STOCK MARKET DEVELOPMENT AND SUSTAINABLE ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL ANALYSIS (1990–2022)

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Abstract
The performance of the stock market plays a crucial role in mobilizing resources and fostering economic growth in emerging economies such as Nigeria. However, despite its potential, concerns persist regarding the efficiency of capital utilization and the quality of governance in driving sustainable development. This study investigates Stock Market Development and Sustainable Economic Growth in Nigeria: An Empirical Analysis between 1990 and 2022. Using annual time series data from the World Development Indicators and Worldwide Governance Indicators, the study applies the Autoregressive Distributed Lag (ARDL) technique to capture both short-run and long-run dynamics. The results show that gross fixed capital formation exerts a negative and significant effect on growth, indicating inefficiencies in capital investment. In contrast, stock market capitalization has a positive and significant influence, underscoring the stock market's role as a driver of economic expansion. Governance quality, measured by the rule of law, is negatively associated with growth, highlighting institutional weaknesses that hinder Nigeria's development trajectory. The findings suggest that improving stock market depth and efficiency can contribute to long-term growth, while weak governance remains a major constraint. It is therefore recommended that policymakers strengthen institutional frameworks, enhance the rule of law, promote investor confidence, and implement reforms that deepen capital market activities. Such measures will foster inclusive and sustainable economic growth in Nigeria.

Key words: *Economic growth, Governance quality, Rule of law, Stock market performance, Nigeria.*

Introduction

The issue of economic performance has been a topic of global interest among scholars and policymakers in recent years. Understanding the nature and causes of growth of the economy is crucial for the formulation of economic policies that promote macroeconomic stability, investment in critical infrastructure, favorable trade policies, efficient financial systems, and regulatory environments that foster fair competition, protect property rights, and reduce bureaucracy, all of which spur investment and

induce growth of the economy (Singh 2010; Cysne and Turchick 2012; Dang and Pheng 2015; Allen et al. 2018; Rodrik 2018; Naseer 2019 and Song et al. 2021). According to the International Monetary Fund (2023), growth outlook globally is expected to decline from 3.5 to 3 and 2.9 percent in 2022, 2023 and 2024 respectively. The agency also predicts that global output for 2023 will be approximately $3.6 trillion, with emerging markets and developing economies experiencing a decline in growth from 4.1 to 4.0 percent in 2022, 2023 and 2024 respectively. Sub-Saharan Africa will decline from 4.0 to 3.3 and 4.0 percent in 2022, 2023 and 2024 respectively.

For Nigeria, the outlook of economic growth is expected to slow from 3.3 percent in 2022 to 2.9 percent in 2023 and 3.1 percent in 2024 (IMF, 2023). In the literature, studies have documented empirical evidence that economic growth is positively related to stock market performance (Muhammad et al. 2016; Osaseri & Osamwonyi, 2019). Stock market size is linked with the development of firms, indicating that stock markets significantly boost the growth of the economy. Hence, the stock market is a stable predeterminant of economic growth in emerging economies (Ogbeide and Akanji, 2018; Tekin and Yener, 2019). The stock market serves as a major driving force behind global economies, with a total value of $109 trillion worldwide (Neufeld & Lam, 2023). Effective stock markets enable firms to raise necessary capital quickly. The stock market contributes to wealth creation and resource allocation by directing capital to productive areas of the economy based on the performance of stocks. However, literature has equally provided that stock market development impedes the growth of the economy since stock markets may not always allocate resources efficiently, with a preference for certain sectors, leading to misallocation and potentially hindering economic growth (Pan & Mishra, 2018 & Cave et al, 2020. A significant portion of stock market activity is driven by financial speculation rather than productive investment in real economic activity leading to market bubbles and crashes without substantial benefit to the broader economy.

Stock market volatility and uncertainty can have adverse effect on investment decision and economic stability. High levels of volatility can deter long-term investment, leading to slower growth for the economy (Dhingra et al, 2024). Yet, the impact of stock market performance on economic growth, remains underexplored in Nigeria, creating a vacuum. This study fills this gap.

Objective

This, therefore, study investigates the impact of stock market performance on economic growth in Nigeria. The methodology deployed Autoregressive Distributed Lag (ARDL) technique to capture both short-run and long-run dynamics.

