

An Empirical Analysis of Stock Market Development and Economic Growth in Nigeria

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ABSTRACT

This study investigates the relationship between the stock market development and economic growth in Nigeria between 1990 and 2023. As a result, gross domestic product growth rate was used as the dependent variable while independent variables in the study includes market capitalization, all share index, total securities listed on the stock exchange and value of stock traded. The Descriptive and Correlation Analyses, Auto-Regressive Distributed Lag Modelling (ARDL-Bound test) techniques as well as the Engle Granger causality test were used to analyse the data obtained from the CBN statistical bulletin, World Bank and NBS publications, 2024. The empirical results of the analyses reveal an existence of long-run relationship between stock market development and economic growth, where all share index, and total securities listed are indirectly related to economic growth with ASI been insignificant while TSL significantly impacted EGR. However, market capitalisation and value of stock traded are directly related with significant effect on economic growth which means MCP, TSL and VST had significant impact on changes of economic growth. Also, the R^2 of 99.93% explained the proportion of variation that independent variables can explain in the dependent variable. Furthermore, the causality results revealed that all the stock market variables had a uni-directional causality running from each of them to economic growth. It is therefore, concluded and recommended that financial institutions should concentrate on stock market performances in Nigeria to boost the economic growth while regulatory agencies should adequately regulate stock market as it can affect the economy in a significant manner which will result in sustainable growth.

Keywords: Economic Growth Rate, Market Capitalisation, All Share Index, Value of Stock Traded and Total Securities Listed.

INTRODUCTION

In financial markets, financial assets are exchanged. A stock market is a public market for the trading of company stock and derivatives at an agreed price; these are securities listed on a stock exchange as well as those only traded privately. Mobilization of resources for national development has long been the central focus of development economists. The stock market is an economic institution, which promotes efficiency in capital formation and allocation (Adamu, 2024).

The stock market enables governments and industry to raise long-term capital for financing new projects, and expanding and modernizing industrial/commercial concerns. If capital resources are not provided to those economic areas, especially industries where demand is growing and which are capable of increasing production and productivity, the rate of expansion of the economy often suffers. A unique benefit of the stock market to corporate entities is the provision of long-term, non-debt financial capital. Through the issuance of equity securities, companies acquire perpetual capital for development. Through the provision of equity capital, the market also enables companies to avoid overreliance on debt financing, thus improving the corporate debt-to-equity ratio (Ayodele, 2023). At any stage of a nation's development, both the public and the private sector would require long-term capital. For instance, companies would need to build new factories, expand existing ones, or buy new machinery. Government would also require funds for the provision of infrastructure. All these activities require long-term capital, which is provided by a well-functioning stock market. Stock market may also affect economic activities through the creation of liquidity. Liquid equity

market makes available savings for profitable investment that requires long-term commitment of capital. Hitherto, investors are often reluctant to relinquish control of their savings for long periods.

It also, contributes to economic growth through the specific services it performs either directly or indirectly. Notable among the functions of the stock market are mobilization of savings, creation of liquidity, risk diversification, improved dissemination and acquisition of information, and enhanced incentive for corporate control. Improving the efficiency and effectiveness of these functions, through prompt delivery of their services can augment the rate of economic growth (Adams, 2024). In recent times there was a growing concern on the role of the stock market in economic growth. The stock market is the focus of economists and policymakers because of the perceived benefits it provides for the economy. The stock market provides the essential direction for business environment. An active stock market may be relied upon to measure changes in general economic activities using the stock market index (Obadan, 2022). The stock market is viewed as a complex institution imbued with inherent mechanisms through which long-term funds of the major sectors of the economy comprising households, firms, and government are mobilized, harnessed and made available to various sectors of the economy (Nyong, 2022). The development of the capital market, and the stock market, provides opportunities for greater funds mobilization, improved efficiency in resource allocation and provision of relevant information for appraisal (Inanga, et. al., 2022).

