Evaluation of the effect of total marine insurance premium on real gross domestic product in Nigeria

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ABSTRACT

The effect of total marine insurance premium on real gross domestic product in Nigeria was evaluated. Secondary data was used in the study. Data were taken from Central Bank of Nigeria Statistical Bulletin and National Insurance Commission data publication of various years. The results show that probability of marine insurance premium is 0.5299 and is greater than 0.05 the level of significance. Thus, we accept the null hypothesis and conclude that total marine insurance premium had no significant effect on real gross domestic product in Nigeria. In conclusion, total marine insurance premium had no significant effect on real gross domestic product in Nigeria. This was based on p-value at 0.1531 being greater than 0.05.

Keywords: Marine, insurance, premium, gross domestic product and Nigeria.

INTRODUCTION

Economic growth is attained by an efficient use of the available resources and by increasing the capacity of production of a country [1,2,3]. It facilitates the redistribution of incomes between population and society [4,5,6]. It is easier to redistribute the income in a dynamic, growing society, than in a static one [7,8,9,10]. Economic growth has a ripple effect [11,12]. By expanding the economy, businesses start to see a surge in profits, which means stock prices also see growth [13,14]. Companies can then raise more money in order to invest more, therefore adding more jobs to the labor force [15,16,17]. That leads to an increase in incomes, inspiring consumers to open up their wallets and buy more. Economic growth is an increase in the production of goods and services over a specific period [18,19]. To be most accurate, the measurement must remove the effects of inflation. Economic growth creates more profit for businesses. As a result, stock prices rise. That gives company’s capital to invest and hire more employees. As more jobs are created, incomes rise and consumers have more money to buy additional products and services [20]. Purchases also drive higher economic growth.

For this reason, all countries want positive economic growth. This makes economic growth the most watched economic indicator.

Objective of the Study

The broad objective of the study is to evaluate the effect of total marine insurance premium on real gross domestic product in Nigeria.

Research Question

The following research question was formulated to guide the study:
1. What was the effect of total marine insurance premium on real gross domestic product in Nigeria?

**Research Hypothesis**

The following null hypothesis was formulated for this study:

\[ H_0 : \text{Total marine insurance premium had no significant effect on real gross domestic product in Nigeria.} \]

**REVIEW OF RELATED LITERATURE**

**Conceptual Review**

**Insurance**

From an individual point of view, insurance is an economic device whereby the individual substitutes a small certain cost (the premium) for a large uncertain financial loss (the contingency insured against) that would exist if it were not for the insurance [5]. Insurance is often defined as the act of pooling funds from many insured entities (known as exposures) in order to pay for relatively uncommon but severely devastating losses which can occur to these entities. The insured entities are therefore protected from risk for a fee, with the fee being dependent upon the frequency and severity of the event occurring [7]. Thus, it is a commercial enterprise and a major part of the financial services industry. Insurance is a form of risk management in which the insured transfers the cost of potential loss to another entity in exchange for monetary compensation known as the premium. Insurance in economic terms refers to the pooling mechanism for reducing the down-side of risk through resource reallocation from good to stormy states of the world [9]. [12], defines it as “a contract between the person who buys insurance and an insurance company who sold the policy”. He opines that “by entering into the contract, the insurance company agrees to pay the policy holder or his family members a predetermined sum of money in case of any unfortunate event for a predetermined fixed sum payable which is in normal term called insurance premiums”. An insurance policy cannot prevent the occurrence of any loss, damage, injury or accident, but it can offer you a source of financial relief. The purpose of insurance is to restore you to the same financial situation as before you sustained the loss. [13], saw insurance as a contract between two parties where one party called the insurer undertakes to pay the other party called the insured a fixed amount of money on the occurrence of a certain event. Insurance is a financial tool specially created to reduce the financial impact of unforeseen events and to create financial security [8]. Indeed, everyone who wants to protect himself against financial hardship should consider insurance. [14], defined insurance as a social scheme which provides financial compensation for the effects of a misfortune. The financial compensation is provided from the pool of accumulated contributions of all members participating in the scheme.

