

IMPACT OF CAPITAL MARKET ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This paper evaluates the contribution of capital market development on economic growth in Nigeria. Annual time series data was generated from 1986 to 2022 and Autoregressive Distributed Lag (ARDL) technique was used for data analysis. Capital market development index (CMD) was constructed to proxy capital market development, GDP growth rate proxied economic growth, while interest rate, technological advancement and government expenditure are control variables. The ARDL F-Bound test result revealed that a long-run relationship exists among the variables. The result further indicates that all variables in the long-run have insignificant negative relationship with growth; while in the short-run, a positive and significant impact of capital market development (1.1503) and technological advancement (0.0067) was found on economic growth; interest rate was positive but insignificant; on the other hand, exchange rate (-0.0507) and government expenditure (-1.3280) have significant negative impact on economic growth. The study therefore concludes that capital market development has significant positive impact on growth in Nigeria. To further enhance growth, it is recommended that financial authorities should encourage more private sector participation in the market to raise fund. This increases the capacity of the private sector to expand output which in turn generates employment and consequently, enhances growth in the economy.

Keywords: *financial development, capital market, ARDL, economic Growth, principal component analysis*

JEL: G23, GO43, P43

1. INTRODUCTION

Nations make deliberate attempt to stimulate and enhance economic growth in order to better the lives of their citizens. A nation is said to achieve growth when its real sector production capacity increases over time. To sustain such growth, the real sector must be adequately financed to undertake riskier investment that will lead to continual expansion in economic activities. However, the ability of the productive sector to utilize and harness the available resources over time will determine the pace of growth in an economy.

Economic growth, according to Jhingan (2009) is a sustained quantitative increase in a country's per capita output accompanied by expansion in its labour force, capital accumulation, consumption and volume of trade. Hence, a growing nation produces more goods and services, creates more job opportunities, people earn more income, increase consumption, then reduces the level of poverty in the society. However, to achieve this, entrepreneurs must have adequate

access to long-term finance to engage in new and expand existing businesses leading to larger output, low cost of production and higher profit.

Capital market is an avenue for long-term finance to both enterprises and government through the issue of equity and bond stocks (Peria & Schmukler, 2017 in Kapaya, 2020). It is one of the most crucial drivers of development and growth, because businesses access funds from a broad range of investors to be able to expand, innovate and create new job opportunities and produce higher outputs. Thus, developing this market will enhance financial intermediation by reducing information, transaction and monitoring costs; increases investment by identifying and funding good business opportunities; mobilizing savings and diversifying risk. An efficient capital market can therefore, promotes sustainable economic growth and also reduces the vulnerability of an economy to external shocks (Popoola, 2023).

A number of developmental policies were introduced in the Nigerian capital market noticeably in the era of Structural Adjustment Program which commenced in 1986. For instance, the capital market liberalization policy 1995; the second-tier security market of 1998; the central security clearing system; the auction system in 2002 and the capital market master plan (2015-2025) were implemented to capture wider market, accommodate small and medium enterprises, and facilitate electronic transactions to meet with international standard. Some successes were recorded including dematerialization of stock certificates, automated dividend sharing, improved standards in corporate governance, market intermediaries' capital base were strengthened and there was improvement in risk-based supervision.

The volatility and vulnerability of the Nigerian capital market affects its ability to adequately finance the real sector which undermines the level of output to which is produced. Based on World Bank (2023) data, the ratio of market capitalization to GDP (in ten-year intervals) was 4.95, 10.92 and 9.80 in 1999, 2009 and 2019 respectively. Similarly, the market liquidity measured by the stock market turnover ratio was valued at 3.83 in 1999; 13.94 in 2009; and 9.80 in 2019. This indicates that the market suffers from low liquidity, possibly due to massive withdrawals of foreign investments in times of financial crisis, coupled with low participation of domestic investors which limits the market intermediation function. In addition, government plays dominant role in fund raising, increases through the years from ₦9,920.63b in 2018 to ₦22,156.22b in 2022 compared with corporate fund raising of ₦256.56b in 2018 to ₦1,058.50b in 2022. This indicates low patronage of private sector and could be responsible for the slow growth experienced in the country (CBN, 2022).

In finance theory, there has been strong belief that capital market development may have positive effect on economic growth known as supply-leading hypothesis originating from the work of Schumpeter (1911). Conversely, demand-following hypothesis holds that expanded economic activities cause development in the capital market (Kuznet, 1955; Jung, 1986; Lucas, 1988). Similarly, empirical studies provide some evidence of positive impact (Michael, et al 2021; Kapaya, 2020; Akintola, et al 2020; Wait, et al 2017), while Algaeed, (2021); Michael, et al, (2021); and Iheanecho,(2016) reported negative effect.

