastructure (r=0.642), network access (r=0.434), and agent quality (r=0.195) were significant (p<0.05) in influencing financial inclusion for rural development in Marakwet West Sub County. The study recommends that financial education should be regularly provided not only to agent operators but also to residents from all corners of the study area, there is a need for KCB to consider adjusting float management levels by some outlets as some said that were underperforming due to ceilings set by the bank. The study findings will be significant to commercial banks (especially KCB) in improving their agency banking services, development partners (World Bank, IMF), and future researchers.
Wakdok (2018) examined the Impact of Financial Inclusion on economic growth in Nigeria for the period between 1990 and 2014. The finance-growth theory was adopted as the theoretical framework. The study formulated three models. The first model used GDP as a function of the money supply to GDP ratio, credit to the private sector as the ratio of GDP, loan to deposit ratio, and liquidity ratio. The second model used financial inclusion (number of bank depositors) as a function of money supply, credit to MSMEs, internet users, and adult literacy rate. The third model used per capita income as the dependent variable while the independent variables were bank density, bank loans to rural areas, and bank deposits from rural areas. The Error Correction Model was used to test the hypotheses. The study concluded that Financial Inclusion had a positive and significant impact on economic growth in Nigeria through financial deepening variables which were influenced by financial inclusion variables such as broad money, credit to the private sector, loan deposit in the rural area, and liquidity ratio of commercial banks. The study recommended for Policymakers and regulators ensure that adequate efforts are put in place to guarantee adherence by the banks to the various rules, regulations, and policies guiding their activities.

Ozili (2020) provided a comprehensive review of the recent evidence on financial inclusion from all the regions of the World. The study identified the emerging themes in the financial inclusion literature as well as some controversy in policy circles regarding financial inclusion. He drew attention to some issues such as optimal financial inclusion, extreme financial inclusion, how financial inclusion can transmit systemic risks to the formal financial sector, and whether financial inclusion and exclusion were pro-cyclical with changes in the economic cycle. Using the discussion technique, the key findings from the study were that financial inclusion is being affected by the level of financial innovation, poverty levels, stability of the financial sector, state of the economy, financial literacy, and regulatory frameworks which differ across countries.

As earlier noted, there have not been ample empirical studies linking insurance and financial inclusion. The above studies acknowledged that there exists a relationship between financial inclusion and the characteristics of the populace. The few studies reviewed above are mostly in other economies of the world with only the works of Anyanwu et al. (2018), and Ozili (2020) having close but distant semblance to our topic of study. Most of these studies are not empirical except for the work of Wakdok (2018) which linked financial inclusion to economic growth. There is little statistical evidence to prove the linkage between insurance and financial inclusion. This is seen as a gap in the literature that this study tries to fill. The current study extends research in this area and tests hypotheses that financial inclusion is influenced by insurance penetration. Insurance as a financial service and a determinant of optimal financial inclusion is measured in terms of insurance penetration rate, insurance density, dependency ratio, and income leave.

III. RESEARCH METHODS

A. Research Design

The research design adopted in this study was the ex-post-facto design. This research design made use of secondary data. The data were subjected to econometric tests of unit root and cointegration tests. These two pre-estimation tests confirmed the adoption of the Error Correction Model (ECM) technique in estimating the model parameters. The data were sourced from the World Bank Database (2020) edition as well as the Central Bank of Nigeria Statistical Bulletin (2020) edition. The model specified is in the form of the traditional Cobb-Douglas production function which sees financial inclusion as a function of insurance business penetration. The model is explicitly shown below.

