



# Analysis of Financial Markets and Performance of Nigerian Economy

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

One of the issues confronting the Nigeria State has been achieving sustained growth and prosperity in the midst of abundance. The financial market has been conceived as a pillar of growth and operations in the market can drive the domestic economy. This propelled the inquiry into the impact of financial market operations on the performance of the Nigerian economy. In analyzing the nexus between financial market operations and performance of the Nigerian economy, the study employed secondary data sourced from the Central Bank of Nigeria Statistical Bulletin and the World Development Indicator. The study observed the past evolution of the series from 1990 to 2021. Real gross domestic product was chosen to reflect the performance of the Nigerian economy. The study proxy financial market operations using ratios outstanding government securities, outstanding equity, and outstanding bond, while controlling for credit to private sector as percentage of GDP. The econometrics technique of cointegration and autoregressive distributed lag (ARDL) estimation tool was employed in analyzing the short run and long run behaviour of the series. Evidence from the bound test attest to long run relationship between the variables of interest. From the long run result, the study found evidence of significant positive impact of outstanding government securities on performance of the Nigerian economy. In addition, a significant positive relationship was found between outstanding equity and performance of the Nigerian economy. Credit to private sector was found to exert a direct and significant impact on real GDP. An increase in outstanding bond insignificantly improved the performance of the Nigerian economy. Instigated by these findings, the study advanced that formal legal and regulatory barriers instituted by regulatory bodies that pose as impediment to growth of the financial market should be remove in order to attract investors and increased credit allocation to real sectors of the economy to boost economic activities.

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## 1. INTRODUCTION

The side effect of economic growth is of consequential benefit to any country, which aims to improve the general welfare of her citizenry. It is generally assumed that growth will continue forever and as a result, the fallout of inadequate growth such as unemployment would not be visible or in the worst-case scenario, only at or slightly above the natural rate of unemployment.

The assessment of the evolution of the real Gross Domestic Product (GDP) growth rate provides evidence of a violation of this line of reason. Available data points to fluctuating growth in the real GDP of Nigeria [1]. From the period of 2011 to 2014, the Nigeria economy was growing at an average of 5 percent on a year-on-year (YoY) basis. In March 2014, the real GDP averaged 6.214 percent, increasing to 6.544 percent in June 2014 on a YoY basis. The Nigeria economy took a hit by the dawn of 2015, contracting by 3.964 percent in the first quarter of 2015 from 5.945 percent achieved in the last quarter of 2014. The downward trend in real growth continued into the future as growth dipped to 2.112 percent in the first quarter of 2016 (NBS, 2016). In the second and third quarter of 2016, Nigeria recorded successive negative growth as the economy grew at -0.666 percent and -1.487 percent respectively (NBS, 2016). The Nigeria economy improved slightly from 0.716 percent in the second quarter of 2017 to 1.870 percent in the first quarter of 2020. The economic woes of the country were compounded as the economy witnessed its height contraction slumping to -6.104 percent in the second quarter of 2020 (NBS, 2020).

Traditional growth theory of the neoclassicals suggests the importance of capital in prosecuting growth. The financial market plays pivotal role in the mobilization of both domestic and external capital required to enhance growth [2]. The inflow of capital depends, among other things, on the operations in the financial market and performance of the domestic capital market [3]. The inflow of portfolio into the financial market required to prime the pump of the domestic economy is dependent on the interest rate and activities in the foreign exchange market. To this end, policy makers have consistently put in motion myriads of policy measures intended to stabilize the naira. For instance, the Structural

Adjustment Programme (SAP) of 1985 reverted the exchange rate regime to a free float. In recent years, the Central Bank of Nigeria (CBN) has consistently intervened in the forex market to stabilize the naira in order to attract foreign capital. Evidence from empirical literature shows mix reaction on the influence of activities in the financial market on economic growth [4,5,1,6,7]. Studies like Acha & Akpan [1] and Ugwuanyi [7] shows the shrinking growth potential of the financial market. Informed by the foregoing, the study intends to investigate if the operations in the financial market affect the performance of the Nigerian economy by examining the impact of outstanding government securities, outstanding equity, outstanding bond and credit to private sector on real gross domestic product. Previous studies employed the Narayan (2004) critical values over the Pesaran, et al., (2001) critical values for cointegration test.