Observing the peculiar nature and experiences of the Nigerian capital market, as well as the inconclusiveness in the literature on capital market-growth nexus provides the basis for further investigation on the impact of capital market development on economic growth in Nigeria. This study therefore attempts to examine the aggregate contribution of the capital market on economic growth in Nigeria, by constructing a composite index using prominent variables recognised by the World Bank to understand the dynamics and performance of the market within the Nigerian context. The paper is structured into five sections. Following this background, section two reviewed related literature, section three presents the methodology, empirical results and findings are presented in section four, while the last section is conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Theoretical Review

The Efficient Market Hypothesis (EMH) which originated from the work of Fama 1970, holds that capital markets are efficient when stock prices reflect all known information and represent the collective beliefs of all investors about future prospects. However, the level of efficiency achieved will determine whether the market is classified as weak, semi-strong or strong form of the market (Nwaolisa & Kasie, 2012; Hodnett & Hsieh, 2012). This suffices that availability of market information is essential to financial decision makers which in turn has great influence on intermediation processes. However, in most developing countries capital markets are inefficient in disseminating information due to the narrowness and immaturity features of the market (Nyong, 2003).

Capital structure theory addresses the issue on how firms select optimal capital structure to achieve financial performance target and decrease overall cost of capital. An optimal capital structure is the best combination of internal and external funds that increases overall financial performance of a firm (Abdul Hadi et al., 2018, in Khan, et al 2021; Gitman & Zutter 2012 in Aljamaan, 2018; Rehan & Abdul Hadi, 2019). This increases its market value and decreases cost of capital. It is therefore important to emphasize that optimum capital structure is attained when there is efficiency in financial intermediation to improve financial performance of corporate entities thereby stimulating growth in the economy. The two theories discussed serve as the framework for this study which is to evaluate the impact of capital market development on economic growth in Nigeria.

2.2 Empirical Review

A large number of empirical studies have examined the impact of capital market development on economic growth for both cross-country and country specific studies. In the case of cross-country studies for instance, Michael, et al (2021) studied stock market development, financial deepening and economic growth in Africa between 1999 to 2019. Broad money ratio to GDP proxy financial deepening, savings to GDP ratio, private sector credit to GDP, stock market capitalisation, annual inflation rate and exchange rate are stock market development indicators. The ARDL result established the existence of long-run relationship, but found an insignificant effect of stock market development on growth in Africa and a demand following case for Nigeria.

In another study by Setiawan, et al (2021) on financial market development and economic growth (ASAIN & CEE region) between 2002 and 2019, annual GDP as dependent variable and ratios of market capitalisation, total stock traded and stock traded of domestic share represents financial market indicators; while inflation, unemployment and foreign direct investment are control variables. The result of random effect regression revealed a positive but insignificant effect of market capitalisation on economic growth, a positive and significant relationship between stock traded of domestic share, total stock traded, foreign direct investment and inflation on economic growth; while, unemployment has negative impact on economic growth. It then concludes that economic growth is influenced by stock market development.

Opera and Stoica (2018) observed capital markets integration and economic growth in the EU countries. Data from 2004 to 2016 was sourced to examine the impact of capital market integration on economic growth in the region. ARDL was used and the results revealed that market capitalisation, capital mobility, value traded, stock indices, immigrants and small foreign portfolio investments affect economic growth positively. The study therefore concludes that capital market integration drives economic growth in the EU region.

Wait, Ruzive and Roux (2017) assessed the influence of financial market development on economic growth in BRICS. GMM was employed on GDP as dependent variable and capital

stock, labour, educational achievement, technological advancement, gross national debt, openness, government expenditure, research and development, total banking assets, credit to private sector, financial depth, Gross fixed capital formation and dummy BRICS as independent variables. The result found that financial market depth and credit to private sector causes growth faster on BRICS than non-BRICS nations. However, total bank assets do not cause BRICS economies to grow. The study therefore, concludes that financial market development accelerates growth in developing and emerging markets.

On the country specific studies, Chang and Li (2024) examine the impact of capital market volatility on economic growth in China. Data on capital market and economic growth variables were sourced between 2008 and 2018. The study employed the Heston stochastic volatility model (mathematical model) to analyses the stochastic control problem between the allocation trajectory of macroeconomic fluctuations. The results found that the size of the credit market has a positive effect on economic growth, while the capital market distinct components have repressive influences with lack of optimal configuration and imbalances on economic growth in China.

