

Revisiting the Capital Market-Economic Growth Nexus in Nigeria: Evidence from the ARDL Approach

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ABSTRACT

This study examined the effect of capital market development on economic growth in Nigeria using annual time-series data covering the period 1990-2024. Specifically, the study investigated the influence of market capitalization ratio, stock market turnover ratio, and value traded ratio on economic growth while controlling for exchange rate. An ex post facto research design was adopted, and secondary data were obtained from the World Development Indicators and the Central Bank of Nigeria Statistical Bulletin. The study employed the Autoregressive Distributed Lag (ARDL) modelling approach to estimate both the short-run and long-run relationships among the variables after conducting unit root and bounds cointegration tests. The findings revealed the existence of a stable long-run relationship between capital market development and economic growth. The long-run estimates showed that market capitalization ratio and stock market turnover ratio exerted positive but statistically insignificant effects on economic growth, whereas value traded ratio exhibited a negative and insignificant effect. Exchange rate, however, had a positive and statistically significant influence on economic growth. The error correction mechanism indicated that approximately 44.3% of short-run disequilibrium is corrected annually, confirming the stability of the long-run equilibrium relationship. The study concludes that although Nigeria's capital market has expanded considerably, improvements in market size, market activity, and trading activity have not translated into significant economic growth. The study therefore recommends that policymakers prioritize measures aimed at improving market efficiency, strengthening investor confidence, promoting productive investment, and maintaining macroeconomic stability to enhance the contribution of the capital market to sustainable economic growth.

Keywords: Capital market development; Economic growth; Market capitalization; Stock market turnover; ARDL

INTRODUCTION

Capital market development has become an increasingly important policy instrument for promoting sustainable economic growth, particularly in emerging economies where long-term investment financing remains constrained, and they are widely recognized as a critical component of modern financial systems because they mobilize long-term savings, facilitate efficient capital allocation, and support investment in productive sectors of the economy. By providing firms and governments with access to long-term finance, well-developed capital markets enhance capital formation, improve resource allocation, strengthen investor confidence, and promote sustainable economic growth (Levine, 1997; Beck et al., 2000; Levine, 2005). Beyond their financing role, efficient capital markets improve liquidity, reduce transaction costs, promote corporate governance, and facilitate risk diversification, thereby creating an enabling environment for economic expansion.

Although the positive contribution of financial development to economic growth is well established in economic theory, empirical evidence regarding the role of capital markets remains inconclusive. While classical finance-growth theories, including the Supply-Leading Hypothesis, argue that financial development precedes and stimulates economic growth through improved financial intermediation, subsequent empirical studies have produced varying results across countries and periods. A comprehensive meta-analysis by Iwasaki and Ono

(2024) demonstrates that the magnitude and direction of the finance-growth relationship depend on institutional quality, financial market structure, regulatory effectiveness, and the level of economic development. Similarly, Law and Singh (2014) argue that financial development contributes to economic growth only up to a certain threshold, beyond which excessive financial expansion may generate diminishing returns or even adverse economic outcomes. These findings suggest that the growth effects of capital market development are largely context-specific, particularly in developing economies characterized by structural and institutional constraints.

Nigeria provides an important case for examining this relationship because its capital market has undergone substantial transformation over the past three decades. Regulatory reforms introduced by the Securities and Exchange Commission (SEC), improvements in market infrastructure, technological innovation, enhanced disclosure standards, and the demutualization of the Nigerian Exchange have been designed to deepen market activities, strengthen investor confidence, and improve market efficiency (SEC, 2023; Nigerian Exchange Group, 2023). These reforms have contributed to considerable growth in market size, with market capitalization expanding substantially over time. However, improvements in market size have not been consistently accompanied by comparable increases in market liquidity, trading activity, or sustained economic performance. Indicators such as the stock market turnover ratio and value traded ratio have exhibited considerable volatility, while Nigeria's economic growth has remained unstable, reflecting periods of expansion and contraction (Central Bank of Nigeria, 2024). This divergence raises concerns regarding the extent to which capital market development has effectively supported productive investment and long-term economic growth.

The existing empirical literature on Nigeria reflects similar inconsistencies. Some studies report that capital market development exerts a positive influence on economic growth through increased market capitalization and financial deepening (Aliyu et al., 2024; Akinbola, 2024). Conversely, other studies find that market liquidity indicators exert weak or statistically insignificant effects on growth, suggesting that expansion in market size has not necessarily translated into improved market efficiency or productive investment (Bamishe & Ajao, 2024; Adekunle, 2024). More recent evidence by Nnakee et al. (2025) further indicates that the long-run relationship between stock market development and economic performance remains sensitive to model specification and the indicators used to measure capital market development. Consequently, there remains no clear consensus regarding the channels through which capital market development influences economic growth in Nigeria.

The absence of consensus in previous studies may partly reflect differences in variable selection, estimation techniques, sample periods, and the multidimensional nature of capital market development. Many earlier studies rely on a single proxy for market development or analyze relatively shorter time horizons, thereby limiting a comprehensive assessment of how different dimensions of market development jointly influence economic growth. This study addresses these limitations by examining three complementary indicators of capital market development, market capitalization ratio, stock market turnover ratio, and value traded ratio using annual data covering the period 1990-2024. The study employs the Autoregressive Distributed Lag (ARDL) approach, which is appropriate for variables integrated at mixed orders and enables the estimation of both short-run and long-run dynamics.

Unlike previous Nigerian studies that focused on individual indicators of stock market development or shorter sample periods, this study jointly examines market capitalization ratio, turnover ratio and value traded ratio over 1990-2024 while controlling for exchange rate dynamics. Consequently, the study provides more comprehensive and up-to-date evidence on the capital market-growth nexus in Nigeria.

