JETMASE Vol 4(1): 264 –277, June, 2022 Available online at

https://www.jetmase.com

EFFECT OF DERIVATIVE MARKET INSTRUMENTS ON ECONOMIC GROWTH IN NIGERIA

GBADEBO, A. O. (PhD)[1*] & OMOLAJA, O. F.[2]
[1&2]Osun State University, Department of Banking and Finance, Osogbo
Email:[*]abraham.gbadebo@uniosun.edu.ng; oluwakemiomolaja@gmail.com

Abstract
The study examines the influence of derivative market instruments on economic growth in Nigeria between 2001and 2019. The secondary data was sourced from the CBN Statistical Bulletin and the National Bureau of Statistics. Time-series data were analyzed with the use of the Error Correction Model (ECM)**.** The result revealed derivative markets have a positive significant relationship with economic growth in Nigeria in both the long and short runs. On the other hand, the exchange rate had a negative and significant impact on economic growth in Nigeria in both the short and long runs. The study concludes that derivative markets have a positive significant effect on Nigerian economic growth (GDP). The study, therefore, recommends that the regulators should encourage the development of financial derivatives to boost economic growth in Nigeria.

Keywords: Financial Derivatives, foreign exchange rate, GDP

INTRODUCTION

The relationship between the financial sector and economic growth is an important issue that has been examined in a wide range of research papers, both theoretical and empirical. Many of them have focused on the impact of the financial sector on economic growth. Pioneering studies that highlight the role of the financial sector in the dynamism of the economy include Wicksell (1934), Schumpeter (1954), and Goldsmith (1969), which found that the financial system serves as an engine driving the economic activity. On the other hand, Levine (1991) points out that stock markets facilitate long-term investments, helping to reduce risk and simultaneously offering liquidity to savers and funding to companies. The author concludes that stock markets do contribute to economic growth. Moreover, Levine and Zervos (1998) highlight that a significant number of empirical studies support the existence of a relationship between capital markets and economic growth in the long term.

Derivatives markets have knowledgeable hearty growth in recent decades. For example, in December 2008, the volume of derivatives globally was approximately USD 592 trillion, much higher than the Gross Domestic Product (GDP) of the United States (the world's largest economy), which was just over 13.8 trillion in 2007 (Aali Bujari, Venegas-Martinez & Perez-Lechuga ,2016). According to Bank of International settlement in 2003, 92% of the 500 biggest firms in the world used derivatives to manage risk in several ways, especially interest rate risk.

The Central Bank of Nigeria (2011) introduced the use of Foreign Exchange Derivatives in the Nigerian market through

certain guidelines. These guidelines were put in place to regulate the activities of the Dealers authorized to transact with foreign exchange. Consequently, the use of derivative instrument in Nigeria is relatively new when compared with some developed economies hence little or no research has been carried out on the nexus between derivative instruments and economic growth

Therefore, this study examines the impact of derivative markets on the Nigerian economic growth. Specifically, the study seeks to:

i. examine the effect of financial derivatives on economic growth in Nigeria.
ii. investigate the influence of the foreign exchange rate on economic growth in Nigeria.

The research is geared towards answering the following question:

i. Do financial derivatives influence economic growth in Nigeria?
ii. Do foreign exchange rates have an impact on economic growth in Nigeria?

The hypothesis is tested in the null form are as follows:

i. Financial derivatives have no significant relationship with economic growth in Nigeria
ii. The foreign exchange rate does not have a significant association with economic growth in Nigeria

Literature

Conceptual Review

Derivative Products

Derivative products (or contingent claims) have endured impressive growth in regulated markets as well as in over-the-counter markets, i.e., non-organized markets. They offer investment potentials with possibly higher returns than those prevailing in the bond and stock markets, providing investors with a risk-sharing mechanism (Venegas-Martínez, 2011; Ángeles-Castro & Venegas-Martínez, 2010). Derivatives products are financial instruments whose price depends on other underlying variables, such as stock prices and indexes, interest rates, exchange rates, commodity prices, and so on. That is, derivatives are financial instruments linked to an underlying asset or benchmark, and are useful implements for protecting from or hedging against price variations in unfriendly unpredictable milieus (Aali-Bujari, Venegas-Martínez, & Pérez-Lechuga, 2016). Generally speaking, derivatives meet the following circumstances: 1) their value is based on the time value of money, which is not stated in any specific part of the contract; 2) they require a low initial net investment (significantly less than the investment needed to buy the underlying asset) and sometimes even no investment at all, and 3) they are settled at a future date.