B. Model Specification

Wakdok (2018) studied the nexus between financial inclusion and economic growth. However, there is a close relationship between this work and our study since we argue here that the insurance business is also a determinant of optimal financial inclusion. We modified the specification of Wakdok (2018) by linking financial inclusion to insurance business using an Econometric approach. Therefore, our model introduces insurance penetration rate and insurance density as the main insurance variables while the deposit to population ratio is used as a proxy for measuring financial inclusion. The functional model is of the form:

\[ Y = f(X) \]  \hspace{1cm} (1)

where Y is the dependent variable and X is the independent variable and f is the functional connotation. We now introduce our variables proper as follows:

\[ FIC = f(\text{Insurance Business}) \]  \hspace{1cm} (2)

\[ FIC = f(IP, ID) \]  \hspace{1cm} (3)

where

FIC = Financial inclusion (bank deposit to total population ratio);

IP = Insurance penetration (ratio of gross premium written to GDP);

ID = Insurance density (ratio of total insurance premium to population).

However, we shall introduce intervening variables. These intervening variables are variables that can disrupt the outcome of the insurance financial inclusion nexus. These variables include dependency ratio and income level. It has been argued earlier that the dependency ratio can either increase or decrease the tendency of a household to purchase insurance likewise income level. These two variables have very close proximity to financial inclusion as they also double as a key determinant of financial inclusion in any economy. Thus, adding them to the model we now obtain:

\[ FIC = f(IP, ID, DR, IL) \]  \hspace{1cm} (4)

where

DR = Dependency ratio (ratio of dependents to the working-age population);
IL = Income level (level of income inequality in the economy).

The general model follows the econometric linear form thus:

$$FIC_t = \beta_0 + \beta_1IP_t + \beta_2ID_t + \beta_3DR_t + \beta_4IL_t + \epsilon_t$$  \hspace{1cm} (5)

where $\beta$s are the constant or intercept of the model, $\beta_1, \beta_2, \beta_3$ and $\beta_4$ are the unknown coefficients of the variables IP, ID, DR, and IL to be estimated above and $\epsilon$ is the error term. The a-priori expectation of the model is such that the insurance business variables are expected to have a positive effect on financial inclusion i.e. $\beta_1>0, \beta_2>0, \beta_3>0, and \beta_4>0$.

### IV. RESULT AND DISCUSSION

#### A. Results

The data are time-series data sourced from the World Bank and Central Bank of Nigeria Statistical Bulletin (2020) editions. The time-series data are subjected to a stationarity test using the Augmented Dickey-Fuller Unit root test as shown below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF stat at Level</th>
<th>ADF stat at 1st difference</th>
<th>5% Crit. Value</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIC</td>
<td>-1.4534</td>
<td>-3.5528*</td>
<td>-3.0207</td>
<td>I(1)</td>
</tr>
<tr>
<td>IP</td>
<td>-1.3395</td>
<td>-3.3274*</td>
<td>-3.0207</td>
<td>I(1)</td>
</tr>
<tr>
<td>ID</td>
<td>-1.8644</td>
<td>-4.3846*</td>
<td>-3.0207</td>
<td>I(1)</td>
</tr>
<tr>
<td>DR</td>
<td>-1.3283</td>
<td>-4.9278*</td>
<td>-3.0207</td>
<td>I(1)</td>
</tr>
<tr>
<td>IL</td>
<td>-1.1314</td>
<td>-3.8339*</td>
<td>-3.0207</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Source: Author’s computation from E-views 10 output.

Table I above shows that financial inclusion (FIC), insurance penetration (IP), insurance density (ID), the dependency ratio (DR), and income level (IL) were integrated of order one i.e. at the first difference (I ~ (1)). Therefore, we conclude that these variables are stationary at first difference. The decision is based on the ADF first difference test statistics that are greater than the ADF critical values at 5%. Since the variables are integrated into order one, we test for the existence of a long-run relationship using the Johansen cointegration test as summarized below.

Table II above shows a summary of the Johansen test for the long-run relationship amongst the variables. The table reveals that there are three cointegrating equations in the Trace test while the Max-Eigen test reveals that there are two cointegrating equations. Since there exists at least more than one cointegrating equation, the decision is to conclude that there is co-integration in the model. The implication of this is that there is a long-run relationship between the insurance business and financial inclusion in Nigeria. In other words, the emergence of sustainable insurance business through increased insurance penetration, insurance density, etc. can trigger a long-run increase in financial inclusion in Nigeria.