LITERATURE REVIEW

Conceptual Review

Capital Market Development

Capital market development refers to the process through which financial markets become larger, more liquid, efficient, accessible, and capable of mobilizing and allocating long-term financial resources to productive investments. A well-developed capital market enables governments and private firms to raise long-term capital while providing investors with opportunities for portfolio diversification, risk sharing, and wealth creation. Consequently, capital market development has become an important component of financial sector development

and a key driver of sustainable economic growth, particularly in emerging economies where access to long-term finance remains constrained (Levine & Zervos, 1998; Beck & Levine, 2004).

Capital market development is a multidimensional concept comprising several interrelated dimensions, including market size (depth), market activity, market liquidity, efficiency, access, and stability. Among these dimensions, market size, market activity, and market liquidity are the most frequently examined in empirical studies because they reflect the ability of capital markets to mobilize savings, facilitate trading, and allocate financial resources efficiently. The World Bank's Global Financial Development Database identifies market capitalization ratio, turnover ratio, and value traded ratio as internationally recognized indicators for evaluating stock market development across countries (World Bank, 2025). Accordingly, this study adopts these three indicators to capture different dimensions of capital market development in Nigeria.

Market Capitalization Ratio

Market capitalization ratio measures the total value of listed domestic companies relative to Gross Domestic Product (GDP). It represents the size and depth of the stock market and indicates the extent to which the capital market contributes to overall economic activity. A higher market capitalization ratio suggests that firms have greater access to long-term finance, thereby promoting capital accumulation, investment expansion, and economic growth (Levine & Zervos, 1998).

However, market size alone does not necessarily imply an efficient capital market. A market may exhibit high capitalization because of increased asset prices while experiencing relatively low trading activity. Consequently, recent studies recommend interpreting market capitalization together with liquidity indicators to obtain a more comprehensive assessment of capital market development (Yesim, 2026; World Bank, 2025).

Stock Market Turnover Ratio

Stock market turnover ratio measures the value of shares traded relative to market capitalization. Unlike market capitalization, which reflects market size, the turnover ratio measures the level of trading activity within the stock market. It indicates how frequently listed securities change hands and provides insight into the intensity of market participation.

A higher turnover ratio suggests a more active market characterized by frequent trading, improved information flow, and greater investor participation. Active markets generally facilitate more efficient allocation of financial resources because securities can be traded more readily in response to new information. Consequently, turnover ratio is widely employed as an indicator of market activity and operational efficiency in empirical finance literature (Levine & Zervos, 1998; World Bank, 2025; Selen et al., 2023).

Value Traded Ratio

Value traded ratio measures the total value of shares traded as a percentage of Gross Domestic Product (GDP). Unlike the turnover ratio, which reflects trading activity relative to market size, the value traded ratio measures the liquidity of the stock market relative to the overall economy. It indicates the extent to which stock market transactions contribute to economic activity and the ease with which financial assets can be exchanged without significantly affecting market prices.

Higher value traded ratios generally indicate a more liquid market, characterized by lower transaction costs, improved price discovery, greater investor confidence, and more efficient mobilization of financial resources. Because liquidity enhances the ability of investors to convert financial assets into cash quickly, the value traded ratio has become one of the most widely accepted indicators of stock market liquidity in cross-country empirical studies (World Bank, 2025; Yesim, 2026).

Economic Growth

Economic growth refers to the sustained increase in an economy's productive capacity over time and is commonly measured by the growth rate of real Gross Domestic Product (GDP). Sustained economic growth

leads to higher income, increased employment opportunities, improved productivity, and enhanced living standards.

Within the finance-growth literature, capital market development promotes economic growth by mobilizing savings, facilitating long-term investment financing, improving resource allocation, reducing information asymmetry, and encouraging technological innovation (Beck & Levine, 2004). The extent to which these benefits materialize, however, depends largely on the efficiency of financial markets and the broader macroeconomic environment.

Exchange Rate and Capital Market Development

Exchange rate represents the price of one currency relative to another and constitutes an important macroeconomic variable influencing financial market performance and economic growth. Exchange rate movements affect foreign portfolio investment, corporate profitability, inflation, external competitiveness, and investor confidence. Excessive exchange rate volatility may discourage investment and reduce the efficiency of capital markets, whereas exchange rate stability creates a more predictable investment climate that supports long-term investment decisions.

Consequently, recent empirical studies increasingly incorporate exchange rate as a control variable when examining the relationship between capital market development and economic growth, particularly in emerging economies characterized by persistent exchange rate fluctuations (Aliyu et al., 2024; Abdulkadri, 2025).

Empirical Review

Recent empirical studies generally support the argument that capital market development contributes to economic growth, although the magnitude and direction of this relationship differ across countries because of differences in financial market structure, institutional quality, macroeconomic conditions, and estimation techniques. Studies conducted in both developed and developing economies provide evidence that improvements in stock market size, trading activity, and liquidity enhance capital formation and economic performance, while others report weak or insignificant relationships attributable to structural inefficiencies and market imperfections.

Evidence from cross-country and international studies largely supports the positive contribution of capital market development to economic growth. Using panel data for the Fragile Five economies between 2001 and 2024, Yesim (2026) employed second-generation panel cointegration techniques, Fully Modified Ordinary Least Squares (FMOLS), Dynamic Ordinary Least Squares (DOLS), and panel causality tests and found that market capitalization significantly promoted economic growth. The study further established causality running from stock market development to economic growth, thereby providing empirical support for the Supply-Leading Hypothesis. Similarly, Bouattor et al. (2024), using the ARDL approach for China, reported that market capitalization exerted a positive and significant influence on economic growth, although the effects of other financial development indicators varied. These findings suggest that well-developed capital markets promote long-term economic performance when supported by effective institutions and regulatory frameworks.