The effects and penalties of derivative markets in an economy can vary extensively. Some researchers focus on their beneficial contributions as risk-sharing mechanisms, providing firms with tools to hedge against contingencies and better information on financial markets (Chartered Institute Stockbroker, 2021). Other scholars, (Venegas-Martínez, 2011and Ángeles-Castro et al 2010) however, focus on the disadvantages linked with derivatives markets and the role they play in attracting speculators, increasing volatility in spot markets, and exacerbating financial crises. Either way, derivatives markets have shown tremendous growth in past decades, although the gains from derivatives could be much bigger.

Derivatives may also contribute to achieving an efficient allocation of risk in the economy as a whole. They are also useful in enabling markets to provide new opportunities for investors. Furthermore, derivatives provide information to the financial markets and so play a part in helping to reduce future volatility in the global financial markets.

Finally, derivatives markets help participants to form expectations about underlying asset prices to manage the risks associated with price changes, thereby facilitating future decision-making processes. Many other authors focus on the losses related to the derivatives markets despite the potentially exceptional benefits that derivatives can offer firms, investors, and the economy as a whole.

Derivatives such as options, forwards, futures, and swaps may provide firms as well as public and private investors with opportunities that might not otherwise be available. Derivatives help allocate risk between investors and firms and can reduce the costs of portfolio diversification. Moreover, the prices of derivatives may reveal information to traders, which can help build more stable financial markets.

The Central Bank of Nigeria in 2011, introduced the Foreign Exchange Derivatives in the Nigerian market, as a hedge which include futures, options, swaps, and forwards. The Securities and Exchange Commission of Nigeria (SEC) is saddled with the responsibility of regulating foreign exchange derivatives in Nigeria (Dolapo & Oluwasolape 2019).

Forward Contract

A forward is a contract involving two parties, where both parties agree to exchange the underlying asset at a predetermined future date at an earlier agreed date at a price that has been fixed. In this arrangement, both the buyer and the seller agree today to buy and sell a certain asset in the future at an agreed price. (Vashishtha and Kumar, 2010). The agreement is usually between two parties - the buyer (The Long) and the seller (The Short). However, there is a middle man in the agreement who stands as a guarantor of the transaction. The middle man is the Exchange's Clearing House

Futures Contract

A Futures Contract is an exchange-traded agreement between two parties to either buy or sell an underlying asset at a specified future date at a pre-agreed price (Chartered Institute Stockbroker, 2021). A binding contract that is enforceable in law. The contract is binding on both parties and none is at liberty to walk away from the contract without the consent of the other. The agreement is usually between two parties - the buyer (The Long) and the seller (The Short). However, there is a middle man in the agreement who stands as a guarantor of the transaction. The middle man is the Exchange's Clearing House (Chartered Institute Stockbroker, 2021). A Future Contract to buy is described as a "Long Futures Contract". A Future Contract to sell is called a "Short Futures Contract" A buyer is said to be in a Long Position or is Long the contract while the seller is in a Short Position or is Short the Contract (Chartered Institute Stockbroker, 2021)

Swaps Contract:

A swap is a derivative contract through which two parties exchange the cash flows or liabilities from two different financial

instruments. Most swaps involve cash flows based on a notional principal amount such as a loan or bond, although the instrument can be almost anything (Rose, P.S & Marquis M. H. 2006).