Literature Review

Stock Market

The stock market is a conglomeration of various marketplaces. These markets offer accessible and transparent avenues for investing in assets, aiding professionals in determining equitable valuations for public corporations. The stock market facilitates financial transaction. Market indices amalgamate stock prices, serving as indicators for the effectiveness of the market daily. The stock market functions by allowing companies to secure capital by issuing shares of stock and fosters wealth creation. In return, companies divulge information and grant investors a voice in business decisions. Investors benefit from purchasing shares and witness the appreciation of their stock holdings over time (Oladigbo & Adeleke, 2019). In Nigeria, the Securities and Exchange Commission (SEC) oversees the regulation of the stock market. The SEC's mission includes safeguarding investors, ensuring fair and efficient markets, and supporting capital formation. SEC regulation mandates truthful business disclosure by publicly traded companies and fair treatment of investors by those involved in securities trading (Oladigbo & Adeleke, 2019).

Economic Growth

Stands as the bedrock of a nation's economic trajectory, signifying the continual quantitative enhancement in its overall economic output over successive periods. This pivotal concept remains intricately tied to the augmentation of a country's Gross Domestic Product (GDP), serving as the paramount measure for assessing its economic prosperity and developmental trajectory. At its core, economic growth encapsulates the multifaceted evolution encompassing the productivity, distribution, and consumer spending within the confines of a nation's economic landscape.

Empirical Literature

Empirical literature has indicated that the Nigerian economy has experienced substantial growth in recent years (Dauda 2017; Sertoglu et al, 2017; Keji, 2021), amongst others. Despite this, only a limited number of researchers have scrutinized the association amid stock market performance and economic growth (Setayesh & Daryaei, 2017; Imamah et al, 2019; Owen & Owen, 2020; Lin et al, 2021; Iheanacho et al, 2023). Adedeji et al (2023) observed the effect the stock market has in economic growth in Nigeria from 1996 to 2023 by applying Vector Error Correction Model (VECM). The results showed that market capitalization negatively influences economic growth. Adigwe et al (2015) determined if stock market development significantly impacts Nigeria's economic growth between 1985 and 2014 with the aid of regression analysis - simple linear correlation. The results shows that economic growth is positively linked to stock market capitalization and value of stock trade ratio to GDP. Ogunleye & Adeyemi (2015) examined the impact of stock market development on economic growth in Nigeria over a period spanning 1970 to 2008 by adopting descriptive analysis.

The study confirmed the existence of long run relationship amid stock market development and the growth of the economy. The conclusion is that there is a loss of confidence on the part of most investors as a result of huge losses they have suffered.

Olawale (2024) scrutinized the effect of the efficacy of the capita market on Nigeria's economic growth from 1981 to 2019 by adopting a multiple regression model. The ordinary least square estimation technique was adopted. The findings indicate market capitalization and all share index had a significant impact on economic growth in Nigeria. Olusegun and Ajao (2024) scrutinized capital market development and economic growth in Nigeria from 2003 to 2022. Market capitalization was used to proxy the capital market. A multiple regression analysis technique was adopted. Findings indicate that the stock market has little effect on economic growth in Nigeria. Thaddeus et al (2024) investigated the linkage amid stock market development and economic in the sub-Saharan region of Africa from 1990 to 2020 with the aid of autoregressive distributed lag model. Results indicate that stock market capitalization had a positive impact on economic growth in sub-Saharan Africa. Zulkifi et al (2024) investigated the relationship between stock market development and gross domestic product in Malaysia between 1981 and 2020. Autoregressive distributed lag model was adopted and it was discovered that Stock market development and trade has a positive and statistically irrelevant relationship with GDP.

Methodology

Data was obtained from the World Development Indicators (2023), Worldwide Governance Indicators (2023). Rule of law was used a proxy for governance quality. The inclusion of gross fixed capital formation and labour force to capture capital is in line with Dauda (2023). The inclusion of trade openness follows from Oladigbo & Adeleke (2019).

In the study, growth is represented within the production function as

$$Y_{it} = A_{it} K_{it}^{\propto i} L_{it}^{bi} G_{it}^{ki} C_{it}^{gi} \quad (1)$$

Where Y_{it} denotes output, $K_{it}^{\propto i}$ signifies capital input, L_{it}^{bi} indicates labor input, G_{it}^{ki} symbolizes governance quality, C_{it}^{gi} designates market capitalization.