**Conditions for Insurability**

In theory, risk exposures should meet several conditions to be insurable in a private market. In reality, few risks meet these conditions exactly, but the
further they diverge the less insurable they become. The four conditions for insurability are:

- Many independent and identically distributed exposure units;
- The premium should be economically feasible;
- Losses should be unintentional and accidental; and
- Losses should be easily determinable.

Independence means that there is no correlation between an event causing a loss to one exposure and an event causing a loss to another [8]. Identically distributed means each exposure faces the same probability distribution of potential losses. The law of large numbers works most effectively in the pooling and diversification of risk exposures when they are independent and identically distributed. This condition is violated when a significant number of exposures could suffer losses because of one or a series of related events, such as a hurricane or a deadly epidemic. Insurers can use devices such as reinsurance or catastrophe bonds to cope with this problem, but there are practical limits to how much risk can be diversified through these instruments.

Contributions of Insurance to Economic Growth

The appearance of insurance companies adds an additional competitor to the financial market, which enables the customer to diversify his portfolio or substitute different investments [15]. Since the indemnification of possible losses is assured by the insurance, the dependence on precautionary savings held by companies or households is reduced. The size of the substitution depends on how the premiums are financed. Insurance premiums may result from an additional flow from income to the financial market (no substitution) or may be a simple shift from one intermediary’s assets (i.e. by bank account withdrawal) to insurance income/assets. So offering insurance services can result in an increased consumption of the households and/or may increase market competition and hence market efficiency. The indemnification and risk pooling properties of insurance facilitate commercial transactions and the provision of credit by mitigating losses as well as the measurement and management of non diversifiable risk more generally. Typically insurance contracts involve small periodic payments in return for protection against uncertain, but potentially severe losses. Among other things, this income smoothing effect helps to avoid excessive and costly bankruptcies and facilitates lending to businesses. Most fundamentally, the availability of insurance enables risk averse individuals and entrepreneurs to undertake higher risk, higher return activities than they would do in the absence of insurance, promoting higher productivity and growth [17].

Theoretical Framework

The theoretical framework for the study is the Endogenous “AK” Growth Theory. The theory was propounded by [11]. The endogenous growth theory is the concept that economic growth is due to factors that are internal to the economy and not because of external ones. The theory is built on the idea that improvements in innovation, knowledge, and human capital lead to increased productivity, positively affecting economic outlook [13]. The endogenous growth theory was first created due to deficiencies and dissatisfaction with the idea that exogenous factors determined long-
term economic growth. In particular, the theory was established to refute the neoclassical exogenous growth models, as it made predictions about economic growth without factoring in technological change. The theory challenges such an idea by placing importance on the role of technological advancements. Since long term economic growth is derived from the growth rate of economic output per person, it would depend on productivity levels. In turn, productivity would depend on the progress of technological change, which relies on innovation and human capital; these factors are considered internal to an economy, not external.

METHODOLOGY

Research design

The research used ex-post facto research design. Ex post facto study or after-the-fact research is a category of research design in which the investigation starts after the fact has occurred without interference from the researcher [6]. This design is deemed appropriate considering that this study does not require the researchers’ direct control over the independent variables because they have already led to effects which can no more be manipulated. The conclusions regarding the relationship between the variables need to be inferred without intervening or varying the independent or dependent variable [10].

Area of Study

Nigeria is the area of the study. A country colonized by the UK and gained its independence in 1960. The country is divided into thirty six states and a federal capital territory.

Sources of Data

Secondary data was used in the study. Data were taken from Central Bank of Nigeria Statistical Bulletin and National Insurance Commission data publication of various years.

Population of the Study

A population is the entire set of either person’s, objects, events, organizations, countries or otherwise that you want to draw conclusions about [7]. There was no population drawn for the study as individual elements were not required in the study.

Determination of Sample Size

Since individual elements were not required in the study a sample size was not derived for the study. Rather, the aggregate data were employed for the study.