Empirical evidence from Nigeria presents a more mixed picture. Using annual data from 1990 to 2024, Abdulkadri (2025) employed the ARDL technique and found that although capital market development maintained significant short-run and long-run relationships with economic growth, the long-run effects of market capitalization and turnover ratio were statistically insignificant. Likewise, Aliyu et al. (2024) reported that capital market development exerted a positive short-run effect but a negative and insignificant long-run effect on economic growth. Bamishe and Ajao (2024), using the Ordinary Least Squares technique, also observed that market capitalization exhibited a positive but insignificant relationship with economic growth. Collectively, these findings imply that expansion in market size alone may not necessarily translate into sustained economic growth where structural and institutional challenges persist.

Conversely, other Nigerian studies report stronger evidence in support of the finance-growth relationship. Adekunle et al. (2025), using the ARDL Bounds Testing approach and Engle-Granger causality test, found that market capitalization and value traded significantly enhanced economic growth, while causality ran from stock market development to economic growth. Similarly, Evbuomwan et al. (2024) showed that equities, the All-

Share Index, and the value of transactions positively influenced economic growth, although government securities and corporate bonds produced adverse effects. Eniekezimene et al. (2024), using a Vector Autoregressive (VAR) model, also found that market capitalization promoted economic growth, whereas the value of securities traded exerted a negative influence. These studies indicate that the contribution of capital market development depends on the specific indicator employed, suggesting that different dimensions of market development influence economic growth through different channels.

Earlier Nigerian evidence equally reflects this lack of consensus. Okekwu et al. (2022) found that capital market development significantly promoted economic growth in both the short run and long run, with market capitalization emerging as the principal driver of economic performance. In contrast, Selena et al. (2023) reported that although market capitalization ratio, turnover ratio, and value traded ratio maintained a long-run relationship with economic growth, their individual coefficients were statistically insignificant. The divergence in these findings reinforces the argument that the capital market-growth nexus remains highly sensitive to variable selection, estimation techniques, sample periods, and prevailing macroeconomic conditions.

Research Gap

The existing empirical literature demonstrates considerable progress in explaining the relationship between capital market development and economic growth. Nevertheless, several important gaps remain.

First, empirical findings remain inconclusive regarding the individual contributions of market capitalization ratio, stock market turnover ratio and value traded ratio to economic growth. While some studies identify market capitalization as the dominant driver of growth, others report insignificant or negative effects for market activity and liquidity indicators, suggesting that the influence of capital market development remains an unresolved empirical issue in Nigeria.

Second, many Nigerian studies have focused on one or two dimensions of capital market development, thereby limiting a comprehensive assessment of how market size, market activity and market liquidity jointly influence economic growth. Consequently, the multidimensional nature of capital market development has not been adequately examined.

Third, although some studies incorporated macroeconomic control variables, many failed to account adequately for exchange rate dynamics despite the increasing volatility of Nigeria's foreign exchange market. Excluding relevant macroeconomic conditions may bias estimates of the capital market-growth relationship.

Finally, several Nigerian studies relied on datasets that ended before recent developments in Nigeria's financial and foreign exchange markets. As a result, existing evidence may not fully reflect the current dynamics of capital market development and economic growth.

Accordingly, this study addresses these gaps by jointly examining market capitalization ratio, stock market turnover ratio and value traded ratio while incorporating exchange rate as a control variable. Using annual data spanning 1990-2024 and the Autoregressive Distributed Lag (ARDL) approach, the study provides updated evidence on the relationship between capital market development and economic growth in Nigeria.

METHODOLOGY

Research Design and Data Source

This study adopts an ex post facto research design to examine the effect of capital market development on economic growth in Nigeria. The design is appropriate because it relies on historical macroeconomic data that cannot be manipulated by the researcher. Annual time-series data covering the period 1990-2024 were utilized to capture both short-run fluctuations and long-run trends in capital market development and economic growth.

Secondary data were obtained from reputable official sources. Data on gross domestic product growth rate (GDPGR), market capitalization ratio (MCAP), stock market turnover ratio (TURN), and value traded ratio (VTR) were sourced from the World Development Indicators (World Bank, 2025), while data on exchange rate

(EXR) were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin (2024). These sources were selected because they provide consistent, reliable, and internationally comparable macroeconomic and financial statistics widely used in empirical finance and economic growth studies.

Model Specification

The empirical model is anchored on the Supply-Leading Hypothesis proposed by Patrick (1966), which posits that financial market development promotes economic growth through the mobilization of savings, efficient allocation of financial resources, and increased investment in productive activities. In line with this theoretical proposition, the study examines whether capital market development contributes to economic growth in Nigeria.

Following the empirical framework of Aliyu et al. (2024), the baseline model is modified by incorporating exchange rate as a control variable to capture the influence of macroeconomic conditions on economic growth. Capital market development is represented by market capitalization ratio (MCAP), stock market turnover ratio (TURN), and value traded ratio (VTR).

The functional relationship is specified as:

$$\text{GDPGR} = f(\text{MCAP}, \text{TURN}, \text{VTR}, \text{EXR}) \dots\dots\dots (1)$$

where:

GDPGR = Gross Domestic Product Growth Rate

MCAP = Market Capitalization Ratio

TURN = Stock Market Turnover Ratio

VTR = Value Traded Ratio

EXR = Exchange Rate

The econometric model is specified as:

$$\text{GDPGR}_t = \beta_0 + \beta_1 \text{MCAP}_t + \beta_2 \text{TURN}_t + \beta_3 \text{VTR}_t + \beta_4 \text{EXR}_t + \mu_t \dots\dots\dots (2)$$

where:

GDPGR_t = Gross Domestic Product Growth Rate at time t

MCAP_t = Market Capitalization Ratio at time t

TURN_t = Stock Market Turnover Ratio at time t

VTR_t = Value Traded Ratio at time t

EXR_t = Exchange Rate at time t

β_0 = Constant term

β_1 - β_4 = Parameters to be estimateds

μ_t = Stochastic error term

t = Time period

The coefficients β_1 , β_2 , and β_3 are expected to be positive, consistent with the Supply-Leading Hypothesis, which suggests that improvements in capital market development enhance economic growth through increased savings mobilization, efficient resource allocation, and investment financing. The expected sign of β_4 is indeterminate because exchange rate movements may either stimulate or constrain economic growth depending on prevailing macroeconomic conditions.