The model's production function demonstrates consistent returns to scale, wherein technological advancement acts as a variable that steadily increases $A_{it}F(K_{it}, L_{it}, G_{it}, C_{it})$

Governance quality required is thus imputed

$$g_{yit} = \frac{1}{\beta_i + K_i + \in_i} g_{A_{it}} + \frac{K_i}{\beta_i + K_i + \in_i} (G_t - S^z) - \frac{\in_i}{\beta_i + K_i + \in_i} S^E - \frac{K_i + \in_i}{\beta_i + K_i + \in_i} g_{G_{it}}, \quad (2)$$

Where $\frac{1}{\beta_i + K_i + \in_i}$ connotes where natural resource is unavailable, $\frac{K_i + \in_i}{\beta_i + K_i + \in_i} g_{G_{it}}$ denotes growth in size of population in comparison with size of the economy and $\frac{\in_i}{\beta_i + K_i + \in_i} S^E$ represents adjustment of interest rate.

$$GDP_t = f(STK_t, GFCF_t, LBF_t, GOV_t) \quad (3)$$

Where GDP_t is growth, $STKt$ represents Stock Market Capitalization, $GFCF_t$ indicates Gross Fixed Capital Formation, GOV_t ,$indicates\ Rule\ of\ Law$ and LBF_t, indicates Labour Force

Equation (3) is formulated in econometric form as follows:

$$GDP_t = \alpha + \beta_1 InSTK_t + \beta_2 InGFCF_t + \beta_3 InLBF_t + \beta_4 InGOV_t + \varepsilon_t \quad (4)$$

Where GDP_t is Gross Domestic Product growth rate, $STKt$ represents Stock Market Capitalization, $GFCF_t$ indicates Gross Fixed Capital Formation a key influence on Stock market performance, GOV_t ,$indicates\ Rule\ of\ Law$ and LBF_t, indicates Labour Force which is critical for governance and ε_t is the error term.

Estimation Techniques

The objective of this study that aims at assessing the effect of stock market performance and the influence of governance quality on Nigeria's economic growth adopts Autoregressive Distributed Lag (ARDL) technique developed by Pesaran et al (2001) which is applicable regardless of integrating order of the variables. One of the distinguishing features of the approach is that it obviates the need for pre-testing the stationary properties of the variables. ARDL model also estimates both long-run and short-run relationship among the variables without loss of any long run information (see Narayan and Smith, 2005; Chi, 2008) and allow variables to have different optimal lags. ARDL is a suitable approach due to its superiority over other cointegration techniques including Enger and Granger (1987), Johansen and Juselius (1994) and Gregory and Hansen (1996). Furthermore, Dixit (2014) notes that ARDL is an appropriate approach for establishing and explaining the dynamic relationship among macroeconomic variables. The model is justified to be effective for sample size unlike other multivariate cointegration approaches (see Onafowora and Owoye, 2014) and the problem of endogeneity is non-existing since the model is free of residual correlation. Due to the outstanding features of the model over other cointegration approaches, ARDL technique is appropriate to explore the effect of stock market performance and governance quality on growth. Therefore, the model in equation (3) is reformulated into ARDL model to account for both time horizons:

$$\Delta GDP_t = \beta_0 + \sum_{i=0}^{j} \beta_1 \Delta GDP_{t-i} + \sum_{i=0}^{j} \beta_2 \Delta InSTK_{t-i} + \sum_{i=0}^{j} \beta_3 \Delta InGFCF_{t-i} + \sum_{i=0}^{j} \beta_4 \Delta InLBF_{t-i} + \sum_{i=0}^{j} \beta_5 \Delta InGOV_{t-i} + \alpha_1 GDP_{t-i} + \alpha_2 InSTK_{t-i} + \alpha_3 InGFCF_{t-i} + \alpha_4 InLBF_{t-i} + \alpha_5 InGOV_{t-i} + \varepsilon_t \quad (5)$$

Where Δ denotes the first difference of operator, j is the lag length, β_1 - β_5 denote the short run coefficients while α_{1-5} are the long run coefficients. The variables were tested for unit root to ascertain stationarity and order of integration while the ARDL Bounds' test was carried out to establish the existence of a long-run cointegration relationship. the Error Correction (EC) version of equation (3) is re-specified as

$$\Delta GDP_t = \beta_0 + \sum_{i=0}^{j} \beta_1 GDP_{t-i} + \sum_{i=0}^{j} \beta_2 InSTK_{t-i} + \sum_{i=0}^{j} \beta_3 InGFCF_{t-i} + \sum_{i=0}^{j} \beta_4 InLBF_{t-i} + \sum_{i=0}^{j} \beta_5 InGOV_{t-i} + \xi ECT_{t-i} + \mu_t \quad (6)$$

Where ξ captures the speed of adjustment of short run to long run equilibrium and ECT_{t-i} is the EC term. Finally, the ARDL technique is diagnostically tested to ascertain how stable and normal the model is via serial correlation test, RAMSEY test, Jarque-Bera normality test, heteroskedasticity test, CUSUM and CUSUMQ test.