Model specification

The model used in this study was based on [8], whose model is specified as:

\[ Y = a_0 + X_1 b_1 + u \ldots (i) \]

Where

- \( a_0 \) = Constant
- \( X_1 \) = Non-life insurance penetration
- \( u \) = error term

In application to this study a modification was made to the model. The modification adopted was stated below:

Hypothesis one model:

The functional relation of the model is given as:

\[ GDP = f (TMIP) \ldots(ii) \]

The model was specified as follows:

\[ IP = \beta_0 + \beta_1 TMIP + \mu \ldots(iii) \]

Where:

\[ GDP = \text{Gross Domestic Product} \]
The model was specified as follows:
\[ GDP = \beta_0 + \beta_1 \text{TMIC} + \mu \ldots (v) \]
Where:
- \( \beta_0 \) = Constant parameters
- \( \beta_1 \) = Coefficient parameter of TMIC
- \( \mu \) = Error term

Hypothesis two model:
The functional relation of the model is given as:
\[ GDP = f(\text{TMIC}) \ldots (iv) \]

Description of variables

Independent variables
- Marine insurance premium: This refers to the total value of all payments generated under the marine class of insurance by the entire Nigerian insurance business in a given business year.
- Marine insurance claims: This refers to the total value of all settlements made as the marine class of insurance by the entire Nigerian insurance business in a given business year.
- Marine insurance penetration: This refers to the ratio of insurance policies bought to gross domestic product in Nigeria.
- Marine insurance density: This refers to the ratio of insurance policies bought to population of Nigerians.

Dependent variable
- Real GDP: Real gross domestic product (GDP) is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in base-year prices [7]. Without real GDP, it could seem like a country is producing more when it's only that prices have gone up.

Method of Data analysis

Stationarity test was run to avoid having a spurious regression. This was done to determine what is the most appropriate technique for estimating the models in the study. The results of the tests show that at levels, four variables: premium, claims, penetration and density were stationary. On the other hand the variable real gross domestic product was stationary at first difference. The results show that the order of integration was not the same. There was a mixed order of integration after the stationarity test. Therefore, the variables were estimated estimated using Autoregressive Distributive Lag model. Data analysis was at five percent level of significance. The decision rule was that where p-value of the independent variable is higher than the level of significance the null hypothesis will be upheld. On the other hand, where the p-value of the independent variable is lower than the level of significance the null hypothesis will be rejected and its alternative accepted.

A priori Expectations

An a priori expectation refers to an assumption that based on certain basic principles the outcome of a model equation will go in a given direction and magnitude.
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Expected relationship with the Dependent variable</th>
<th>Reason for expected relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine insurance premium</td>
<td>Positive (+)</td>
<td>The present economic performance of the country is not favourable and has made people more risk averse. Therefore more persons involved in international business are expected to take up new or renew old insurance marine insurance policies. The growing premium pool will provide more liquidity to the insurance industry for investment which enhances economic growth (Torbira and Ogbulu, 2014).</td>
</tr>
<tr>
<td>Marine insurance claims</td>
<td>Positive (+)</td>
<td>Indemnifying the ones who suffer a loss stabilizes their financial position of individuals and firms with possibility of allowing them to concentrate their attention and resources on their core business which can lead to willingness and ability to take real investment which will help to generate higher level of economic growth (Oke, 2012).</td>
</tr>
<tr>
<td>Marine insurance penetration</td>
<td>Positive (+)</td>
<td>The net result of well functioning insurance markets should be better pricing of risk, greater efficiency in the overall allocation of capital and mix of economic activities, and higher productivity (Brainard, 2008).</td>
</tr>
</tbody>
</table>
| Marine insurance density    | Negative (+)                                      | High population does not translate easily to high demand. With a larger
Source: Author’s compilation, 2021

PRESENTATION AND ANALYSIS OF DATA

Data Presentation

Below is the time series data on marine insurance premium, marine insurance claims, marine insurance penetration, marine insurance density and real gross domestic product.