To estimate both the short-run and long-run relationships among the variables, this study employs the Autoregressive Distributed Lag (ARDL) modelling approach developed by Pesaran and Shin (1999) and extended by Pesaran, Shin, and Smith (2001). The ARDL technique is appropriate because it accommodates variables integrated of mixed orders, $I(0)$ and $I(1)$, provided none of the variables is integrated of order two, $I(2)$. In addition, the approach simultaneously estimates the short-run dynamics and long-run equilibrium relationship within a single modelling framework. Following confirmation of cointegration through the ARDL bounds testing procedure, the associated Error Correction Model (ECM) is estimated to determine the speed at which short-run deviations adjust towards the long-run equilibrium after economic shocks.

Measurement of Variables

The study examines the relationship between capital market development and economic growth using one dependent variable, three explanatory variables, and one control variable. Economic growth is proxied by the annual growth rate of Gross Domestic Product (GDPGR). Capital market development is measured using three complementary indicators that capture different dimensions of stock market development, namely market capitalization ratio (MCAP), stock market turnover ratio (TURN), and value traded ratio (VTR). Specifically, market capitalization ratio measures market size, stock market turnover ratio measures market activity and trading efficiency, while value traded ratio reflects the level of trading activity relative to the size of the economy. Exchange rate (EXR) is included as a control variable to account for the influence of macroeconomic conditions on economic growth. Table 3.3 presents the definition and measurement of the study variables.

Table 1: Definition and Measurement of Variables

Variables	Proxy	Measurement	Expected Sign	Source
Economic Growth	GDPGR	Annual growth rate of Gross Domestic Product (%)	Dependent Variable	WDI (2025)
Market Capitalization Ratio	MCAP	Market capitalization of listed domestic companies (% of GDP)	+	WDI (2025)
Value Traded Ratio	VTR	Total Value of Shares Traded as a percentage (%) of GDP	+	WoDI (2025)
Stock Market Turnover Ratio	TURN	Total value of shares traded as a percentage of market capitalization (% of Market cap)	+	WDI (2025)
Exchange Rate	EXR	Annual percentage change in the official exchange rate	$\pm$	CBN Statistical Bulletin (2024)

Estimation Technique

The study employs the Autoregressive Distributed Lag (ARDL) modelling approach developed by Pesaran and Shin (1999) and extended by Pesaran, Shin, and Smith (2001) to examine the relationship between capital market development and economic growth in Nigeria. The ARDL technique is particularly suitable because it permits the estimation of both the short-run dynamics and the long-run equilibrium relationship within a single econometric framework. In addition, the approach accommodates variables integrated of mixed orders, $I(0)$ and

I(1), provided none of the variables is integrated of order two, I(2), and performs efficiently with relatively small sample sizes.

Prior to estimating the ARDL model, the statistical properties of the variables were examined using the Augmented Dickey-Fuller (ADF) unit root test developed by Dickey and Fuller (1979, 1981) to determine their order of integration. Thereafter, the ARDL bounds testing procedure proposed by Pesaran et al. (2001) was employed to determine the existence of a long-run equilibrium relationship among the variables. Evidence of cointegration justified the estimation of both the long-run coefficients and the associated Error Correction Model (ECM), which measures the speed at which short-run disequilibrium adjusts towards the long-run equilibrium following economic shocks.

To evaluate the adequacy and robustness of the estimated model, several post-estimation diagnostic tests were conducted, including the Breusch-Godfrey Serial Correlation LM Test, Breusch-Pagan-Godfrey Heteroskedasticity Test, Jarque-Bera Normality Test, Ramsey RESET Specification Test, and the CUSUM and CUSUM of Squares (CUSUMSQ) stability tests. These diagnostic procedures were undertaken to verify that the estimated model satisfied the underlying assumptions of classical regression analysis and remained stable throughout the study period.

Furthermore, the Pairwise Granger Causality Test (Granger, 1969) was performed to examine the direction of causality among capital market development indicators and economic growth. While the ARDL model estimates the magnitude and significance of both the short-run and long-run relationships, the Granger causality test provides additional evidence on whether changes in one variable possess predictive power over another.

RESULTS AND DISCUSSION

Preliminary Analysis

Table 2. Descriptive Statistics of the Study Variables

	GDPGR	MCAP	TURN	VTR	EXR
Mean	4.081118	15.28746	6.840909	0.842945	19.29802
Median	4.230061	16.31515	4.768486	0.483071	2.836719
Maximum	15.32916	40.57287	34.7853	6.238707	321.9049
Minimum	-6.3689	3.328117	1.07468	0.053243	-5.75594
Std. Dev.	4.151732	9.921092	6.513594	1.27326	55.19086
Skewness	0.106535	0.755077	2.531423	3.192241	4.929542
Kurtosis	3.822567	3.031459	11.0334	13.01067	27.40574

Source: Researcher's Computation from E-views 10

Table 2 presents the descriptive statistics of the variables employed in the study for the period 1990-2024. The average economic growth rate (GDPGR) was 4.08%, with a minimum value of -6.37% and a maximum value of 15.33%, indicating substantial fluctuations in Nigeria's economic performance during the study period. These variations reflect periods of economic expansion and contraction arising from changes in domestic macroeconomic conditions and external economic shocks.