Mogbolu, and Igbinedion (2024) observed the political cycles in stock market return movements in Nigeria. The study seeks to analyses the degree to which stock market fluctuations follow a political cycle in Nigeria. The study employs a multidimensional analysis to evaluate the presidential election cycle (PEC) in the Nigerian stock market using regression, time and frequency domain techniques. The result findings reveal that time domain and the PEC model of stock returns did not support that the years of the presidential election tenure cause the differences in average stock returns across the first and second halves of the presidential election term. The study therefore concludes that there is no evidence that the presidential tenure has effect on the Nigerian stock market.

In the same way, Abdullahi (2023) examined the effect of exchange rate and stock market volatility on foreign direct investment in Nigeria. Using monthly time series data from 2000 to 2022, and employing a non-linear Autoregressive Distributed Lag method to unveil the asymmetric effect on growth, the results indicate that shocks (positive and negative) from the exchange rate and stock market have significant negative effects on foreign direct investment in the short and long-run. The study concludes that volatility in exchange rate and stock market do not attract foreign direct investment in Nigeria.

Similarly, Azimi (2022) assessed the asymmetric effects of capital and money markets on economic growth in China. A non-linear autoregressive distributed lag and dynamic multiplier techniques was used for analysis. The results confirmed asymmetric effects amongst the indicators and reveal that money market rates shocks (positive, negative) leads economic growth to (decrease, increase). Furthermore, the results found that shocks from real interest rate and total liquidity leads growth to increase and decrease in the short-run. Moreso, the results indicate that shocks (positive and negative) from market capitalisation and stock market turnover increase economic growth, while total stock traded shocks decreases growth in the short and long-run periods. The implication of this study suggests that the finance-growth nexus does not always exhibit linear relationship.

Musa et al (2022) studied the impact capital market and economic growth in Nigeria from 1986 to 2021 with the aid of Autoregressive Distributed Lag (ARDL) model for empirical analysis. The study found that market capitalisation has positive and significant impact on growth, therefore the study further concludes that Nigerian capital market contribute significantly to the growth of the nation.

Algaeed (2021) in his study, examined capital market development in Saudi Arabia between 1985 to 2018. ARDL, FMOLS were employed on share price index, capitalisation, liquidity, ratio of number of share transactions and number of shares traded and per capita GDP growth proxy economic growth. The result revealed that market capitalisation and liquidity have

negative impact on growth, while number of shares traded, share price index and share transactions influence growth positively. No causality was found between economic growth and share price index, market capitalisation and number of shares traded in Saudi Arabia. The study concluded that capital market development does not contribute to economic growth in Saudi Arabia.

In another study Tan and Shafi (2020) explored the role of sukuk, other sub-components of the capital market on economic growth in Malaysia within the period from 1998 to 2018. ARDL cointegration bound test was employed on Sukuk finance, Conventional bonds, total conventional bond and sukuk, stock market capitalization and stock market turnover, while Real savings and Growth rate of employment serve as control variables. The results reveal that sukuk and conventional bonds have positive, but insignificant effect on economic growth. The result further shows that stock market development has significant positive influence on economic growth in the long-run. Therefore, the study concludes that Malaysian economic growth is influenced mostly by other sub-components of the stock market.

Kapaya (2020) evaluated stock market development and economic growth in Tanzania using quarterly time series data between 2001 Q1 to 2019 Q2. Stock market capitalisation, total stock value traded and stock market turnover, were used to construct stock market indices (SMI1 & SMI2) and real GDP represents economic growth. ADRL was employed and found that SMI1 has positive relationship with growth, while SMI2 has negative impact on growth. Thus, it concludes that stock market development drives economic growth in Tanzania.

Akintola, et al (2020) examined financial sector development and economic growth in Nigeria, using ARDL technique on money market, capital market and foreign exchange market as financial indicators and GDP proxy economic growth. The study found a positive and significant impact of financial deepening, banking liquidity, all share index on economic growth, and a negative effect between exchange rate and economic growth in Nigeria. They conclude that money and capital markets are the leading drivers of economic growth in Nigeria. Ikeobi, (2020) assessed the impact of capital market on quoted manufacturing output in Nigeria. The study selected 24 manufacturing firms and their output for 12-year period (2003-2014). Least square regression technique was employed and the result revealed that share capital has positive but insignificant impact on the manufacturing firms. Contrarily, market capitalisation has significant positive influence on the manufacturing output. Similarly, turnover ratio was found to be negative and insignificant on the firms' output. The study therefore concludes that capital market does not impact manufacturing output in Nigeria.