Stock markets may affect economic activity through the creation of liquidity. It contributes to economic development by enhancing the liquidity of capital investments. Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky and more attractive because they allow savers to acquire an asset-equity and to sell it quickly and cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issues. The Nigerian capital market needs to play the role of an enabler for the transformation of the Nigerian economy, by becoming the first port of call for domestic savings and for international investors (Oteh, 2020).

The investors are faced with different challenges which includes a decision to either buy or sell a particular stock, in the event of this, there is a need to carry-out a financial analysis of the company's business over sometime in order to determine the price movements and trading of stocks in raising additional capital (equity) and the implication of future performance. However, due to the problems of acquiring adequate information, available finance may be directed into wrong firms or into wrong industries. It disturbs the researcher that after posting huge amount of turnover on their annual financial report some firms' stock prices fail to rise. Could this be attributed to the fact that there is no relationship between annual financial statements and stock market prices, or is it that investors do not consider the information disclosed in the annual financial statements relevant? The study is an attempt to evaluate the relationship between the prices of stocks listed on the Nigerian Stock Market (NSE) and economic growth.

Recent studies suggested that, over the past two decades, stock market liquidity has been a catalyst for long-run growth in developing countries. Therefore, the broad objective of this study is to investigate the relationship between stock market development and economic growth in Nigeria. Meanwhile, the null hypotheses are stated as the basis of the specific objectives and research questions of this study:

H₀₁: Market capitalization has no significant impact on economic growth in Nigeria.

H₀₂: Stock traded in Nigeria Stock exchange has no significant impact on economic growth in Nigeria

H₀₃: The impact of all share index on the economic growth in Nigeria is statistically insignificant.

H₀₄: Total securities listed on the Nigerian stock exchange have no significant impact on the economic growth in Nigeria.

The economic agents that will benefit from this study are as follows; policy makers, Government at all levels, key stakeholders in the capital market, relevant stakeholders in public and private sectors, academicians, and researchers among others. The findings of the study will enhance the knowledge of policy makers on how to

boost trade performance through stock market development. It will serve as reference material to both researchers and academicians on stock market development and economic growth. Also, it will add to their knowledge of the subject matter. In addition, it significantly helps stakeholders such as stock brokers, entrepreneurs, investors among others in their deliberations and discussions on stock market development and capital market performance and update key players in the public and private sectors on how to attract foreign investment to the Nigerian economy through the stock market development. Also, it will contribute to the body of knowledge on the subject matter and be useful as reference material for all issues relating to stock market development. Hence, the study reviews some of the reform policies by the Nigerian capital market with the data spans between 1990 and 2024.

LITERATURE REVIEW

Theoretical Review

Several theories underpin the relationship between stock market development and economic growth. The Financial Intermediation Theory posits that financial markets play a crucial role in mobilizing savings and allocating resources efficiently, which promotes investment and growth. The Endogenous Growth Theory emphasizes that financial sector development enhances innovation and productivity by improving access to finance. Meanwhile, the Efficient Market Hypothesis suggests that well-functioning markets incorporate information quickly, thereby fostering investor confidence and economic efficiency. The Trade-Off Theory also provides insights by highlighting the balance between the benefits of financial intermediation and the costs associated with market imperfections, such as volatility and speculation.

Empirical Review

Adekunle, (2024), analysed capital market development and economic in Nigeria and recommended that new issues in the capital market should be seriously regulated as it can affect the economic growth in a significant manner. Odhiambo (2024), investigated the causal relationship between stock market proxied by market capitalization, value traded, and market turnover and economic growth proxied by GDP per capital in south Africa between 1981-2023. The study revealed that though the causal relationship between the duo depends on the type of proxy used, the overall findings showed a causal relationship flowing from stock market development to economic growth. Abu, (2024) studied whether stock market development raises economic growth in Nigeria, by employing the error correction approach, revealed a positive impact of stock market development on economic growth.