Market capitalization ratio (MCAP) recorded an average value of 15.29%, suggesting that the Nigerian capital market remained relatively modest in size despite periods of expansion. The stock market turnover ratio (TURN) averaged 6.84%, while the value traded ratio (VTR) recorded a mean of 0.84%, indicating relatively low market

activity over the study period. The large differences between the minimum and maximum values of these variables suggest considerable fluctuations in capital market performance.

Exchange rate (EXR) exhibited the highest degree of variability among all the variables, with a mean of 19.30, a standard deviation of 55.19, and a maximum value of 321.90. This reflects the substantial exchange rate volatility experienced in Nigeria, particularly during periods of exchange rate reforms and macroeconomic instability.

The skewness and kurtosis statistics indicate that TURN, VTR and EXR are positively skewed and leptokurtic, implying the presence of extreme observations and departures from normality. Nevertheless, these descriptive statistics primarily provide preliminary insights into the characteristics of the data prior to the econometric estimation.

Stationarity Test

Table 3. Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variables	Level ADF statistic	Prob.	First Difference ADF statistic	Prob.	Order of Integration
GDPGR	-3.79456	0.0068	-9.09437	0.0000	I(0)
MCAP	-0.81284	0.8027	-5.14335	0.0002	I(1)
TURN	-2.40186	0.1487	-5.35144	0.0001	I(1)
VTR	-2.61532	0.0998	-5.80651	0.0000	I(1)
EXR	-5.86378	0.0000	-6.16926	0.0000	I(0)

Source: Researcher's Computation from E-views 10

The results presented in Table 3 indicate that the variables are integrated of mixed orders. Specifically, economic growth (GDPGR) and exchange rate (EXR) are stationary at level, implying that they are integrated of order zero, I(0). In contrast, market capitalization ratio (MCAP), stock market turnover ratio (TURN), and value traded ratio (VTR) become stationary only after first differencing, indicating that they are integrated of order one, I(1).

The presence of both I(0) and I(1) variables satisfies the fundamental requirement for the application of the Autoregressive Distributed Lag (ARDL) modelling technique proposed by Pesaran et al. (2001). Importantly, none of the variables is integrated of order two, I(2), thereby confirming the suitability of the ARDL bounds testing approach for examining both the long-run and short-run relationships between capital market development and economic growth in Nigeria.

Cointegration Test

Table 4. ARDL Bounds Test Results

Test Statistic	Value
F-statistic	3.6108
Lower Bound, I(0)	2.56
Upper Bound, I(1)	3.49
Decision	Cointegration Exists

Source: Researcher's Computation from E-views 10

Table 4 presents the ARDL bounds test results for cointegration. The computed F-statistic of 3.6108 exceeds the upper bound critical value of 3.49 at the 5% significance level. Consequently, the null hypothesis of no long-run relationship among the variables is rejected.

The result confirms the existence of a stable long-run equilibrium relationship between capital market development and economic growth in Nigeria. This implies that although short-run fluctuations may occur, the variables tend to move together over time toward a common equilibrium path. The confirmation of cointegration therefore justifies the estimation of both the long-run ARDL model and the associated Error Correction Model (ECM), which capture the long-run equilibrium relationship and the short-run adjustment dynamics, respectively.

Long-run ARDL Estimates

Table 5. Long-run ARDL Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MCAP	0.045912	0.219396	0.209267	0.8371
TURN	0.481042	0.763649	0.629925	0.5382
VTR	-0.29141	4.090808	-0.07123	0.9442
EXR	0.131581	0.062526	2.104408	0.0526
C	-3.66858	3.892153	-0.94256	0.3608

Source: Researcher's Computation from E-views 10

The long-run ARDL estimates presented in Table 5 examine the effect of capital market development on economic growth in Nigeria over the period 1990-2024. The results reveal that the selected capital market indicators exert mixed effects on economic growth, while only the exchange rate demonstrates a statistically meaningful influence.

The coefficient of market capitalization ratio (MCAP) is positive (0.0459) but statistically insignificant ($p = 0.8371$), indicating that expansion in the size of the Nigerian capital market has not translated into significant improvements in economic growth. Although the positive sign supports Patrick's (1966) Supply-Leading Hypothesis, the absence of statistical significance suggests that increases in market capitalization have not been accompanied by efficient mobilization of financial resources towards productive investment. This outcome may reflect the concentration of listed firms within a few sectors, limited access to the capital market by productive enterprises, weak investor participation, and persistent structural inefficiencies. The finding is consistent with those of Aliyu et al. (2024), Amaegberia and Ebierinyo (2024), Oluwagbenga (2024), Eniekezimene et al. (2024), Bamishe and Ajao (2024), Selena et al. (2023), and Babatunde et al. (2021), who similarly reported that market capitalization contributes positively but insignificantly to economic growth. However, the result differs from Abdulkadri (2025), Adekunle et al. (2025), Miftahu (2020), Acha et al. (2019), and Rajesh et al. (2018), who found a significant positive relationship between market capitalization and economic growth.

Similarly, the stock market turnover ratio (TURN) has a positive coefficient (0.4810) but remains statistically insignificant ($p = 0.5382$). This suggests that although increased trading activity may improve market liquidity, it has not generated a significant contribution to economic growth in Nigeria. Since turnover ratio reflects the frequency with which securities are traded, the result implies that increased market activity alone is insufficient to stimulate economic performance unless it facilitates productive investment and efficient capital allocation. The insignificant effect may also reflect declining investor confidence, relatively low market participation, and periods of economic uncertainty experienced during the study period. This finding agrees with Bamishe and Ajao (2024), Aliyu et al. (2024), and Olawale (2024), but contrasts with Adekunle et al. (2025) and studies

conducted in more developed financial markets where turnover ratio significantly enhances economic growth through improved market efficiency and liquidity.