Since we have established the presence of a long-run relationship amongst the variables, we now ascertain the short run relationship.

### B. Discussion

The coefficient of the error correction term is statistically significant since it is rightly signed with the expected negative sign at a 5% level of significance. This result indicates that there is a short-run convergence of insurance business and financial inclusion in Nigeria. In other words, the speed of adjustment of the model to long-run equilibrium is estimated at 42.7% annually. This implies that holding insurance penetration and insurance density at a steady increasing state of 42.7% annually, there will be long-run equilibrium growth in financial inclusion as the under-served population would be reached through insurance penetration. In adherence to this result, Anyanwu et al. (2018) found a positive and long-run significant relationship between women's empowerment and microfinance’ products. Thus the argument here is that women constitute a greater percentage of the under-served population and that empowering women will result in to increase in financial inclusion, in the long run.

Furthermore, short-run coefficients are shown in Table III above that the joint impact of all exogenous variables (insurance penetration, density, dependency ratio, and income level) on the endogenous variable (financial inclusion) will amount to 23,349 units; this is on the basis that they are all held constant. In other words, if insurance penetration variables are held constant at zero, financial inclusion will increase by 23,349 units.

Source: Author’s Computation from E-views 10 output.

| Table II: Johansen Test for Co-integration
<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.940193</td>
<td>119.9313</td>
<td>69.81889</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.808722</td>
<td>63.60247</td>
<td>47.85613</td>
<td>0.0009</td>
</tr>
<tr>
<td>At most 2 *</td>
<td>0.578806</td>
<td>30.72999</td>
<td>29.79707</td>
<td>0.0389</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.489106</td>
<td>13.43676</td>
<td>15.49471</td>
<td>0.0997</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.090246</td>
<td>0.004918</td>
<td>3.841466</td>
<td>0.9431</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table III: Short-Run Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
</tr>
<tr>
<td>IP</td>
</tr>
<tr>
<td>ID</td>
</tr>
<tr>
<td>DR</td>
</tr>
<tr>
<td>IL</td>
</tr>
<tr>
<td>ECM(1)</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>ProbF-(statistic)</td>
</tr>
</tbody>
</table>

Source: Author’s Computation from E-views 10 output

By 1.316 units. The probability value of 0.0001 ($p<0.05$) shows that the negative effect of insurance penetration was significantly felt in the financial inclusion drive of the
government. This implies that Nigeria has not attained the expected level of insurance penetration and this has resulted in declining financial inclusion in the country. This result supports the opinion that insurance products are still incipient. Given the weighty dependence of all economic events on risk removal, insurance services perform a key role (UNCTD, 2009).

Similarly, the dependency ratio and income level in Nigeria both decreased financial inclusion by 2.028 and 7.192 units, respectively. The probability values of 0.1522 (p > 0.05) and 0.0001 (p < 0.05) show only income level significantly decreased financial inclusion. The decreasing effects of dependency ratio and income level on financial inclusion in Nigeria is a fundamental problem. The implication is that there is a high rate of dependency ratio where the working population is very few and the dependent population (young and the aged) is on the increase. The resultant low and insufficient income level affects the capacity of households and individuals to purchase any form of insurance or financial service. This is consistent with what the Bank of India (2013) and World Bank (2014) asserted that financial inclusion presents weaker clusters and lower-income groups or “financially excluded and underserved citizens” an opportunity to access several available and suitable financial services at an inexpensive amount in clear and impartial conduct and without any discrepancy. However, when the financially excluded population (dependency) is on the increase, it limits the propensity to insure thereby limiting the financial inclusion goal. Consequently, every income is channeled to consumption which at the end of the day might not be enough for consumption. This situation poses a serious clog in the wheel of the financial inclusion drive in Nigeria. In consonance with Ozili (2020), this study confirms that financial inclusion is being affected by the level of financial innovation, poverty levels, stability of the financial sector, state of the economy, financial literacy, and regulatory frameworks which differ across countries.