The rest of the paper is organized thus; following this introduction is section 2, which looks at the theoretical literature and empirical studies. Section 3 is the methodological reviews. Section 4 covers the results and discussion. Section 5 covers the discussion and recommendations.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Literature

The Solow-Swan growth framework presented by Solow [8] and Swan [9] generally described as the neoclassical model or exogenous growth theory remains the foremost growth model that provides a clear-cut deep comprehension of the process of growth in countries where the technological progression is not determined endogenously. The model relates growth (depicted by a measure of output) to inputs such as capital, technology and labour. The growth framework of Solow [8] and Swan [9] has at its core the notion of the ability to transform, at less cost, unconsumed output into new capital, which can be deployed to aid future production of output. This is perpetrated and possible through the saving channel which is at the centre of the model. Solow and Swan [8,9] made assumptions to their hypothesis. They put forward the claim of the technology level and labour growing at exponential rates and both are exogenously determined. They further proposed that the resources are efficiently used and the return on

capital diminishes as the unit of labour increases [1].

The efficient market hypothesis credited Samuelson (1965) and Fama (1965) who independently churned out certain notion about the efficiency of the market. The main crust of the hypothesis is that price of financial assets is reflective of all available information. In line with this, a capital market that is considered efficient would be one where the stock prices mirror or conveys the fundamentals of the companies. In markets such as this, the variances in the market value of companies quoted on such bears similarities with the company's intrinsic value. If a market is efficient, it suggests therefore that, algorithms cannot convey the variations in the prices of the asset and returns over and above expected gains are mere successes, which cannot be ascribe to accurate predictions [10].

## 2.2 Financial Market

Financial market is simply a place or a mechanism for the exchange of assets. Financial markets play a vital role in allocating funds to economic activities so as to achieve the highest rate of return. Therefore, they perform and reflect the underlying state of the economy [11]. Financial market is basically made up of both money and capital markets. On one hand, the financial markets give more flexibility to the short-term credit structure, while on other hand they can promote the saving habit by making instruments available. Financial markets consist of groups of financial institutions, which are homogenous groups, and non-bank financial institutions, which are a heterogeneous group of financial institutions other than commercial banks [12].

## 2.3 Economic Performance

Economic performance encompasses numerous indicators covering financial performance, operational performance, and organizational effectiveness. Economic performance refers to organizational performance within the realm of commercial activities (i.e, market competition). At the aggregate level Aigheyisi [3] stated that economic performance is the development of results that demonstrates whether the national economy is in the process of economic recovery, macroeconomic stability, and on the path of long-term sustainability.

Economic performance can be expressed through a balanced set of parameters describing the results and processes to achieve these results. From an economic point of view, business performance is achieved by balancing and interrelation of at least four forces, as propounded by Kaplan [13]; which include, efficiency of production processes; shareholders' meeting requirements; customer satisfaction; capacity of the growth and development - staff skills (training, satisfaction); the degree of innovation; and the use of opportunities. In addition, economic performance is the economic impact that the organization's activity has on the society in terms of cost-saving, opening new markets and finding beneficial users for waste, cutting cost of purchasing materials and energy consumption, increasing profits, sales and market share.

## 2.4 Empirical Review

Owolabi and Ajayi [14] in bridging the gap in literature plunged into the impact of capital market on the growth of the Nigerian economy. Their concerned centered on whether or not growth can be achieved via the channel of the capital market. To achieve this aim, they made use of time series data covering from 1971 to 2010. The impact of capital market on growth was analyzed by means of the ordinary least squares estimator. It was found from estimated results that the development of the stock market could stimulate the local economy as capital market index has significant positive impact on the Nigeria economy.

Lawal, Somoye, Babajide and Nwanji [15] used monthly data from 1985M1 to 2015M12 gotten from the Central Bank of Nigeria Statistical Bulletin using the exponential generalized autoregressive conditional heteroscedasticity (EGARCH) and autoregressive distributed lag (ARDL) estimation techniques to examine the interaction of monetary policy and fiscal policy on the performance of Nigerian the stock market. The study found positive and significant impact of real gross domestic product, government expenditure, money supply and interest rate on all share index. ASI volatility was found to be highly sensitive to volatility in the money-fiscal instruments.