Table 2: Data on Explanatory and Dependent Variables

<table>
<thead>
<tr>
<th>Year</th>
<th>Premium (Millions)</th>
<th>Claims (Millions)</th>
<th>Penetration (%)</th>
<th>Density (Thousand)</th>
<th>RGDP (Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>12,220,000</td>
<td>100,000</td>
<td>8.17178E-05</td>
<td>14.62373</td>
<td>14,953,910,000,000</td>
</tr>
<tr>
<td>1986</td>
<td>34,740,000</td>
<td>11,400,000</td>
<td>0.000227983</td>
<td>40.50537</td>
<td>15,237,990,000,000</td>
</tr>
<tr>
<td>1987</td>
<td>95,090,000</td>
<td>3,260,000</td>
<td>0.000622972</td>
<td>107.9979</td>
<td>15,263,930,000,000</td>
</tr>
<tr>
<td>1988</td>
<td>103,520,000</td>
<td>30,150,000</td>
<td>0.000638407</td>
<td>114.5193</td>
<td>16,215,370,000,000</td>
</tr>
<tr>
<td>1989</td>
<td>149,500,000</td>
<td>110,050,000</td>
<td>0.000864428</td>
<td>161.1199</td>
<td>17,294,680,000,000</td>
</tr>
<tr>
<td>1990</td>
<td>188,580,000</td>
<td>37,340,000</td>
<td>0.000976813</td>
<td>198.0623</td>
<td>19,305,630,000,000</td>
</tr>
<tr>
<td>1991</td>
<td>213,210,000</td>
<td>58,030,000</td>
<td>0.001110523</td>
<td>218.3016</td>
<td>19,199,060,000,000</td>
</tr>
<tr>
<td>1992</td>
<td>363,480,000</td>
<td>81,210,000</td>
<td>0.001852581</td>
<td>362.8932</td>
<td>19,620,190,000,000</td>
</tr>
<tr>
<td>1993</td>
<td>566,600,000</td>
<td>119,480,000</td>
<td>0.002843237</td>
<td>551.6999</td>
<td>19,927,990,000,000</td>
</tr>
<tr>
<td>1994</td>
<td>10,703,490,000</td>
<td>132,370,000</td>
<td>0.053573381</td>
<td>10165.37</td>
<td>19,979,120,000,000</td>
</tr>
<tr>
<td>1995</td>
<td>9,083,420,000</td>
<td>184,390,000</td>
<td>0.044628953</td>
<td>8626.746</td>
<td>20,353,200,000,000</td>
</tr>
<tr>
<td>1996</td>
<td>2,771,950,000</td>
<td>191,780,000</td>
<td>0.013088868</td>
<td>2504.726</td>
<td>21,177,920,000,000</td>
</tr>
<tr>
<td>1997</td>
<td>1,786,400,000</td>
<td>106,090,000</td>
<td>0.008198595</td>
<td>1574.508</td>
<td>21,789,100,000,000</td>
</tr>
<tr>
<td>1998</td>
<td>1,624,010,000</td>
<td>129,480,000</td>
<td>0.007271837</td>
<td>1396.16</td>
<td>22,332,870,000,000</td>
</tr>
<tr>
<td>1999</td>
<td>2,349,660,000</td>
<td>1,068,930,000</td>
<td>0.010466467</td>
<td>1970.199</td>
<td>22,449,410,000,000</td>
</tr>
<tr>
<td>2000</td>
<td>3,103,370,000</td>
<td>440,830,000</td>
<td>0.01310086</td>
<td>2537.841</td>
<td>23,688,280,000,000</td>
</tr>
</tbody>
</table>
In 1985 premium generated by the marine insurance industry through marine insurance business was N12,220,000 which at the beginning of the next decade had grown to N188,580,000. In 1985 was N100,000 and N37,340,000.
five years later. It grew to N440,830,000 in 2000, N2,965,170,000 in 2010 and N11,370,400,000 in 2020. Insurance penetration was at 0.000081718 percent in 1985. By 1990 it had grown to 0.000976813 percent. In the year 2000 further growth was recorded up to 0.013100867 percent. 2010 had 0.038937447 percent while it was 0.03411497 in 2020. Insurance density was N14.62 in 1985 and N198.0623 in 1990. By 2000 it rose to N2537.841, dropped to N13415.89 in 2010 and was at N12374.13 in 2020. Real gross domestic product from N14,953,910,000,000 in 1985 increased to N19,305,630,000,000 in 1990, N23,688,280,000,000 in 2000. From N54,612,260,000,000 in 2010 it increased to N70,593,885,000,000.