In contrast, the value traded ratio (VTR) exhibits a negative coefficient (-0.2914) and is statistically insignificant ($p = 0.9442$). This finding indicates that increases in the volume of securities traded relative to the size of the economy have not contributed significantly to economic growth. Although value traded ratio is commonly regarded as an indicator of market activity, the negative coefficient suggests that much of the trading activity may have been speculative rather than investment-oriented, thereby limiting its contribution to productive economic activities. The result supports the findings of Amaegberia and Ebierinyo (2024) and Eniekezimene et al. (2024) but differs from Abdulkadri (2025) and Pandey (2025), who reported a positive and statistically significant relationship between value traded ratio and economic growth.

The control variable, exchange rate (EXR), records a positive coefficient (0.1316) and is statistically significant at the 10 per cent level ($p = 0.0526$), suggesting that exchange rate movements exerted a meaningful influence on economic growth during the study period. The result highlights the importance of the broader macroeconomic environment in determining economic performance and suggests that exchange rate dynamics may have exerted a stronger influence on growth than the selected capital market indicators. This finding implies that capital market reforms alone may not be sufficient to stimulate sustained economic growth without complementary macroeconomic stability capable of improving investor confidence and promoting productive investment.

Overall, the long-run estimates indicate that although capital market development remains theoretically important for economic growth, the principal indicators of market development-market capitalization ratio, stock market turnover ratio, and value traded ratio-did not exert statistically significant long-run effects on Nigeria's economic growth over the period under review. These findings suggest that expanding the size and activities of the capital market alone is insufficient to stimulate economic growth unless accompanied by improvements in market efficiency, institutional quality, investor confidence, and macroeconomic stability

Error Correction Model (Short-run Estimates)

Table 6. Error Correction Model (Short-run Estimates)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MCAP)	-0.40594	0.14825	-2.73824	0.0152
D(MCAP(-1))	0.733313	0.168783	4.344703	0.0006
D(MCAP(-2))	0.491883	0.171206	2.873047	0.0116
D(TURN)	0.482163	0.2362	2.041332	0.0592
D(TURN(-1))	0.34215	0.210773	1.623312	0.1253
D(VTR)	1.074645	0.945383	1.13673	0.2735
D(VTR(-1))	-6.63198	1.545676	-4.29066	0.0006
D(VTR(-2))	-0.89699	0.744038	-1.20556	0.2467
D(EXR)	0.003094	0.006472	0.478016	0.6395
D(EXR(-1))	-0.03986	0.008753	-4.55358	0.0004
D(EXR(-2))	-0.03167	0.006447	-4.91156	0.0002
CointEq(-1)*	-0.44266	0.082361	-5.37464	0.0001

Source: Researcher's Computation from E-views 10

The short-run dynamics of the ARDL model are presented in Table 6. The coefficient of the error correction term, CointEq(-1), is negative (-0.4427) and statistically significant at the 1 per cent level ($p = 0.0001$), confirming the existence of a stable long-run equilibrium relationship among the variables. The coefficient indicates that approximately 44.3 per cent of short-run disequilibrium is corrected annually, implying that deviations from the long-run equilibrium are gradually eliminated over time. This moderate speed of adjustment suggests that following short-run shocks, the Nigerian economy requires slightly more than two years to return to its long-run equilibrium path.

In the short run, market capitalization ratio (MCAP) exhibits mixed effects on economic growth. The contemporaneous coefficient is negative and statistically significant, indicating that an immediate increase in market capitalization is associated with a reduction in economic growth. However, the first and second lagged values are positive and statistically significant, suggesting that the growth-enhancing effects of capital market expansion emerge after a period of adjustment. This pattern implies that resources mobilised through the capital market may require time before being transformed into productive investments capable of stimulating economic growth.

The stock market turnover ratio (TURN) records a positive contemporaneous coefficient and is statistically significant at the 10 per cent level, indicating that increased market liquidity contributes positively to economic growth in the short run. However, the lagged coefficient is statistically insignificant, suggesting that the effect is not sustained over time. This finding implies that improvements in trading activity may provide temporary support for economic performance, but their long-run contribution depends on the efficiency with which financial resources are allocated to productive sectors.

The results further show that the value traded ratio (VTR) exerts mixed short-run effects on economic growth. While the contemporaneous and second lag coefficients are statistically insignificant, the first lag is negative and statistically significant. This suggests that increased trading activity does not necessarily translate into immediate improvements in economic performance and may instead reflect speculative transactions that do not contribute meaningfully to productive investment. The result reinforces the view that the volume of securities traded alone is insufficient to stimulate sustainable economic growth without corresponding improvements in investment quality and market efficiency.

Similarly, exchange rate (EXR) exhibits an insignificant contemporaneous effect but significant negative lagged effects on economic growth. This indicates that although exchange rate movements may not immediately influence economic performance, their adverse effects become evident over time. The result reflects the sensitivity of the Nigerian economy to exchange rate fluctuations, particularly through their effects on investment decisions, production costs, inflationary pressures, and overall macroeconomic stability.

Overall, the short-run estimates reveal that the effects of capital market development on economic growth differ across variables and over time. While some indicators exert significant short-run influences, these effects are not always sustained. Nevertheless, the statistically significant and correctly signed error correction term confirms that short-run deviations are gradually corrected, reinforcing the existence of a stable long-run equilibrium relationship between capital market development and economic growth in Nigeria.