Results and Discussion

Unit Root Test Results

Given the preliminary diagnostics, the study proceeds to check the integrating properties of the variables employed using Augmented Dickey-Fuller (ADF) and Phillip-Perron (1998) unit root tests. The results of the unit root test are depicted in Table 1. The results of both ADF and PP shows that, GFCF, labour force, STK, rule of law contain unit root at level while GDP is stationary at level. However, all variables become stationary at first difference. These results suggest that all the variables have different order of integration i.e. $I(0)$ and $I(1)$. This finding makes the use of ARDL model feasible and appropriate for this investigation.

Table 1: Unit Root Test

Variables	ADF				PP				
	Level	P-value	1 st- Diff.	P-value	Level	P-value	1 st- Diff.	P-value	Remark
GDP	-3.683	0.009			-3.809	0.006			I(0)
LGFCF	1.148	0.997	-5.034	0.000	1.668	0.999	-5.047	0.000	I(1)
LBF	-0.579	0.861	-3.564	0.012	0.409	0.980	-3.511	0.014	I(1)
LSTK	-2.043	0.267	-5.791	0.000	-1.985	0.291	-5.852	0.000	I(1)
GOV	-1.864	0.341	-4.144	0.005	-1.864	0.341	-4.147	0.005	I(1)
FDI	-3.005	0.046			-3.005	0.046			I(0)
INF	-2.156	0.225	-4.301	0.002	-2.429	0.142	-4.579	0.001	I(1)
ITR	-2.256	0.192	-4.325	0.002	-3.399	0.018	-12.272	0.000	I(1)

Source: Author's Computation, 2025

Table 2: Lag length criteria

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-476.885	NA	2.88e+18	59.692	56.937	56.716
1	-423.055	69.661*	1.13e+17*	53.300*	54.771*	53.446*

* indicates lag order selected by the criterion. *LR* = sequential modified *LR* test statistics, *FPE* = Final prediction error, *AIC* = Akaike information criterion, *SC* = Schwartz information criterion and *HQ* is the *Hannan-Quinn* information criterion.
Source: Author's Computation, (2025)

Table 3: ARDL Bound Test Result

Estimated model		**F-statistics**	**Conclusion**
$GDPt = f(l\,gfcf, llbf, lgov, lstk)$		**4.495*** **	Cointegration
Significance level	LCBI(0)	UCB1(1)	
1%	3.29	4.37	
5%	2.56	3.49	
10%	2.20	3.09	

Author's Computation, (2025) Note: ***, ** and * indicate significance levels for 1%, 5% and 10% respectivel

Lag Length Criteria

The study proceeds accordingly to determine the long run association between stock market performance, governance quality and growth. Prior to this, it is expedient to choose an appropriate lag length for the estimation of the ARDL Bound test due to the sensitivity of *F*-Statistics to lag length selection. The result of the lag length criteria is reported in Table 2. The finding shows that all the criterions choose one as the optimal lag order. A general consensus has been reached among scholars that SIC and HQ are more efficient and consistent for a small sample set. Following the results of the SIC and HQ, this study chooses lag one as the appropriate lag length for the estimation of the ARDL technique.

ARDL Bound Test Result

Table 3 presents the result of the ARDL Bound test advanced by Pesaran et al (2001) using GDP growth rate as the dependent variable. The result shows that the computed F-statistic (F=4.495) surpasses the higher critical bound generated by Pesaran et al (2001) at 1% and 5% significant level respectively. This suggests that the null hypothesis of no cointegration between economic growth and stock market performance is rejected, indicating the existence of long run relationship among the variables.

ARDL Estimation Result

Having confirmed the presence of long run relationship, the study proceeds to estimate both long run and short run relationship among the variables. Table 4 reports the result of both long run and short run coefficient models along with diagnostic results. The dependent variable employed is GDP. The finding indicates that GFCF is negatively associated with GDP. Thus, increasing GFCF only worsens growth. Keeping all things constant, a 1% increase in GFCF worsens growth by 1.955%.

The association between labour force and GDP is negative but is not statistically significant while rule of law is negatively linked with GDP and is statistically significant. The finding implies that labour force does not play a major role in growth in Nigeria, however rule of law plays a significant role in growth in Nigeria. The result indicates that STK is positively associated with GDP and is statistically significant, indicating that STK is a major driver of economic growth in Nigeria.