N'zue, (2024) conducted a study on the relationship between the development of the Ivorian stock market and the country's economic performance. The result identified a long-run relationship between the stock market development and economic growth when the control variables were included and a causality running from the stock market development to economic growth. Iyare, et. al., (2024) used VAR and VECM framework to examined the linkage between financial development and growth using aggregate data on the Caribbean countries. The result revealed long-run equilibrium relationship only in Trinidad and Tobago and the causality is bidirectional which implies feedback response while the short-run relationship in other countries studied are reported to be mixed that is, either supporting supply leading hypothesis or demand following hypothesis.

Filer, et. al., (2023) carried out investigation on whether stock market causes economic growth revealed that the roles that equity markets play in a modern economy do not appear to be indispensable for economic growth. They argued that equity market development can only instigate currency appreciation and not overall output. Ezeibekwe, (2023) evaluated the correlation between stock market development and long-run economic growth in Nigeria using the VECM. The result of the study suggested that stock market development, as proxied by market capitalization to GDP ratio, does not contribute significantly to long-run economic growth in Nigeria.

Osaseri, et. al., (2023) using quarterly time series data between 1994Q1 to 2022Q4, examined stock market development and economic growth in BRICS (i.e., Brazil, Russia, India, China and South Africa. The study revealed a positive and significant impact of stock market development on economic growth. Araoye, et. al., (2023) examined the impact of the Nigerian Stock market development on the nation's economic growth from

1985 to 2022. The economic growth was proxy by the GDP while two measures of stock market development vis MCAP and MTR as proxy for stock market development in terms of size and liquidity. The result revealed stock market has an insignificant positive relationship with economic growth.

Bayar, et. al., (2023) studied the role of stock market development in economic growth in Turkey during the period of 1999-2022. The study indicated a long-run relationship between economic growth and stock market capitalization, total value of stocks traded, turnover ratio of stocks traded and also there is unidirectional causality from stock market capitalization, total value of stocks traded and turnover ratio of stocks traded to economic growth. Osakwe, et. al., (2023) assessed the long-run relationship between stock market development and economic growth in Nigeria from 1981 to 2022, using MCR and TOR as the measure the depth of development of Nigeria's stock market and growth rate of real GDP as proxy for economic growth. The study revealed that the depth of development in Nigeria's stock market has positive but insignificant relationship with economic growth both in short and long-run. The implication of the result is that economic growth is independent of stock market development

Anulika, (2023) examined the impact of the Nigerian stock exchange on economic growth from 1981 to 2022. GDP is the dependent variable, a proxy for economic growth. Market capitalization is a proxy for the Nigerian stock exchange. The study revealed a mixed and inconclusive impact of stock market development on economic growth.

Jung, (2023) investigated the short-run and long-run relationship between the stock market and the economic growth of South Korea, applied a four-variable vector auto-regressive model (VAR) using time series data from 1961 to 2021, his result revealed a positive impact of financial development on economic growth with a unidirectional causality running from financial development to economic growth. Muhammad, et. al., (2023) examined the role of stock markets in the economic growth of four Asian countries which includes Bangladesh, India, China and Singapore using annual time series data ranging from 1991 to 2021. The study applied ARDL and analytical techniques to analyzed the long-run relationship among economic growth, foreign direct investment (FDI), stock market development and inflation. The result revealed that stock development is statistically significant in China and Singapore. In the short-run, the stock market exerted a positive impact on economic growth but is only significant in China and India. It was concluded that stock market development plays a vital role in the countries studied.

Karimo, et. al., (2023) examined the direction of causality between financial deepening and economic growth in Nigeria between the period of 1970 and 2020. Applying Toda- Yamamoto augmented Granger Causality, the study revealed that financial deepening leads to economic growth giving support to supply leading hypothesis. Popoola, et. al., (2023) investigated the short/long-run effect, and causal relationship between stock market and economic growth in Nigeria using the ADF unit root test, OLS, Johansen Co-integration test and Pairwise granger causality methods. The study revealed a long-run relationship between stock market performance and economic growth in Nigeria. Meanwhile, the Granger causality test results showed that stock market performance does not Granger cause economic growth but economic growth Granger caused stock market performance at 5% significance level which also implies a unidirectional relationship running from economic growth to stock market performance.