### Descriptive Statistics

The descriptive statistics of the time series data was estimated and the outcome presented in Table 3.

<table>
<thead>
<tr>
<th></th>
<th>CLAI</th>
<th>DENS</th>
<th>DRGDP</th>
<th>LAGPENE</th>
<th>PREM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>8.909581</td>
<td>3.496523</td>
<td>-0.000383</td>
<td>-1.975516</td>
<td>9.623017</td>
</tr>
<tr>
<td>Median</td>
<td>9.098065</td>
<td>3.817949</td>
<td>0.001636</td>
<td>-1.678475</td>
<td>9.969377</td>
</tr>
<tr>
<td>Maximum</td>
<td>10.12398</td>
<td>4.141649</td>
<td>0.031172</td>
<td>-1.271051</td>
<td>10.42279</td>
</tr>
<tr>
<td>Minimum</td>
<td>6.513218</td>
<td>2.033415</td>
<td>-0.050175</td>
<td>-3.642098</td>
<td>7.978135</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.909091</td>
<td>0.672919</td>
<td>0.014939</td>
<td>0.650455</td>
<td>0.766372</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.601859</td>
<td>-1.057587</td>
<td>-0.726793</td>
<td>-1.143252</td>
<td>-0.984565</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.565450</td>
<td>2.724185</td>
<td>5.311526</td>
<td>3.000421</td>
<td>2.618091</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>2.320176</td>
<td>6.445887</td>
<td>10.56275</td>
<td>7.406475</td>
<td>5.699710</td>
</tr>
<tr>
<td>Probability</td>
<td>0.313459</td>
<td>0.039838</td>
<td>0.005085</td>
<td>0.024644</td>
<td>0.057853</td>
</tr>
<tr>
<td>Sum</td>
<td>302.9258</td>
<td>118.8818</td>
<td>-0.013030</td>
<td>-67.16754</td>
<td>327.1826</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>27.27276</td>
<td>14.94307</td>
<td>0.007364</td>
<td>13.962051</td>
<td>19.38176</td>
</tr>
</tbody>
</table>

Source: Author's Eviews 10 output, 2021

Where
- CLAI = Marine insurance claims settlement
- DENS = Insurance density
- DRGDP = Real gross domestic product
- LAGPENE = Insurance penetration
- PREM = Marine insurance premium

The mean of CLAI, DENS, DRGDP, LAGPENE and PREM were 8.909581, 3.496523, -0.000383, -1.975516 and 9.623017 respectively. The standard deviations were 0.909091, 0.672919, 0.014939, 0.672919 and 0.766372. For CLAI, DENS and PREM their standard deviations were lower than their respective mean. This shows that the variability of each variable was low. For DRGDP and LAGPENE their standard deviations were higher than their respective mean. This shows that the variability of each variable is high. The skewness estimate for each variable shows they are negatively
skewed. This suggests that a relatively larger probability distribution of the variables means have fatter tails to the left of the distribution.

Diagonistic test

Stationarity test

It is necessary to determine the stationarity of the data used in the study. This is to prevent the result of the analysis from being biased. In order to guard against a biased result a stationarity test was conducted. This was done using the Phillips Perron method of unit root test.