Options Contract:

An option is a contract in which the writer of the option grants the buyer of the option the right but not the obligation to buy from or sell to the writer an underlying asset at a specified price within a specified period (or at a specified date) (Chartered Institute Stockbroker, 2021)

Economic Growth

This represents an increase in the production of economic goods and services, compared from one period of time to another. Traditionally, aggregate economic growth is measured in terms of gross domestic product (GDP). It is measured as (₦Billion) Jhingan. (2005)

Exchange Rate

This is the rate at which one currency will be exchanged for another currency

Theoretical Review

Purchasing Power Parity

The purchasing power parity (PPP) was first developed the Swedish economist Gustav Cassel in the 1920s to observe the relationship between the trade charges of different international locations. The PPP holds if and while change charges pass to offset the inflation price differentials among nations. The PPP is likewise described as the premise of the "law of 1 charge" which asserts that the charge fee between currencies should be the same as the ratio of the charge level of equal goods and offerings in the countries.

The Purchasing Power Parity (PPP) theorem explains the relationship between the relative costs of products and change quotes. The PPP theorem propounds that under a floating exchange regime, a relative exchange in purchasing power parity for any pair of foreign exchange calculated as a price ratio of traded items would tend to be approximated by a trade in the equilibrium fee of change among these currencies (Shapiro & Rutenberg, 1976).

Consistent with the PPP, growth inside the charge stage of a rustic will cause depreciation of its change charge relative to different countries, thereby preserving the relative price of identical items identical across nations. This principle shows that change price modifications were offset with the aid of relative fee indices/inflation for the reason that the law of fee should maintain. PPP follows the law of 1 rate, which states that in competitive markets, identical items will sell for the same prices whilst valued inside the same currency. It relates to an individual product and its generalization is absolutely the model of PPP. Relative PPP pertains to modifications in costs and trade quotes, instead of to absolute rate stages. It states that trade in change costs is proportional to the exchange in the ratio of the international locations' rate levels, and structural relationships are finally unchanged.

Empirical Review

Baluch and Ariff (2007) found a positive significant relationship between the derivatives markets and economic growth, suggesting that if there is sufficient liquidity

in the underlying cash market, derivatives trading can be maintained and they make an important contribution to economic growth through transferring risk.

Sipko (2011) studies the relationship between the development of the derivatives market and the real economy. He highlights that the trading volume of the derivatives market has increased significantly in recent decades and that this increase contributed significantly to the global financial crisis. The author also compares the overall growth of nominal and real GDP with the global derivatives market, and in particular the over-the-counter market (OTC).

Schöler-Iordanashvili, (2020) the paper focuses on analyzing the roles of derivatives in the financial crises. Within the framework of this research, three (3) emerging countries were studied from 1997 to 2010 quarterly. OLS regressive equation was used for empirical tests. The model includes the following variables: crisis index (dependent variable) and independent variables which include: the Ratio of the Current Account to GDP, the Ratio of the Domestic Credits in the Private Sector to GDP, and the ratio of the total notional amounts outstanding of the exchange-traded derivatives to Foreign Exchange Reserves. The outcome shows that the influence of derivatives over financial stability is not unilateral, and it depends on the characteristics of the financial system of the country. The study conducted on an example of emerging markets, particularly Argentina, Russia, and Brazil, revealed the negative influence of derivatives on the financial system.

Vo, Nguyen, Nguyen, The Vo, and Nguyen, 2020 investigate the dynamic relationship among these key variables using up-to-date panel data on 17 countries, for which required data are available until 2017. This study yields various findings. First, bidirectional Granger causality between derivatives markets and economic growth exists internationally. Second, using panel vector autoregression, impulse-response functions, variance decomposition techniques as well as panel econometrics estimations, they observe that derivatives markets and economic growth exist internationally. Second, using panel vector autoregression, impulse-response functions, variance decomposition techniques as well as panel econometrics estimations, they find that trade openness and government spending have more effects on the derivatives market than economic growth and inflation.

Aali-Bujari, Venegas-Martínez, and Pérez-Lechuga, (2016) assess the impact of the derivatives markets on economic growth in six of the major world economies (the European Union, the United States, Japan, China, India, and Brazil) during the period 2002-2014. A dynamic panel data model is estimated with the Generalized Method of Moments (GMM). The main empirical finding is that in the countries studied, derivatives markets have a positive influence on economic growth. The paper concludes with several the financial authorities should promote the use of derivatives markets to boost economic growth.