Bilal, et. al., (2023) carried out research on the impact of stock market development on economic growth using panel data techniques by fixed effects and random effects and applying the Hausman test using data from 20 lower-middle income countries from 1990 to 2021. The results of the study suggested a positive and significant relationship between stock market development on economic growth. The study also measured the exact impact of stock market development on the growth of the economy by control variables such as financial depth (FD), investment (INV), foreign direct investment (FDI), trade openness (TO) and inflation (INF). Brown, et. al., (2023) examined the imperative of the stock market on economic performance in Nigeria market capitalization, total value traded ratio, real GDP per capita, inflation rate and trade openness of the economy. The study which adopted OLS techniques of multiple regression and co-integration test, found a positive relationship between stock market development and economic growth.

Erasmus, (2023) examined the relationship between stock market evolution and sustainable economic growth in Nigeria. The study employed ARDL-bounds testing approach and a combined stock market indicator index to examine the relationship. The study revealed a negative/mixed or inconclusive impact of stock market development on economic growth. Okoye, et. al., (2023) investigated the relationship between capital market development and economic growth using Nigerian data on GDP while stock market development was proxied by MCR, VTR and STR. The result revealed that the stock market significantly impacts on economic growth both in the short run and long run and a unidirectional causality running from stock market to economic growth.

Naik, et. al., (2022) empirically examined the impact of stock market development on economic growth for a panel of 27 emerging economies using annual data for the period of 1995 to 2021. The studies revealed that stock market development significantly contributes to economic growth with a unidirectional causality running from stock market to economic growth. The study also revealed that macroeconomics variables (investment ratio, trade openness and exchange rates) have significant impact on economic growth. Okonkwo, et. al., (2022) used Johansen co-integration test to examine the impact of stock market development on economic growth; including the direction of causality between the dependent and independent variables in Nigeria with four measures of stock market development. The study established the existence of co-integration for all the stock market development measures. The study found the existence of a long-run positive relationship between stock market development and economic growth. It also established a unidirectional relationship between the duo running from economic growth to stock market development.

Ohiomu, et. al., (2021) examined the effect of stock market on economic growth in Nigeria employing OLS regression using the data from 1989 to 2008. The results indicated that there was a positive relationship between economic growth and all the stock market development variables used which affirmed a positive relationship between stock market development and economic growth in Nigeria. Levine, et. al., (2021) studied empirical relationship between stock market, banking development and economic growth revealed a strong positive relationship between financial market and economic growth and concluded that financial factors form the integral part of growth process.

Gaps in the Literatures

While previous studies provide valuable insights, they leave some gaps that this study addresses. First, most research has focused either on market capitalization alone or broader cross-country comparisons, neglecting the role of liquidity indicators such as stock turnover and value traded in Nigeria. Second, few studies employ advanced econometric techniques like the ARDL model, which accounts for both short-run and long-run effects, making this study methodologically distinct. Finally, the mixed findings in existing literature necessitate further investigation to determine whether stock market development consistently drives economic growth in Nigeria, particularly in the context of recent macroeconomic instability.

METHODOLOGY

This study adopts an ex-post facto research design, as it examines historical data to evaluate the relationship between stock market development (SMD) and economic growth in Nigeria. The design is suitable because the study focuses on cause-and-effect relationships without manipulating the independent variables. Secondary data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, the Nigerian Stock Exchange (NSE) Factbook, and World Bank Development Indicators. The dataset spans between 1990 and 2023 which includes stock market indicators such as market capitalization (MCAP), stock turnover ratio (STR), and value traded ratio (VTR), alongside Gross Domestic Product (GDP) as the measure of economic growth. Descriptive and ARDL-Bound test analytical tools and the Granger Causality test were employed in analysing the data.