Table 4 Result of Stationarity test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Phillips-Perron test statistic</th>
<th>Test critical value @ 5%</th>
<th>Order of Integration</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAIMS</td>
<td>-3.969255</td>
<td>-2.948404</td>
<td>1(0)</td>
<td>0.0042</td>
</tr>
<tr>
<td>DENSITY</td>
<td>-4.652762</td>
<td>-2.948404</td>
<td>1(0)</td>
<td>0.0007</td>
</tr>
<tr>
<td>PENETRATION</td>
<td>-5.117710</td>
<td>-2.948404</td>
<td>1(0)</td>
<td>0.0002</td>
</tr>
<tr>
<td>PREMIUM</td>
<td>-4.586200</td>
<td>-2.948404</td>
<td>1(0)</td>
<td>0.0008</td>
</tr>
<tr>
<td>RGDP</td>
<td>-9.062557</td>
<td>-2.954021</td>
<td>1(1)</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Author's Eview 10 output, 2021

Table 4. reveals that all the time series were stationary at levels except RGDP. This is evidenced by its Phillips-Perron test statistic at levels being less than or more negative their respective Critical values @ 5%. This is corroborated by their respective p-values being lower than 0.05 (the level of significance) which shows statistical significance. On the other hand, RGDP became stationary at first difference. It was at first difference that its Phillips-Perron test statistic became less than its Critical value @ 5%.

Heteroskedasticity Test

A basic regression analysis assumption is that the variance of the time series is the same for all observations. Through a heteroskedasticity test this assumption is determined.

Table 5: Heteroskedasticity Test: Breusch-Pagan-Godfrey

| F-statistic | 2.431438 | Prob. F(4,26) | 0.0729 |
| Obs*R-squared | 8.439243 | Prob. Chi-Square(4) | 0.0768 |
| Scaled explained SS | 10.16147 | Prob. Chi-Square(4) | 0.0378 |

Source: Author's Eviews 10 output, 2021

Where the p-value is less than F-statistic, Obs*R-squared and Scaled explained SS it is taken that there is Heteroskedasticity. On the other hand, Where the p-value is greater than F-statistic, Obs*R-squared and Scaled explained SS it is concluded that there is not Heteroskedasticity. Table 5 shows that F-statistics, Obs*R-squared, and Chi-Square) have a probability value of 0.0729, 0.0768, and 0.0378 which are all greater than 0.0.05. This indicates that in the test of hypothesis one regression results, there is no heteroskedacity.
Serial Correlation Test

To check if the error terms in the data used in this study transfer or not from one year into another year, a serial correlation test was carried out. This test was conducted using Breusch-Godfrey method.

Serial Correlation Test for Hypothesis 1

Table 6 Breusch-Godfrey Serial Correlation LM Test:

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>0.244468</td>
<td>0.7850</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>0.618932</td>
<td>0.7338</td>
</tr>
</tbody>
</table>

Source: Author's Eviews 10 Output, 2021

The probability value of F-statistic and Obs*R-squared is 0.7850 and 0.7338 respectively. Both are greater than 0.05 (the level of significance). Therefore, we conclude that there is no presence of serial correlation or autocorrelation in the regression analysis of hypothesis one.

Data Analysis

The test of hypotheses was carried out through four steps. These were;

Step One: Statement of the hypothesis in both null and alternate forms

Step Two: Statement of the decision criteria

Step Three: Presentation of the result for the hypothesis testing.

Step Four: Decision.

Test of Hypothesis One

Step One: Statement of the hypothesis in both null and alternate forms

H₀ : Total marine insurance premium had no significant effect on real gross domestic product in Nigeria.

H₁ : Total marine insurance premium had significant effect on real gross domestic product in Nigeria.