However, insurance density is the only variable that had a positive and significant coefficient increasing financial inclusion by 5.611 units (p = 0.0000 < 0.05). This implies that insurance density in Nigeria has encouraged financial inclusion even though Nigeria records a paltry insurance density of less than $10 which is a far cry when compared to other developing countries in Africa ($643 for South Africa, $57 for Morocco, $416 for Namibia, $18 for Kenya). Thus, there appears to be a glimmer of hope in insurance density. Since the potential of increasing financial inclusion is in Nigeria which has the potential of increasing financial inclusion shortly. The work of Kimuati (2015) acknowledged and agreed that there exists a relationship amongst financial inclusion and the characteristics of the populace. The current study extends research in this area and tests hypotheses that financial inclusion is influenced by insurance density.

The diagnostic test tested the robustness and suitability of the data used in the model. The coefficient of determination as shown in Table IV above was 0.8804. This shows that the explanatory variables could explain up to 88.04% of the total variations in the model. In other words, insurance penetration, insurance density, dependency ratio, and income level accounted for up to 88.04% of the total changes in financial inclusion in Nigeria. This is a very modest coefficient of determination. There is no autocorrelation in the model as seen in the Durbin Watson value and the Breusch Godfrey serial correlation tests.

![Fig. 1. Plot of the Actual and Fitted Regression Line. Source. Plotted using Eviews 10 software.](image)

Fig. 1 above shows a graphical representation of the actual and the fitted regression lines. There is a proximity between the actual regression line and the fitted regression line. This implies that our estimate is close to what is obtainable in a real-life situation and not just a mere guess. Thus, the model can be used to forecast future developments in financial inclusion in Nigeria as regards insurance penetration.

V. CONCLUSION, LIMITATION, AND SUGGESTION

A. Conclusion

Access to formal financial services is widely acknowledged as means of credit creation and enhances capital accumulation raising the level of investment and eventually economic development and growth (Okoye et al., 2017).

1. The findings show that the insurance business in Nigeria is yet to have the desired effect on the financial inclusion drive of the government.
2. The reasons are not far-fetched. Insurance penetration, dependency, and income level in Nigeria revealed a significantly decreasing effect on financial inclusion.
3. Insurance services are yet to be embraced by a large population of citizens and this is one major hindrance to the spread of financial inclusion.
4. Financial literacy can also help people become self-sufficient and can help them have some stability in their personal finance by helping them distinguish between needs and wants, helping them to create and manage a budget, and teaching them to save so that they can pay bills when due, and to plan for retirement.
5. Governments that have limited public funds or limited tax revenue to fund financial inclusion activities may prefer to use financial literacy as a national financial inclusion strategy since it does not require any public funds to educate the population on the use of financial services.

6. Consequently, the study concludes that the insurance business in Nigeria is yet to have the desired effect on the financial inclusion drive of the government.

B. Limitation

This study still has limits, namely, this study only takes the variables of income level, dependency ratio, penetration, and density for measuring insurance business as independent variables. In addition, the financial inclusion variable is only measured using the ratio of total bank deposits to the total population for financial inclusion. There are still various kinds of measurements for the two variables.

C. Suggestions

In line with the conclusion, we recommend as follows:

1. The Nigerian insurance industry should strive to increase the insurance penetration rate by way of leveraging the huge micro insurance schemes. The issue of financial inclusion cannot be complete without an aggressive pursuit of the micro-insurance scheme which targets insurance services at the grass-root level.

2. Efforts should be made by the government to narrow the income gap between the rich and the poor Nigerians. Income level greatly affects financial inclusion in our model scenario as low income makes people shy away from financial services. Insurance services should be tax-exempt while insurance savings should be encouraged.

3. Insurance companies should as a matter of urgency encourage insurance savings schemes that will reduce the dependency rate and ease the financial strain on the working population. By so doing, financial inclusion is enhanced.

4. In furtherance of the insurance penetration drive, insurance services should be made easy to purchase, and claims payment also made easy. Insurance companies should device easy insurance products on everyday products to increase interest and enhance the acceptability of insurance services.

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CONFLICT OF INTEREST

The author declares no conflict of interest.


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