Haiss and Sammer, (2010) try to explain this change by discussing the sphere of derivative impact (1) by delineating the volume, the efficiency, and the risk channel, (2) by providing descriptive and comparative data, and (3) by tying in the catalytic role of derivatives in the 2007/2008 financial crisis, and (4) by empirically testing whether derivatives are capable of influencing the finance-growth-nexus. The clarification of this question shall contribute to a better

understanding of financial markets. In summary, derivatives markets have grown dramatically in recent decades and have helped traders to hedge risk against unexpected events, spreading the risk between firms and investors. They provide more complete information on the market that enhances firms' decision-making. Their short-term negative effects are often outweighed by their positive effects over the long term. The expectations that derivatives markets help shape, along with appropriate risk management, may contribute to future stability and enable firms in all sectors to expand by taking early actions for future investment, thus contributing to long-term economic growth

Tijani and Mathias (2013) investigated corporate use of derivatives and financial risk management in Nigeria with evidence from non-financial firms, the study employed multivariate analysis and logistic regression tests on SPSS version 18. Their findings revealed very low usage of derivatives. And this was traced to a lack of knowledge on the use of derivatives and the underdeveloped nature of our financial market.

Some researchers in Nigeria have carried out studies relating to foreign exchange management in the economy. Ayodele (2014) submitted that the exchange rate hurts the GDP because as it increases, the economic growth is negatively affected, while the inflation rate exerts a positive impact on GDP, indicating that firms are more willing to produce when the inflation rate is high and vice versa. Also, Adenekan, Sanni, and Itodo (2019) reported that the presence of asymmetry in the movement of the exchange rate volatility, such that negative shocks cause exchange rate returns to fall and lead to a fall in volatility by a size higher than the impact of positive shocks of the same magnitude on the economy. In the same vein, Owolabi and Adegbite (2013) revealed a significant impact of the foreign exchange rate on the Nigerian economy. Besides, Adelowokan, Adesoye, and Balogun (2015) show that exchange rate volatility harms investment and growth.

Although, Ogege (2019) revealed that inflation rate, exchange rate, and interest rate show the existence of a negative and statistically insignificant effect on life expectancy, human development, health as well as the economy. It can be observed there is inconsistency among the findings of the previous authors, Ayodele (2014) and Adelowokan, et al (2015) opined that exchange rate fluctuation hurts the economic growth nonetheless; Owolabi et al (2013) failed to show the nature (positive/negative) of the impact of foreign exchange rate on Nigeria economy.

It can be observed that none of the scholars from Nigeria listed above have worked on the relationship between financial derivatives and economic growth. Furthermore, some of the authors that studied the nexus between exchange rate and economic growth (Owolabi et al 2013, Ayodele 2014, Adelowokan et al 2015, Ogege, 2019, Adenekan, et al 2019 recorded inconsistency findings. Given this gap, this study seeks to examine the impact of foreign exchange derivatives on economic growth in Nigeria

Methodology

An ex-post facto research design is adopted in this study. Data for this study are obtained from the Central Bank of Nigeria Statistical Bulletin and Security and National Bureau of statistics 2019. The study period covers 2001 through 2019. This study used Auto-Regressive Distributed Lag (ARDL) Model to ascertain the impact of foreign exchange

derivatives on the economic growth in Nigeria. E-view 10.0 econometric statistical software package was used for the analysis. This study adopted a modified economic model previously used by Efanga, Umoh, Essien and Umoh (2019) that analyzed the impact of derivative instruments on risk management in the Nigerian banking sector

The model is reported thus:

$EXR = \beta_0 + \beta_1 FED_t + \varepsilon_t$……(1)

Where:

EXR = Exchange rate

FED = Foreign exchange derivative

β0 = Intercept

β1 = Coefficient of independent variable

ε = Error term

The model for this study in its functional form is written thus:

Y= *f(* X1, X2, X3, X4, X5, X6, X7, X8)**……**(2)