Model Specification

The study adopted the model of Owen, (2020) on Stock market development and economic growth. The dependent variable is GDP, representing economic growth, while the independent variables include

Market Capitalization (MCAP), Value Traded Ratio (VTR), and Stock Turnover Ratio (STR). The functional relationship is expressed as:

$$GDP_t = f(MCAP_t, VTR_t, STR_t)$$

The econometric model is further specified as:

$$GDP_t = \beta_0 + \beta_1 MCAP_t + \beta_2 VTR_t + \beta_3 STR_t + \mu_t$$

Justification for Autoregressive Distributed Lag (ARDL) Model

The ARDL model is employed for this study due to several methodological advantages. First, ARDL is appropriate when the variables are a mix of I(0) and I(1), but not I(2), which suits the nature of macroeconomic and financial time-series data in Nigeria. Second, ARDL is efficient with small sample sizes, which is often a limitation in Nigerian datasets. Third, ARDL allows for the simultaneous estimation of both short-run dynamics and long-run equilibrium relationships within a single framework. This provides insights into the immediate and sustained effects of stock market development on economic growth. Finally, the bounds testing approach within the ARDL framework offers a robust method for detecting cointegration, ensuring reliable results even under small-sample constraints.

Data Analysis and Discussion of Findings

Table 4.1: Augmented Dickey Fuller (ADF) Unit Root Test at Stationary Points

Variables		ADF		Order of integration
	t-statistics	Critical values @5%	Prob.	
EGR	12.86068	-2.954021	1.0000	I (0)
ASI	-5.242947	-2.957110	0.0002	I (1)
MCP	5.303729	-2.954021	1.0000	I (0)
TSL	-5.626955	-2.971853	0.0001	I (1)
VST	-5.605623	-2.971853	0.0001	I (1)

The ADF URT test as shown in the table 4.1 provided evidence that economy growth rate and market capitalisation were stationary at level I(0), while all share index, total securities listed on the Nigerian Stock Exchange and value of stock traded were all stationary at first difference I(1).

Table 4.2: Selection of Optimal Lag Length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1264.113	NA	1.560228	81.94276	82.22030	82.03323
1	-1071.869	297.6683	6.840223	71.86249	73.80531	72.49580
2	-992.6848	91.95530*	5.600222*	69.07644*	72.68454*	70.25259

Therefore, as a result of the result of the optimal lag length criteria, it is concluded that the most suitable lag length is 2 premised on the Akaike Information Criterion.

Table 4.3: ARDL Bounds Test (Co-Integration Result)

F-Statistics	Lower Bound (5%)	Upper Bound (5%)
21.88881	2.39	3.38

Table 4.3 provided evidence that the F-statistics is greater than the lower and upper bound at 5% significance level which shows that there exists a long run equilibrium relationship between the dependent and independent variables.

Table 4.4: ARDL Long Run Result

Dependent Variable: EGR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASI	0.201239	0.399019	0.504334	0.6193
MCP	3.456516	0.962162	3.592448	0.0017***
MTR	-113327.0	107789.0	-1.051378	0.3050
TSL	-893.8268	347.5879	-2.571513	0.0178**
VST	884.7929	341.2798	2.592573	0.0170**
C	119.2820	4402.222	0.027096	0.9786

indicates significance at 10%, 5% and 1% respectively

Table 4.4 revealed that all share index, market capitalization and value of stock traded has a positive effect on economic growth while other stock market related variables had negative effect on economic growth. This implies that an increase in either ASI, MCP, VST will increase economic growth while an increase in other variables will cause decline on economic growth.