Table 4 ARDL Test Result

Dependent Variable: GDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long-run				
Constant	14.537	84.928	0.171	0.867
$lnGFCF$	-1.955**	0.736	-2.655	0.022
LBF	-0.136	1.317	-0.103	0.919
GOV	-10.103*	5.206	-1.940	0.078
STK	9.320***	2.190	4.262	0.001
Short-run				
$\Delta(GDP(-1))$	-1.055***	0.213	-4.949	0.000
$\Delta(LNGFCF(-1))$	-2.063**	0.877	-2.350	0.038
$DGFCF$	0.582	1.045	0.556	0.588
$\Delta(LBF)$	-0.144	1.396	-0.103	0.919
$\Delta(GOV)$	-10.664	6.366	-1.674	0.122
Δ(STK(-1))	9.830***	3.090	3.182	0.008
DSTK	4.930***	1.570	3.138	0.009
ECT	-1.055***	0.168	-6.263	0.000
Diagnostic Test Result				
R-squared	0.790			
X^2_{SC}	0.624			0.447
X^2_{H}	0.310			0.934
X^2_{FF}	0.604			0.454
X^2_{N}	2.148			0.341

Note: ***, ** and * indicate significance level for 1%, 5% and 10% respectively. The values in parenthesis are p-values respectively. X2SC, X2H, X2FF and X2N represent LM test for serial correlation, heteroskedasticity, RAMSEY RESET test, and normality test, respectively. Source: Author's Computation, (2025).

The short run result also indicates that GFCF is negatively related with GDP at 5% significance level. This finding shows that keeping all things constant, a 1% increase in GFCF worsens growth by 2.06%. Conversely, STK is positively associated with GDP and is statistically significant at 1% significance level. Furthermore, the reliability and consistency are authenticated through the result of the serial correlation test, white heteroskedasticity test, normality test and RAMSEY Reset test. The result reported in the lower part of Table 4.5 shows no presence of serial correlation and the models are well specified since their F-statistics values are reported to be statistically insignificant. Similarly, the existence of parameter stability for the model is ascertained via CUSUM

and CUSUMsq tests advanced by Shin et al (2014) and the result reported in Figure 4.1 shows that the graphs of CUSUM and CUSUMsq tests lie within the 95% confidence intervals, confirming the stability of the parameters.

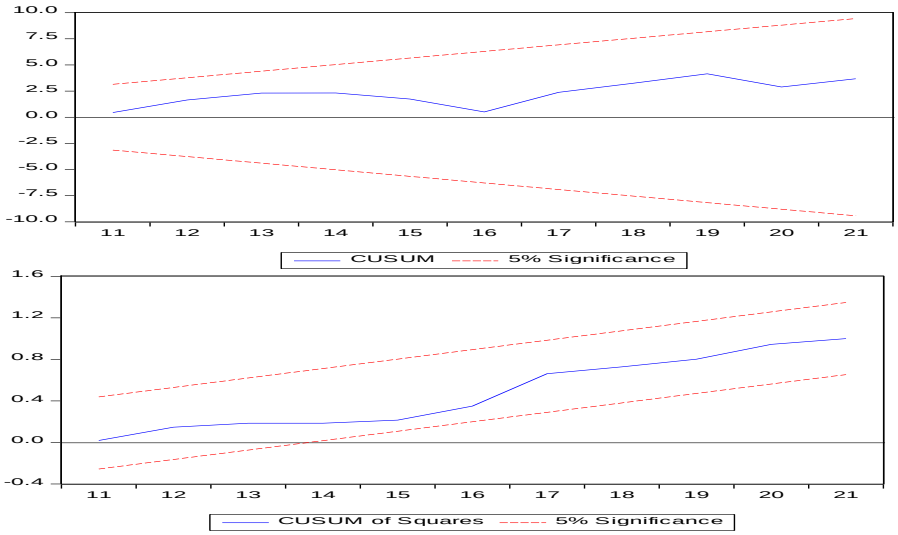

Figure 1: CUSUM and CUSUMsq for Economic Growth model
Author's Computation, (2025)

Conclusion

The objective of the study is to examine the impact of stock market performance on economic growth in Nigeria using time series data from 1990 to 2022 by adopting Autoregressive Distributed Lag (ARDL). The result revealed a negative and statistically significant relationship between Gross Fixed Capital Formation and economic growth in Nigeria. Stock Market Capitalisation reveals a positive and statistically significant relationship with economic growth in Nigeria. Rule of law is negatively associated with economic growth in Nigeria. Based on this finding, authorities in Nigeria should focus on improving the stock market and rule of law to engender economic growth.

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