The mathematical form of the model is:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$..... $\beta_8 X_8$.....(3)

The econometric form of the model is:

$GDP_i = \beta_0 + \beta_1 FED_1 + \beta_2 EXR_2 + \mu_i$..... (4)

The estimation technique of the above model in explicit form is transformed into a double-log model, thus becoming:

$LOGGDP_i = \beta_0 + LOG\beta_1 FED_1 + LOG\beta_2 EXR_2 + \mu_i$.....(5)

Where:

LOG= logarithm;

β = Constant Term

GDP_i = Gross Domestic Product - (dependent variable)

EXR = Exchange Rate - (Control variable)

FED = Foreign Exchange Derivatives - (Independent variable)

μ_i = Stochastic Error Term

A priori expectations of the model are that: Foreign exchange derivative is expected to have a positive impact on economic growth in Nigeria. The exchange rate is expected to have an inverse relationship with economic growth in Nigeria.

Table 1: Summary Statistics

	GDP	EXR	FED
Mean	324	173.13	61.3873
Maximum	568	306.921	109.53
Minimum	74	111.23	15.4
Std. Dev.	152	67.198	30.403
Skewness	-0.27	-1.2417	-.2837

Kurtosis	1.9	2.9766	1.678
Jarque-Bera	1.1	1.55	4.8
Probability	0.512	0.452	0.621
Observations	19	19	19

Source: Author's Computation, 2021

The average value of GDP is $324 billion, the minimum value of $74 billion, the maximum of $568 billion, and the standard deviation value of $152 billion. Also, the average value of EXR is ₦173.13k, the minimum value of ₦111.23k, the maximum of ₦306.92k, and the standard deviation value of ₦67.198. Lastly, the average value of FED is 61.39 billion, a minimum value of ₦15.4 billion, a maximum of ₦109.53 billion, and a standard deviation value of ₦30.4 billion. Also, the table further revealed that all the variables in the study are negatively skewed. The normality of the variables is accepted as the probability value for each variable is greater than 0.05.

Table 2: Unit Root Test

A unit root test is conducted to determine the order of integration of the variables used in the study through the application of the Augmented Dickey-Fuller (ADF) unit root test. The results of the ADF test are shown in Table 2 below.

Table 2

	GDP	EXR	FED
Mean	324	173.13	61.3873
Maximum	568	306.921	109.53
Minimum	74	111.23	15.4
Std. Dev.	152	67.198	30.403
Skewness	-0.27	-1.2417	-.2837
Kurtosis	1.9	2.9766	1.678
Jarque-Bera	1.1	1.55	4.8
Probability	0.512	0.452	0.621
Observations	19	19	19

Source: Author's Computation, 2021

The output of the unit root test showed that only GDP was significant at 5 percent critical value and achieved stationary at level. Thus, GDP was integrated of order zero (i.e. I (0) variables). However, the all-other variables; exchange rate and foreign exchange derivatives were not stationary at the level

Table 3: Unit Root at first Difference

Variables	T-Statistic	Critical Value1%	Critical Value5%	Critical Value10%	Prob.	Order of Integration
FED	-4.1689	-4.004	-3.098	-2.690	0.00755	I (1)
EXR	4.2718	-3.920	-3.065	-2.673	0.0015	I (1)

GDP	-6.256081	-3.886751	-3.025169	-2.666593	0.0000	I (1)

Source: Author's Computation, 2021

The output of the unit root test showed that all the variables were significant at a 5 percent critical value and achieved stationary at first difference. Consequently, the result of the unit root test explains the fact that ordinary least square regression may not be a proper technique for estimating parameter estimates. This is because the outcome of the OLS may produce spurious coefficients, which are misleading. Therefore, the ARDL bounds test is required to examine if there is co-integration or not since the series are of a different order of integration.

Table 4: Co-integration Test

Sequel to the result of the unit root test where series are of a different order of co-integration, the bounds co-integration test was conducted to examine if the series are co-integrated or not. This co-integration test was proposed by Pesaran, Shin, and Smith (2001). Below is the result of the Bound co-integration test.