Edame and Okoro [6] in their work looked at potential of the performance of the stock market in stimulating domestic growth in Nigeria based on annual time series data sourced from the

Central Bank of Nigeria bulletin that covered the period from 1970 up until 2010. Based on the Gauss-Markov theorem, the study adopted the ordinary least squares (OLS) estimation method owing to its attributes. From the estimation conducted, it was reached that market capitalization, number of deals and value of transactions are related significantly and positively with economic growth in Nigeria.

Acha and Akpan [1] using the vector autoregressive (VAR) model and the traditional granger causality technique x-rayed the causal relationship between capital market performance and the Nigeria economy for the sample period of 1987 to 2014. Results from the normalized cointegration revealed market capitalization and listed equity as having accelerating effect on the domestic economy. Total new issues and volume of transactions tend to shrink the growth of output, the study found.

Applying the fully modified ordinary least squares (FMOLS) econometrics technique to analyze annual time series data sampled from the period 1981 to 2014, Aigheyisi [3] investigated whether the level of development of the Nigeria stock market influences the consequence of foreign direct investment on the growth of the local economy. Empirical evidence based on the estimation carried out using the FMOLS indicates that the Nigerian stock market is yet to be fully develop to cause positive foreign investment impact on total output in the local economy.

Chen and Komal [16] studied the potential of the development of the stock market in bringing about growth in 20 lower-middle income countries. The relationship was examined in a panel framework as the low-income countries were observed from 1990 up until 2012. The panel estimator used for this investigation was the random effects estimator. The result revealed that the development of the stock market in the examined countries can propel growth significantly. Turnover ratio failed to impact significantly on the economy of the sample countries, results from the estimated model shows.

Ugwuanyi [7] scrutinized the relation between the capital market and the Nigerian economy. The paper observed variables such as real gross domestic product, all share index, market capitalization and turnover ratio from 1981 through 2014. A combination of econometric tools which include the ordinary least squares

(OLS), cointegration test and granger causality test. Prompted by the long run result, the Nigerian economy will expand significantly with increases in market capitalization and turnover ratio. The economy shrinks with rise in the price of stocks traded on the market.

In a balanced panel data framework, Twerefou, Abbey, Codjoe and Ngotho (2019) studied the nature of relationship that might exist between stock market development and the economy of five (5) sub-Saharan African countries from 1993 to 2013. The dynamic model was estimated using the generalized method of moments (GMM) estimator. The result of the dynamic model indicates that stock market size and turnover ratio positively impacts on economic growth.

Mamun, Basher, Hoque and Ali [17] argued that stock market development is highly important for growth to occur in Bangladesh, as the stock market proxy by market capitalization ratio had positive and significant impact on short- and long-run economic growth. The result was based on the use of the granger causality test on quarterly data from 2000Q1 to 2017Q4 [18,19].

### 3. METHODOLOGY

This study adopted the Ex-post facto research method and annual secondary data sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicator (WDI) covering the time horizon of 32 years from 1990 – 2021. As opined by Onwumere (2009), the adopted research design been the Ex-post facto design deals with events that have previously or hitherto occurred. The preference of this research design stems from the fact that the secondary data was gathered over time and the lack of control the research exercises over the regressors and the regressand primarily because such distributions have already occurred. The choice of this method is also due to the leverage it allows for retrospective study of the predictor variables and its causal effect on the explained variable.

The Autoregressive Distributed Lag (ARDL) estimation tool was used to examine the impact of financial markets operations on the performance of the Nigerian economy. For this study, real gross domestic product was used as dependent variables and proxy of performance of the Nigerian economy on which the indexes of financial market operations (such as outstanding

government securities, credit to private sector as percentage of GDP, and outstanding bond) was regressed. The analysis of the secondary data began with the conduct of the unit root test to investigate the order of integration of the variables chosen for which the Phillip-Perron (PP) test was used. This was succeeded by a co-integration test to verify whether the variables under examination move together over time or if there exists long-run relationship among the variables. A core prerequisite for the choice of a cointegration test approach is the determination of the order of integration of the variables. Following the confirmation that all the variables under investigation are integrated of order one I(1) and zero I(0), the study adopted the bound test as prescribed by Pesaran, et al., (2001). The ARDL method was applied based on the order of

stationarity of the variables to examine the short run dynamics and long run relationship between the variables.