Granger Causality Results

Table 7. Summary of Pairwise Granger Causality Test Results

Null Hypothesis	Obs.	F-Statistic	Prob.	Result
MCAP does not Granger Cause GDPGR	33	0.19249	0.826	No causality
GDPGR does not Granger Cause MCAP		0.00976	0.9903	
TURN does not Granger Cause GDPGR	33	0.21488	0.808	No causality

GDPGR does not Granger Cause TURN		1.14632	0.3323	
VTR does not Granger Cause GDPGR	33	0.27411	0.7623	No causality
GDPGR does not Granger Cause VTR		0.78044	0.4679	
EXR does not Granger Cause GDPGR	33	0.17153	0.8433	No causality
GDPGR does not Granger Cause EXR		0.19417	0.8246	
TURN does not Granger Cause MCAP	33	2.57036	0.0944	MCAP → TURN
MCAP does not Granger Cause TURN		24.7915	6.00E-07	
VTR does not Granger Cause MCAP	33	5.33640	0.0109	VTR → MCAP
MCAP does not Granger Cause VTR		2.21068	0.1284	
EXR does not Granger Cause MCAP	33	0.01132	0.9888	No causality
MCAP does not Granger Cause EXR		0.80295	0.4581	
VTR does not Granger Cause TURN	33	31.3186	7.00E-08	VTR → TURN
TURN does not Granger Cause VTR		1.60990	0.2179	
EXR does not Granger Cause TURN	33	0.09061	0.9136	No causality
TURN does not Granger Cause EXR		0.30247	0.7414	
EXR does not Granger Cause VTR	33	0.22689	0.7985	No causality
VTR does not Granger Cause EXR		0.27249	0.7635	

Source: Researcher's Computation from E-views 10

Table 7 presents the results of the pairwise Granger causality tests conducted to examine the direction of causality among economic growth, capital market development indicators, and exchange rate. The findings reveal no evidence of Granger causality between the capital market indicators and economic growth. Specifically, market capitalization ratio (MCAP), stock market turnover ratio (TURN), value traded ratio (VTR), and exchange rate (EXR) do not Granger-cause economic growth, while economic growth also does not Granger-cause any of these variables. This suggests the absence of predictive causality between capital market development and economic growth in Nigeria during the study period.

However, the results reveal significant unidirectional causal relationships among some of the capital market indicators. Specifically, market capitalization ratio Granger-causes stock market turnover ratio, indicating that increases in market size significantly influence subsequent trading activity within the stock market. Similarly, value traded ratio Granger-causes market capitalization ratio and stock market turnover ratio, suggesting that trading activity contributes to subsequent changes in both market size and market liquidity.

The absence of causality between the capital market indicators and economic growth is consistent with the long-run ARDL estimates, which showed that the selected capital market indicators exerted statistically insignificant effects on economic growth. Collectively, these findings suggest that although different dimensions of capital market development reinforce one another, their influence has not been sufficiently transmitted to the real sector of the Nigerian economy. This may reflect structural weaknesses within the financial system, limited financing of productive investments, and inadequate integration between the capital market and the real economy.

Diagnostic and Stability Tests

Table 8. Diagnostic and Stability Test Results

Diagnostic Tests	Test Statistic	Probability	Decision
Jarque-Bera Normality test	3.2272	0.1991	Residuals are normally distributed
Breusch-Godfrey Serial Correlation	0.0316	0.9689	No serial correlation
ARCH Heteroskedasticity Test	0.3477	0.5599	No heteroskedasticity
Ramsey RESET Test	0.9799	0.3390	Model correctly specified

Source: Researcher's Computation from E-views 10

Stability Test

Figure 1. CUSUM Stability Test

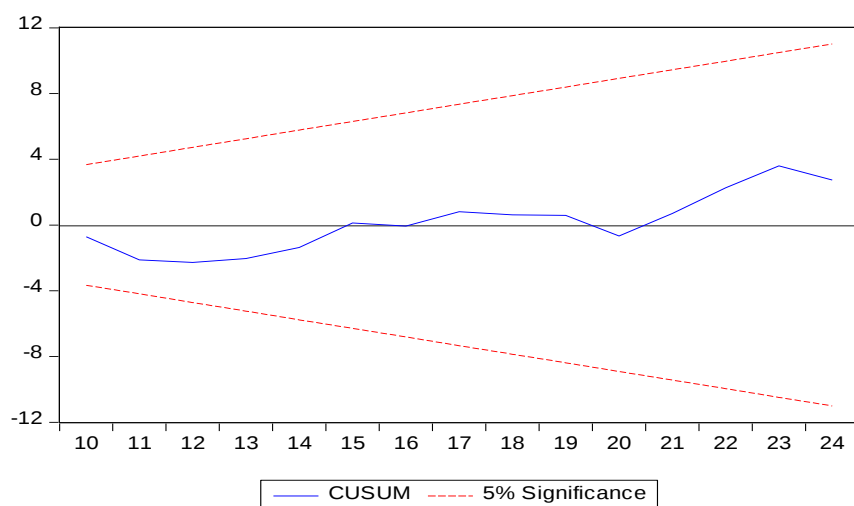
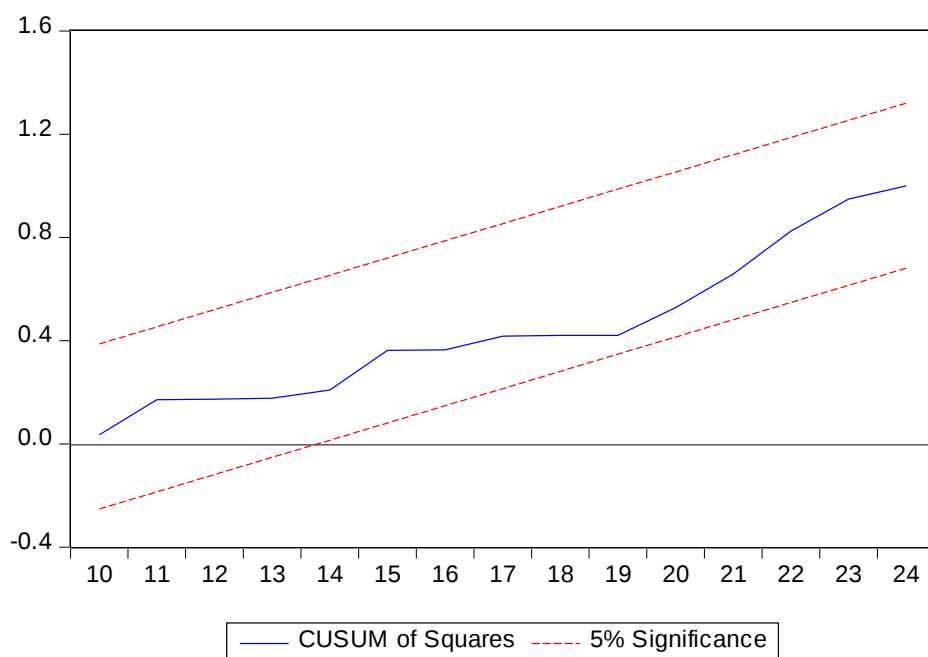