ARDL Bounds Test
Sample: 2001 2019
Included observations: 19
Null Hypothesis: No long-run relationships exist

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	16.30829	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Author's Computation, 2021

The decision rule is to reject the null hypothesis if F-stat is greater than the critical value of the upper bound. If F-stat is however less than the critical value of the lower bound, the null hypothesis will not be rejected. And if the calculated F-stat falls between the lower and the upper bound, the test will be considered inconclusive. From the test of the ARDL bound, the calculated F-stat, 16.30829 is greater than the critical value of the upper bound at a 5% level of significance. Hence, the series are co-integrated (have a long-run relationship).

Table 5: Short Run Estimates

Dependent Variable: LOGGDP
ARDL Model
Sample (adjusted): 2002 2019
Included observations: 18 after adjustments
Maximum dependent lags: 1 (Automatic selection)

Model selection method: Akaike info criterion (AIC)
Dynamic regressors (0 lag, automatic): EX-RFED
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	0.256794	0.149336	1.719576	0.1112
LEXR	-0.504250	0.126475	-3.986964	0.0018
FED	0.780921	0.182266	4.284514	0.0011
C	14.76899	3.340351	4.421389	0.0008
ECM	-0.743206	0.063124	-11.77372	0.0000

R-squared	0.987897	Mean dependent var	26.43074
Adjusted R-squared	0.982854	S.D. dependent var	0.544960
S.E. of regression	0.071359	Akaike info criterion	-2.180997
Sum squared resid	0.061105	Schwarz criterion	-1.884206
Log-likelihood	25.62897	Hannan-Quinn criteria.	-2.140073
F-statistic	195.8967	Durbin-Watson stat	2.095161
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection
Source: Author's Computation, 2021.

The Parsimonious Error Correction results (Table 5 above) show that a change in exchange rate had a negative coefficient of -50% on GDP. This finding is supported by Ayodele, 2014 and Adelowokan et al 2015 who observed a negative significant effect between exchange rate and economic growth in Nigeria while Owolabi et al are indecisive on whether the significant link was established by them is either positive or negative. Ogege 2019 reported an insignificant association between the dependent and independent variables under consideration. The result further shows that financial derivatives had a positive and significant coefficient of 78% on GDP. On the short-run relationships, the results reveal that GDP has a significant impact on itself in period one. The finding of the study is in tandem with the result of Baluch, (2007), Aali-Bujari et al (2010), and Spiko, (2011) who discovered a positive significant relationship between financial derivatives and economic growth. Conversely, Schöler-Iordanashvili, (2020) findings reveal an inverse relationship between the dependent and explanatory variables

The results further show that the r-squared is 0.83, while the adjusted r-squared is 0.987 indicating that 98.7 percent of changes in GDP are attributable to the combined effect of the external debt, external reserves, monetary policy rate, and inflation rate. Also, from the table, it is observed that the model shows a t-statistic of 195.89 with a probability of 0.0000, which is statistically significant.

The Durbin-Watson statistic shows 2.09 indicating the absence of serial or autocorrelation among the variables. Furthermore, the Error Correction Co-efficient has a negative value of -0.743206. and is significant at a 5% level of significance with a probability of 0.0000. The co-efficient

indicates that the model has a 74.32 percent speed of adjustment from the equilibrium position in the long run.

Long Run Estimates

Table 6: Long Run Estimates

Sample: 2001 2019
Included observations: 18
ARDL Model
Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.76899	3.340351	4.421389	0.0008
EXR**	-0.780921	0.182266	-4.284514	0.0011
FD**	0.504250	0.126475	3.986964	0.0018

Source: Author's Computation, 2021

Table 6 shows the estimated long-run parameters for the model. The result shows that the exchange rate had a negative and significant effect on GDP whereas financial derivatives had a positive and significant impact on GDP.