The functional expression of the model used for this study which builds on the works of Acha & Akpan [1] with modifications made is given thus:

The model for the financial market operation effect on the performance of the Nigerian is of the form;

$$gdp = f(gsec, eqty, cps, bnd) \tag{1}$$

In a linear form, the log-linear expression of equation (1) is given as;

$$\ln GDP_t = \delta_0 + \delta_1 \ln GSEC_t + \delta_2 \ln EQTY_t + \delta_3 cps_t + \delta_4 \ln BND_t + e_t \tag{2}$$

Where;

- GDP = real gross domestic product;
- GSEC = Outstanding government securities;
- EQTY = Outstanding equity;
- CPS = Credit to private sector as percentage of GDP;
- BND = Outstanding bond; and
- $e_t$  = error term

Theoretically, it is expected that:  $\delta_1 > 0$ ,  $\delta_2 > 0$ ,  $\delta_3 > 0$ , and  $\delta_4 > 0$

The ARDL model specification/estimate is outlined thus;

$$\Delta \ln GDP_t = a_0 + \sum_{i=1}^q a_1 \Delta \ln GDP_{t-i} + \sum_{i=0}^r a_2 \Delta \ln GSEC_{t-i} + \sum_{i=0}^s a_3 \Delta \ln EQTY_{t-i} + \sum_{i=0}^t a_4 \Delta CPS_{t-i} + \sum_{i=0}^w a_5 \Delta \ln BND_{t-i} + \beta_1 \ln GDP_{t-1} + \beta_2 \ln GSEC_{t-1} + \beta_3 \ln EQTY_{t-1} + \beta_4 CPS_{t-1} + \beta_5 \ln BND_{t-1} + V_t \tag{3}$$

Where;

- q, r, s, t and w = lag length for the autoregressive distributed lag model (ARDL)
- $\Delta$  = first differencing operator
- $V_t$  = white noise disturbance term
- $a_1 - a_5$  = short-run parameter estimates
- $\beta_1 - \beta_5$  = long-run parameter estimates
- $a_0$  = short-run intercept

The Equilibrium Correction Model (ECM) representation of the ARDL approach is as follows;

$$\Delta \ln GDP_t = a_0 + \sum_{i=1}^q a_1 \Delta \ln GDP_{t-i} + \sum_{i=0}^r a_2 \Delta \ln GSEC_{t-i} + \sum_{i=0}^s a_3 \Delta \ln EQTY_{t-i} + \sum_{i=0}^t a_4 \Delta CPS_{t-i} + \sum_{i=0}^w a_5 \Delta \ln BND_{t-i} + pECM_{t-1} \tag{4}$$

Where;

- p = coefficient of the error correction term

## 4. RESULTS AND DISCUSSION

**Table 1. Descriptive statistics**

	<b>GDP</b>	<b>GSEC</b>	<b>EQTY</b>	<b>CPS</b>	<b>BND</b>
Mean	43327.67	3341.534	5759.673	12.5923	220.2692
Median	39541.24	628.5029	3375.317	9.7005	9.1150
Max.	72393.67	19026.10	22296.84	22.7548	1400.434
Min.	21462.73	2.1000	12.1000	5.8061	0.8000
Std. Dev	19581.71	5053.576	6357.582	5.7794	415.0664
Skewness	0.2484	1.7837	0.9764	0.2881	2.1158
Kurtosis	1.4252	5.4548	3.1635	1.3295	6.2032
Jarque-Bera	3.6356	25.0044	5.1207	4.1631	37.5564
Prob.	0.1623	0.0000	0.0772	0.1247	0.0000
Obs.	32	32	32	32	32

Source: Authors' compilation (2023)