Table 4.5: Diagnostic Tests (Post-Estimation Tests)

Test Nomenclature	F-Statistics	Prob. Value
LM Serial Correlation	0.850719	0.4427
Heteroscedasticity	0.812054	0.6206
Normality (Jarque-Bera)	10.34457	0.005672

Evidence from table 4.5 containing the post estimation tests revealed that model has no problem of serial correlation and heteroscedasticity. This is because the probability value attached was higher than 0.05 in both cases. Meanwhile, the abnormal distribution showed that the probability value was less than 0.05.

Table 4.6: Engle Granger Causality Test

Null Hypothesis	Obs.	F-Stat.	Prob.
ASI does not Granger Cause EGR	32	0.86871	0.4309

EGR does not Granger Cause ASI		7.05644	0.0034***
MCP does not Granger Cause EGR	32	3.86019	0.0335**
EGR does not Granger Cause MCP		4.95319	0.0147***
MTR does not Granger Cause EGR	32	0.14611	0.8647
EGR does not Granger Cause MTR		1.43336	0.2561
TSL does not Granger Cause EGR	31	0.74811	0.4832
EGR does not Granger Cause TSL		2.40030	0.1105
VST does not Granger Cause EGR	31	0.81949	0.4517
EGR does not Granger Cause VST		2.35235	0.1151*

indicates significance at 10%, 5% and 1% respectively

The result of the Engle Granger causality test revealed that all the stock market related variables except market turnover rate granger cause economic growth as unidirectional causality was reported to run from each of all share index, market capitalization, total securities listed and value of stock traded to economic growth.

Discussion and Implications of Findings

The results revealed that stock market development exerts a significant but mixed influence on economic growth in Nigeria. Market Capitalization (MCAP) demonstrates a positive and statistically significant effect on GDP, indicating that expansion in the size of the stock market contributes to economic growth. This finding supports the financial intermediation theory and endogenous growth theory, which emphasize that deeper financial markets mobilize savings and channel them into productive investments.

Conversely, the Value Traded Ratio (VTR) and Stock Turnover Ratio (STR) showed weak and statistically insignificant effects on GDP. This outcome suggests that trading activity and liquidity in the Nigerian stock market remain insufficient to significantly drive economic growth. This result aligns with the inefficient market hypothesis and empirical evidence from Nyong (1997) and Okonkwo et al. (2014), who noted that weak trading efficiency and speculative tendencies limit the growth-enhancing role of the Nigerian stock market.

Overall, the findings are consistent with the trade-off theory, as they demonstrate the dual nature of stock markets in developing economies: while market size provides growth opportunities, inefficiencies in trading and liquidity constrain long-term contributions to GDP.

CONCLUSION AND RECOMMENDATIONS

This study investigated the impact of stock market development on Nigeria's GDP using market capitalization, value traded ratio, and stock turnover ratio as key indicators. The findings show that market capitalization significantly drives economic growth, while trading activity and liquidity indicators have limited influence. This suggests that Nigeria's stock market is still evolving and has not fully achieved its potential as a catalyst for sustainable economic growth. Based on the findings, the study makes the following recommendations:

1. **Strengthen Stock Market Infrastructure:** The Nigerian government and regulatory bodies such as the Securities and Exchange Commission (SEC) should enhance market infrastructure to improve trading efficiency and liquidity.
2. **Promote Investor Confidence:** Efforts should be made to improve corporate governance, transparency, and disclosure standards to attract both domestic and foreign investors.

3. **Encourage Broader Participation:** Public awareness campaigns and financial literacy programs should be expanded to encourage wider participation in the stock market, thereby increasing liquidity and activity.
4. **Diversify Listed Securities:** The NSE should encourage more companies, especially from non-oil sectors, to list on the exchange. This will expand the range of investment opportunities and reduce market concentration.
5. **Macroeconomic Stability:** Policymakers should focus on creating a stable macroeconomic environment, including low inflation, stable interest rates, and credible exchange rate policies, as these are essential for sustained market growth and investor confidence.

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