Figure 2. CUSUM of Squares Stability Test



The diagnostic and stability test results presented in Table 8 indicate that the estimated ARDL model satisfies the major assumptions required for reliable statistical inference. The Jarque-Bera normality test shows that the residuals are normally distributed, as the probability value exceeds the 5 per cent significance level. This suggests that the residuals do not deviate significantly from a normal distribution, thereby supporting the validity of the estimated coefficients and statistical tests.

The Breusch-Godfrey Serial Correlation LM Test indicates the absence of serial correlation in the residuals, implying that the model does not suffer from autocorrelation. Consequently, the estimated coefficients are efficient and the standard errors are reliable for hypothesis testing.

Similarly, the Breusch-Pagan-Godfrey Heteroskedasticity Test fails to reject the null hypothesis of homoskedasticity, indicating that the variance of the residuals remains constant throughout the sample period. This finding suggests that the estimated standard errors are unbiased and that the model does not suffer from heteroskedasticity problems.

The Ramsey RESET Test further confirms that the estimated model is correctly specified. The insignificant probability value indicates that there is no evidence of omitted variable bias or functional form misspecification, suggesting that the estimated ARDL model adequately captures the relationship between capital market development and economic growth in Nigeria.

The results of the CUSUM and CUSUMSQ stability tests further demonstrate that the estimated coefficients remain stable throughout the study period, as the plots lie within the 5 per cent critical bounds. This indicates the absence of structural instability and confirms that the estimated model is stable over the sample period.

Overall, the diagnostic and stability tests confirm that the estimated ARDL model is statistically reliable, correctly specified, and stable. Consequently, the empirical findings and policy implications derived from the model can be considered robust and suitable for drawing valid conclusions regarding the relationship between capital market development and economic growth in Nigeria.

CONCLUSION

This study examined the effect of capital market development on economic growth in Nigeria using annual time-series data spanning 1990-2024. Capital market development was proxied by market capitalization ratio, stock market turnover ratio, and value traded ratio, while exchange rate was included as a control variable to account for prevailing macroeconomic conditions. The Autoregressive Distributed Lag (ARDL) approach was employed to estimate the short-run and long-run relationships among the variables.

The empirical findings confirmed the existence of a stable long-run equilibrium relationship between capital market development and economic growth in Nigeria. However, market capitalization ratio and stock market turnover ratio exerted positive but statistically insignificant effects on economic growth, while value traded ratio exhibited a negative and statistically insignificant effect. Exchange rate, on the other hand, exerted a positive and statistically significant effect at the 10 per cent level, highlighting the importance of the macroeconomic environment in influencing economic performance. The error correction mechanism further revealed that approximately 44.3 per cent of short-run disequilibrium is corrected annually, confirming the stability of the long-run equilibrium relationship.

Overall, the findings suggest that although Nigeria's capital market has expanded considerably over the study period, improvements in market size, liquidity, and trading activity have not translated into significant economic growth. The study therefore concludes that expanding the capital market alone is insufficient to stimulate sustainable economic growth unless accompanied by improved market efficiency, effective financial intermediation, stronger institutional quality, enhanced investor confidence, and a stable macroeconomic environment. Consequently, the findings provide only partial support for Patrick's (1966) Supply-Leading Hypothesis, implying that the existence of a developed capital market does not automatically promote economic growth unless financial resources are efficiently mobilized and channeled towards productive investment.

In light of these findings, the study recommends that policymakers focus on improving the efficiency and effectiveness of the Nigerian capital market rather than merely expanding its size. Specifically, the Securities and Exchange Commission (SEC) and the Nigerian Exchange Group (NGX) should strengthen corporate governance, market transparency, disclosure standards, and investor protection to enhance market confidence and attract long-term investment. Furthermore, policies aimed at broadening investor participation, encouraging institutional investment, and promoting innovative financial instruments should be intensified to improve market liquidity and capital mobilization. Greater emphasis should also be placed on directing capital market financing towards productive sectors such as manufacturing, agriculture, infrastructure, technology, and renewable energy to ensure that mobilized financial resources contribute meaningfully to economic growth. Finally, government should continue implementing policies that promote exchange rate stability and maintain a predictable macroeconomic environment, as these are essential for enhancing investor confidence and strengthening the contribution of the capital market to long-term economic development

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