Table 1 indicated that, on the average, performance of the Nigerian economy was N43,327,67 billion. Outstanding government securities averaged N3,341,534 billion; outstanding equity had a mean value of N5759.673 billion; credit to private sector averaged 12.5923 percent of gross domestic product over the thirty-two years; while outstanding bonds averaged N220.2692 billion. Table 1 showed improvement in the performance of the Nigerian economy as real GDP rose from N21,462.73 billion and peaked at N72,393.67 billion. The range of distribution was positive for outstanding government security, outstanding equity and credit to private sector, while outstanding bond ranged from N0.80 billion to N1,400.434 billion. The descriptive analysis indicated wide variation in real gross domestic product, outstanding equity, outstanding government security and outstanding bond given their computed standard deviations of N1958.71 billion, N6357.582 billion, N5053.576 billion and N415.0664 respectively. This indicate that there were sharp fluctuations in the series over the period studied. Table 1 document positive skewness for all the employed series. Also, there were excessive kurtosis for outstanding government security, outstanding equity and outstanding bonds as their kurtosis were above 3. Negative kurtosis was reported for real GDP and credit to private sector as percentage of GDP. The distribution of real GDP, outstanding equity and credit to private sector was found to be well behaved. The study rejected the null hypothesis of normal distribution for outstanding government securities and outstanding bonds, prompting the conduct of unit root testing.

### 4.1 Unit Root

The study employed the Phillip-Perron unit root testing method to examine if the employed series

exhibit unit root properties. The results of the test are documented in Table 2.

Table 2 contained the result of the unit root test, the Phillip-Perron test statistics at level and first difference (where applicable) and the critical values at 5 percent level of significance. As documented in Table 2, the Phillip-Perron test statistics for real gross domestic product, outstanding government securities, credit to private sector as percentage of GDP, and outstanding bond, in level form, are less than the 5 percent critical values, in absolute term. This suggest that, the series (real gross domestic product, outstanding government securities, credit to private sector as percentage of GDP, and outstanding bond) have unit root. This prompting the differencing of the distribution, in line with suggestions in the literature. The differenced series were further tested to ascertain if there is presence of unit root, to which they were found to be stationary, implying that real gross domestic product, outstanding government securities, credit to private sector as percentage of GDP, and outstanding bond are first difference stationary, or integrated of order one,  $I(1)$ . The study observed that outstanding equity was stable in level form, thus considered an  $I(0)$  variable. Summarily, the test of unit root indicated that the employed series are first difference and level stationary, or  $I(1)$  and  $I(0)$ . This necessitated the use of the autoregressive distributed lag (ARDL) estimator suggested by Pesaran, et al., (2001) in analysing the long- and short-run behaviour of the series.

### 4.2 Cointegration Test

Relying on the result of the unit root test which showed mixed stationarity properties of the series, that is, the series being first difference and level stationary, the study moved to test for

**Table 2. Unit roots result**

Variable	Phillip-Perron			I(d)
	Level	1 <sup>st</sup> Diff	5% Critical Value	
$lngdp_t$	-0.5395	-3.4991**	-2.9571	I(0)
$lngsec_t$	-0.2828	-3.6816***	-2.9571	I(0)
$lneqty_t$	-3.4772**	-	-2.9571	I(1)
$cps_t$	-0.9049	-6.5698***	-2.9571	I(1)
$lnbnd_t$	-0.6956	-7.5188***	-2.9571	I(1)

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1%, respectively

Source: Authors' compilation (2023)

**Table 3. Bound test result**

Model	F-statistics
$F_{GDP}(gdp/gsec, eqty, cps, bnd)$	4.175007**
	K = 4
Narayan (2004) Critical Values	I(0)
1%	4.223
5%	3.002
10%	2.493
Pesaran, et al., (2001) Critical Values	I(0)
1%	4.093
5%	2.947
10%	2.46

**Note:** Null hypothesis: No level relationship; K = number of regressors; \*, \*\* and \*\*\* denote significance at 10%, 5% and 1% level, respectively.

Source: Author's computation (2023)

long run relationship among the employed variables using the bound test credited to Pesaran, et al., (2001).

Documented in Table 3 is the result of the cointegration test based on the bound test. As an improvement over previous studies, this study used the critical values of Narayan (2004) over those provided by Pesaran, et al., (2001) in testing the null hypothesis of level relationship between the proxy of performance of the Nigerian economy (real GDP) and the indices of financial market operations (outstanding government securities, outstanding equity, credit to private sector and outstanding bond). This preference for the Narayan (2004) critical values is that, it was shown by Narayan (2004) that, cointegrating relationship among variables could be misleading when decision of level relationship is based on the critical values of Pesaran, et al., (2004). This is because, the critical values of Pesaran, et al., (2001) were based on a sample size of 1000 observations, which would bias estimation with smaller sample size such as this study. The

decision for level relationship as stated by Pesaran, et al., (2001) remains valid, and Table 3 shows that the F-statistics of 4.175007 is greater than the Narayan (2004) 5 percent critical value of 4.150. By this, the study rejects the null hypothesis, accepting the alternative that there is co-movement among real gross domestic product, outstanding government securities, credit to private sector as percentage of GDP, credit to private sector and outstanding bond. As presented in Table 3, the Pesaran, et al., (2001) overestimated long run relationship between the variables owing to the 5% critical value of 4.088.