Step Two: Statement of the decision criteria

Accept the null hypothesis if p-value is greater than 5% or 0.05, otherwise reject the null hypothesis and accept the alternate accordingly.
Step Three: Presentation of the result for the hypothesis test
Table 7 Regression Result for Test of Hypothesis One
Dependent Variable: DRGDP
Method: ARDL
Date: 07/09/21   Time: 13:13
Sample (adjusted): 6 36
Included observations: 31 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic):
Fixed regressors: PREM C
Number of models evaluated: 4
Selected Model: ARDL(3)
Note: final equation sample is larger than selection sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRGDP(-1)</td>
<td>-0.315086</td>
<td>0.181785</td>
<td>-1.733285</td>
<td>0.0949</td>
</tr>
<tr>
<td>DRGDP(-2)</td>
<td>-0.106874</td>
<td>0.184483</td>
<td>-0.579318</td>
<td>0.5674</td>
</tr>
<tr>
<td>DRGDP(-3)</td>
<td>-0.391631</td>
<td>0.182204</td>
<td>-2.149414</td>
<td>0.0411</td>
</tr>
<tr>
<td>PREM</td>
<td>-0.002773</td>
<td>0.004355</td>
<td>-0.636674</td>
<td>0.5299</td>
</tr>
<tr>
<td>C</td>
<td>0.025841</td>
<td>0.042638</td>
<td>0.606051</td>
<td>0.5497</td>
</tr>
</tbody>
</table>

R-squared                      0.245580  Mean dependent var  0.001059
Adjusted R-squared             0.129515  S.D. dependent var   0.014860
S.E. of regression             0.013865  Akaike info criterion 5.572263
Sum squared resid             0.004998  Schwarz criterion     5.340975
Log likelihood                91.37007  Hannan-Quinn criter. 5.496869
F-statistic                  2.115889  Durbin-Watson stat   2.041180
Prob(F-statistic)              0.107510

*Note: p-values and any subsequent tests do not account for model selection.
Source: Author’s Eviews 10 Output, 2021.

Step Four: Decision.
Table 8 shows the probability of marine insurance premium is 0.5299 and is greater than 0.05 the level of significance. Thus, we accept the null hypothesis and conclude that total marine insurance premium had no significant effect on real gross domestic product in Nigeria. From Table 8 it is seen that total marine insurance premium has a regression coefficient of -0.002773. This is a negative coefficient. It shows that there is a decreasing interaction between total marine insurance
premium and real gross domestic product in Nigeria. That is to say for any unit change in total marine insurance premium, there will be 0.002773 basis points decrease in real gross domestic product in Nigeria. The Adjusted Co-efficient of Determination (R²) which was 0.129515 shows that in hypothesis one model, the independent variable (total marine insurance premium) can only explain 12.9515 percent of any variation seen in real gross domestic product in Nigeria. The remaining 87.0485 percent can be attributed to other variables not used in the model.

Discussion of Findings

Hypothesis one:

The result of multivariate analysis shows that p-value of marine insurance premium at 0.1531 was greater than 0.05 (the level of significance). This shows that total marine insurance premium had no significant effect on real gross domestic product in Nigeria. The finding of hypothesis one test implies that premium generated through marine insurance had low effect on economic growth in Nigeria. This may be attributed to the low patronage of local insurers in the country. As such the premium pool from marine insurance business was small and did not affect the economy. Also, the market share of the Nigerian insurance industry over import and export activities within the country is small despite the Cabotage Act which provides that more Nigerians be involved in domestic coastal shipping. The Nigerian marine insurance business is facing a lot of challenges. The local market is affected by growing fake operators who give out lots of fake insurance policies. This has made the industry to loss lots of premium as well as loose public trust [8]. In direction and magnitude this study differed from [14] who found that total insurance premium had positive effect on gross domestic product. Also, it disagreed with [13] who found that there is a positive relationship but not significant between non-life insurance economic growth. Furthermore, the result of hypothesis one test was not in line with [5] whose study observed that insurance premium capital has significantly impacted on economic growth in Nigeria.

CONCLUSION

The relevance of insurance to an economy has been established in lots of empirical studies undertaken in various countries Nigeria included. As an import dependent country the Nigerian economy is abuzz with lots of foreign goods and services. Total marine insurance premium had no significant effect on real gross domestic product in Nigeria. This was based on p-value at 0.1531 being greater than 0.05.

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