Post-Estimation Results

Table 7: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.313165	Prob. F(2,10)	0.7380
Obs*R-squared	1.060944	Prob. Chi-Square(2)	0.5883

Source: Author's Computation, 2021

From the result in Table 6, the Null-Hypothesis cannot be rejected given that the probability value of the Observed R-Squared (0.73) is greater than the baseline value of the 5% level of significance. Rather the study accepts the absence of serial correlation between the variables. The model is therefore suitable for evaluation.

Discussion

The result obtained from tables 5 and 6 showed that the Foreign Exchange Derivative was found to have a positive and significant impact on economic growth in Nigeria in both long and short runs. The significant positive impact of Foreign Exchange Derivative on economic growth in Nigeria may be due to better awareness, trading, and usage of derivative securities as hedging tools in the Nigerian financial system. Similarly, the significant but negative impact of the Exchange rate on economic growth in Nigeria in both long and short runs may be attributed to the volatility of the exchange rate in the Nigerian financial system. finding is supported by Ayodele, 2014 and Adelowokan et al 2015 who observed a negative significant effect between exchange rate and economic growth in Nigeria while Owolabi et al are indecisive on whether the significant link was established by them is either positive or negative. Ogege 2019 reported an insignificant association between the dependent and independent variables

under consideration. The result further shows that financial derivatives had a positive and significant coefficient of 78% on GDP. On the short-run relationships, the results reveal that GDP has a significant impact on itself in period one. The finding of the study is in tandem with the result of Baluch, (2007), Aali-Bujari et al (2010), and Spiko, (2011) who discovered a positive significant relationship between financial derivatives and economic growth. Conversely, Schöler-Iordanashvili, (2020) findings reveal an inverse relationship between the dependent and explanatory variables

Implications of Research and Practices

The Derivatives exchange which started at the Chicago Board of Trade in 1848 as commodity derivatives has had well-informed hearty growth in recent times with a global volume of about USD 592 trillion, in December 2008 which is more than the Gross Domestic Product (GDP) of the United States of over USD 13.8 trillion in 2007 (the world's largest economy), (Aali-Bujari, Venegas-Martínez, & Pérez-Lechuga, 2016). According to Bank for International Settlements in 2003, 92% of the 500 biggest firms in the world used derivatives to manage risk in several ways, especially interest rate risk. However, the Central Bank of Nigeria (2011) introduced the use of Foreign Exchange Derivatives in the Nigerian market through certain guidelines. Consequently, the use of derivative instruments despite the important role it plays in hedging against risk in Nigeria is relatively new when compared with some developed economies hence little research has been carried out on the nexus between derivative instruments and economic growth in Nigeria

Conclusion

The broad objective of this study was to ascertain the influence of derivative securities on the economic growth in Nigeria between 2091 and 2019. This study utilized real Gross Domestic Product as a measure of economic growth in Nigeria, while Foreign Exchange Derivative was employed as the regressor, and the Exchange Rate was included in the model as a control variable. The results of the ARDL Model revealed that Foreign Exchange Derivative had a positive and significant impact on economic growth while Exchange Rate had a significant negative effect on economic growth in Nigeria. The study recommends that Financial authorities in Nigeria should create awareness of the prominence and efficiency of derivative securities as means of hedging against financial risks and emphasizes the need to deepen the Nigerian derivative market to enhance economic growth

References

Aali-Bujari, A, Venegas-Martínez, F. & Pérez-Lechuga, G., (2016). Investigated the impact of derivatives markets on economic growth in some of the major world economies: A difference-GMM panel data estimation (2002-2014) Aestimatio, *The Ieb International Journal of Finance*, 12, 110-127

Adelowokan, O. A., Adesoye A. B. & Balogun, O. D. (2015). Exchange Rate Volatility on Investment and Growth in Nigeria, an Empirical Analysis, *Journal of Management and Business Research*, *15*(10), 21-30.

Adenekan, A.T. Sanni,, G.K. & Itodo, A. I. (2019). Investigating the impact of exchange rate volatility on the naira exchange rate in Nigeria. *Central Bank of Nigeria Economic and Financial Review*, 57(3), 17-38.