### 4.3 Long- and Short-run Model Result

The long- and short-run response of real gross domestic product (the proxy for performance of the Nigerian economy) to changes in financial market operations proxies were estimated within the autoregressive distributed lag (ARDL) framework. The results are documented in Table 4.

**Table 4. ARDL long and short run results**

<b>Dependent Variable: <math>\ln GDP_t</math></b>				
<b>Panel I: Long Run Results</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t – Stats</b>	<b>Prob.</b>
$\ln GSEC_t$	0.0733***	0.0146	5.0099	0.0000
$\ln EQTY_t$	0.0429**	0.0194	2.2017	0.0380
$CPS_t$	0.0133**	0.0060	2.1939	0.0386
$\ln BND_t$	0.0241	0.0177	1.3656	0.1853
C	9.6782	0.0928	104.2825	0.0000
<b>Panel II: Short Run Results</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t – Stats</b>	<b>Prob.</b>
$D(\ln GDP_{t-1})$	0.3996**	0.1593	2.5088	0.0196
$D(\ln GSEC_t)$	0.0268***	0.0093	2.8569	0.0089
$D(\ln EQTY_t)$	0.0156**	0.0069	2.2482	0.0344
$D(CPS_t)$	-0.0036	0.0028	-1.2809	0.2130
$D(\ln BND_t)$	-0.0064	0.0079	-0.8157	0.4230
$ECM_{t-1}$	-0.3657***	0.1088	-3.3596	0.0027
$R^2 = 0.5247$		Adjusted $R^2 = 0.4737$		

Note: \*, \*\* and \*\*\* denote significance at 10%, 5% and 1% level.

Source: Author's computation (2023)

Table 4 is categorized into two parts – Part I which conveys the static long-run regression behaviour of the regressors and Part II which informed on the dynamic response of real GDP to changes in the predictor variables. Evidence from Part I disclosed that outstanding government securities results in increase in the performance of the Nigerian economy in the long run, in agreement with economic theories. The probability value of the coefficient showed that the positive impact of outstanding government securities on performance of the economy is significant as 1 percent increase in outstanding government securities improved the performance of the Nigerian economy by 0.0733 percent. The stimulating effect of outstanding government securities were observed in the short run. Outstanding equity had positive impact on the performance of the Nigerian as the economy improved by 0.0429 percent whenever there is an increase in outstanding equity by 1 percent. Similar result was noticeable in the short run. The positive impact of equity on the Nigerian economy shows the attractive of the Nigerian capital market to investors and informs on the performance of the manufacturing sector and confidence of investors in the Nigerian economy. This stimulating effect of outstanding equity on the Nigerian economy is statistically significant. Furthermore, an increase in credit to private sector enhanced growth of real GDP by 0.0133 percent. This improvement in the Nigerian economy due to changes in credit to private sector is significant. Though outstanding bond

enhances performance of the Nigerian economy, causing it to grow by approximately 0.0241 percent when there is 1 percent increase in outstanding bonds, the positive impact is insignificant. It is plausible that the growing government public debt and the possibility of Nigeria sustaining her debt due to dwindling crude oil production, despite rising crude oil prices, creating uncertainty could be possible reason why outstanding bonds have insignificant impact on the Nigerian economy.