Ángeles-Castro, G. & Venegas-Martínez, F. (2010). Valuación de opciones sobre índices bursátiles determinación de la estructura de plazos de la tasa de interés en un modelo de equilibrio general, Investigación *Económica*, 69(271), 43-80.

Ayodele, T. D. (2014). An empirical evaluation of the impact of the exchange rate on the Nigerian economy, Journal *of Economics and Sustainable Development*, *5*(8), 24-28.

Baluch, A. & Ariff, M. (2007). Derivative Markets and Economic Growth: Is There a Relationship? Bond University Globalization and Development Centre, Working Paper Series No. 13, Gold Coast, Australia.

Bank for International Settlements in 2003

Cassel, G. (1918). Abnormal deviations in international exchanges. *The Economic Journal*, 28, 413-415

Central Bank of Nigeria in 2011

Chartered Institute Stockbroker, 2021

Dolapo, B. & Oluwasolape, O. (2019). An Introduction to Derivatives in Nigeria, Corporate Finance & Capital Markets, Ajibade & Co., Lagos, Nigeria, pp 1-31.

Efanga, U. O, Umoh, E. A, Essien, A. I. & Umoh, U. E. (2019) Impact of Derivative Instruments on Risk Management in the Nigerian Banking Sector – Saudi Journal of Economics and Finance, 3(8), ISSN 2523-6563 (Online), ISSN: 2523-9414 (print). Scholars Middle East Publishers, Dubai, United Arab Emirates, 323-330

Goldsmith, R.W. (1969). Financial Structure and Development, Yale University Press, New Haven, USA.

Haiss, P. R. & Sammer, B., (2010) The Impact of Derivatives Markets on Financial Integration, Risk, and Economic Growth. Available at SSRN: https://ssrn.com/abstract=1720586 orhttp://dx.doi.org/10.2139/ssrn.1720586

Jhingan, M.L Advanced Economic Theory Vrinda Publication B-5 Complex (opp.Ahlcon Public School.

Levine, R. (1991). Stock Market, Growth, and Tax Policy, *Journal of Finance*, 46(4), 1445-1465

Levine, R. & Zervos, S. (1998). Stock Markets, Banks and Economic Growth, *The American Economic Review*, 88(3), 537-558

Ogege, S. (2019). Analysis of the impact of inflation, interest rate, and exchange rate on economic development,

International Journal of Commerce and Finance, *5*(1), 121-132.

Owolabi A. U. & Adegbite T. A. (2013) Effect of Exchange Rate Volatility on Nigeria Economy (1991-2010) *International Journal of Academic Research in Economics and Management Sciences*,2(6), 172-184

Rose, P.S & Marquis M. H. (2006) Money and Capital Markets Published by McGraw Hill Companies Inc.

Schöler-Iordanashvili, L. (2020) Analyzing the Impact of Derivatives on the Emerging Markets Financial Stability n *European Scientific Journal*, ESJ ISSN: 1857-7881 (Print) e - ISSN 1857-7431 October edition 16(28), 40-54

Shapiro, A. C., & Rutenberg, D. P. (1976), "Managing Exchange Risks in a Floating World," *Financial Management* 16, 48-58.

Sipko, J. (2011). Derivatives and the Real Economy, *International Scientific Journal*, 1(1), pp. 33-43

Tijani, O. M and Mathias, G. O. (2013). Derivatives and financial risk management in Nigeria: evidence from non-financial firms. *African Journal of Scientific Research*, 11(1), 622-640.

Vashishtha, A. and Kumar, S. (2010). Development of financial derivatives market in India: a case study. *International Research Journal of Finance and Economics*, 37, Available at http://www.eurojournals.com/finance.htm

Venegas-Martínez, F. (2011). Riesgos financieros y económicos. Productos derivados y decisiones económicas bajoincertidumbre (Segunda Edición), Cengage Learning, México.

Vo., D. H., Nguyen, P. V., Nguyen, H. M. The Vo, A. & Nguyen, T. C (2020). Derivatives market and economic growth nexus: Policy implications for emerging markets *The North American Journal of Economics and Finance 54*,

Wicksell, K. (1934). Lectures on Political Economy, Routledge, London