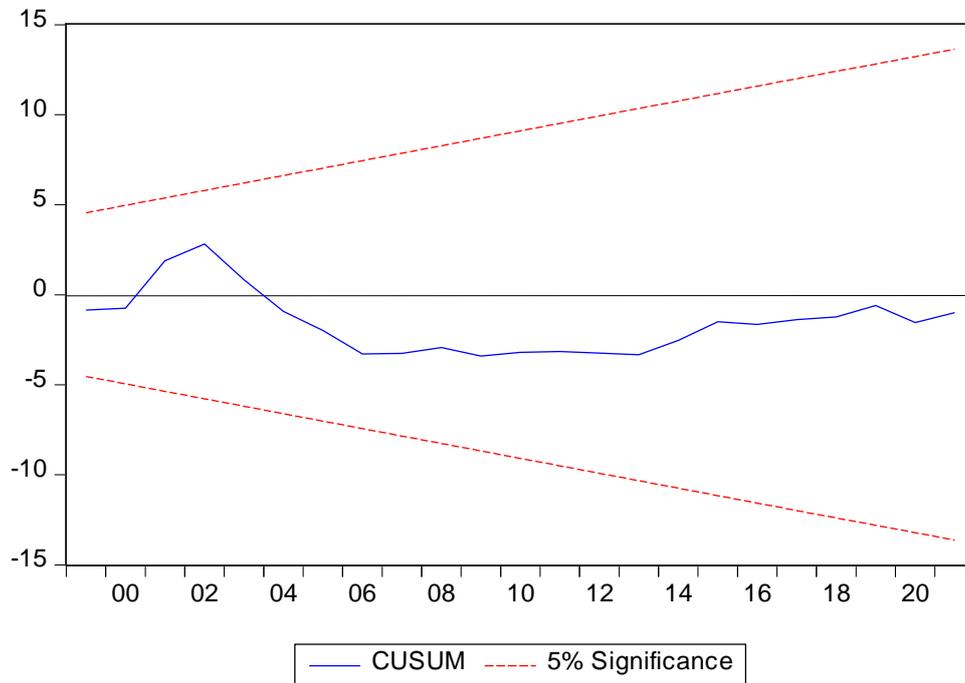
The coefficient of the lagged error correction term (ECT) of -0.36 implies that the convergence of the model to long run equilibrium occurs at a speed of 36 percent. This by inference means that the model has a speed of adjustment of 36 percent and that 36 percent of the disequilibrium produced by fluctuating trends of the regressors that occur in the short run are dissipated before the next time period.

As reported in Table 5, the ARDL model (2, 0, 0, 1, 1) is devoid of the problems of serial dependence of the errors, heteroscedasticity of the errors, and misspecification bias. The probability value of the Breusch-Godfrey chi square statistics of 3.3068, ARCH chi square value of 0.9067 and F-statistics value of the Ramsey RESET test are above 0.05. Again, the errors were found to be normally distributed and the coefficient stable over the years, as informed by the CUSUM plot of Fig. 1.

**Table 5. Model diagnostic result**

Test	Null Hypothesis	Test Type	Test Stat.	Prob
Autocorrelation	Serially Independent	Breusch-Godfrey LM	3.3068	0.1914
Heteroscedasticity	Homoscedastic	ARCH	0.9067	0.3410
Normality	Normally Distributed	Jarque-Bera	3.2036	0.2015
Linearity	No misspecification	Ramsey RESET	0.2310	0.6355
Stability	Stable Parameters	CUSUM	-	-

Source: Authors' computation (2023)



**Fig. 1. CUSUM Plot**

**5. CONCLUSION AND RECOMMENDATION**

The Solow model stresses the necessity of capital in oiling the wheels of economic growth and prosperity. The financial market is critical in the provision of capital needed to drive growth. To this end, the study examined the relation between financial market operations and performance of the Nigerian economy. Estimation result using the autoregressive distributed lag (ARDL) method reveals that outstanding government securities, outstanding equity and credit to private sector significantly improved the performance of the Nigerian economy. The study therefore concludes that; the financial market is an important drive of economic growth.

The revelations of the study led to policy propositions:

- i. Formal legal and regulatory barriers instituted by regulatory bodies such as the Nigerian Stock Exchange (NSE) and Securities and Exchange Commission (SEC) that pose as impediment to growth of the financial market should be remove in order to attract investors.
- ii. The study recommends that the regulatory procedures associated with the listing of companies on the stock markets should be rejig to make it less stringent to accommodate more companies.
- iii. The study recommends that Central Bank of Nigeria (CBN), through policy initiative, mandate deposit money banks (DMBs) to allocate credit to real sectors of the economy such manufacturing, service and agriculture. This will help boost economic activities.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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