Shobande (2017) examined stock market development, deposit money banks and long-term economic growth in Nigeria, using data series from 1980 to 2016 and Engle- Granger cointegration, error correction model and Granger causality test were conducted. The results indicate that there is a positive relationship between domestic credit and long-term growth, while market capitalisation has negative impact on long term growth in Nigeria. The study concludes that capital market development does not stimulate growth while deposit money banks does.

Similarly, Idenyi, et al (2017) examined the impact of capital market indicators on economic growth in Nigeria for the period 1986 and 2016. Using ARDL model and VAR Granger causality technique, the result indicates that market capitalisation has positive and significant relationship with economic growth; on the other hand, total value of stock traded shows a negative and insignificant impact on economic growth.

Muritala and Ogunji (2017) investigated the connection between Nigeria's capital market and economic growth from 1980 to 2015. Using OLS method, the results reveal that total new issue, market capitalisation and total listing have positive impact on economic growth, while value

of transaction has negative influence on economic growth in Nigeria. They conclude that capital market and economic growth have positive relationship in Nigeria.

Iheanecho (2016) assessed the impact of financial development and growth nexus in Nigeria between 1981 to 2011. Three indices (FDI₁, FDI₂, FDI₃) were constructed a linear combination of domestic bank credit to private sector to GDP ratio, liquid liabilities to GDP, deposit bank assets to GDP and bank deposits to GDP. Per capital GDP proxy growth, and control variables are crude oil price, ratio of total trade to GDP, gross fixed capital formation and government final expenditures as independent variables. The result from ARDL revealed that financial development in Nigeria has insignificant negative effect on economic growth in the long-run and negative but significant in the short-run; and thereby concludes that financial development has no effect on economic growth in Nigeria.

Taiwo, Adedayo and Evawere (2016) studied the impact of capital market and economic growth in Nigeria between 1981 to 2014. Real GDP, market capitalisation, savings accumulation, gross fixed capita formation, labour force and total listed security were used for the impact analysis. The result of VECM and cointegration analysis revealed a positive and significant relationship between growth and market capitalization, savings accumulation and gross fixed capital formation. While labour force and total listed security are found to be negative and insignificant to growth. They conclude that capital market drive growth in Nigeria.

This study observed that the literature on capital market-growth nexus remains inconclusive. These inconclusive views could be explained on the different methods employed, while majority of scholars employed individual variables, others (Kapaya, 2020; Iheanecho, 2016) constructed indices by alternating the selected variables to form two or more indices which form sub-indices which are deficient for comprehensive result. This study therefore complements existing literature by developing composite index, an aggregation of the selected variables to examine the unabridged impact. It is with strong belief that this study has an edge over previous studies by examining the summative impact of capital market on economic growth in Nigeria.

3. METHODOLOGY

3.1 Data Description and Source

Annual time series data was sourced from the CBN Bulletin between 1986 to 2022. Three variables, ratio of market capitalisation (MCP) to GDP, stock market turn over (SMT) to GDP and total debt ratio (TDR) were selected to proxy the capital market development indicators, and used to develop capital market development index (composite index, CMD). The MCP measures the size of the market; SMT the liquidity position and TDR measures the rate of access to long-term debt financing. GDP annual growth rate proxy economic growth as dependent variable. Also, controlling for other possible effect on economic growth, interest rate (INT, lending rate), exchange rate (EXR, official rate of ₦/\$ between the period of study), technological advancement (TA, R&D expenditure in ₦b) and government expenditure (EXR, capital spending in ₦b) are added in our model.

3.2 Model Specification

The mathematical equation expressing the relationship between the variables is formulated as:

$$EG = f(\text{CMD}, \text{INT}, \text{TA}, \text{EXR}, \text{GEX}) \quad \text{----- 1}$$

Where:

EG = economic growth (GDP annual growth rate)

f = functional relationship

CMD = capital market development index (ratio of market capitalisation, stock market turnover ratio and total debt ratio)

INT = interest rate (lending rate)

TA = technological advancement (proxy by expenditures on R&D)

EXR = exchange rate

GEX= government expenditure (capital expenditure)

Equation 2 is the econometric model of equation 1 stated as follows:

$$GDPgr = \beta_0 + \beta_1 LCmd_t + \beta_2 Int_t + \beta_3 LTA_t + \beta_4 LExr_t + \beta_5 LGex_t + \varepsilon_t \quad \text{----- 2}$$

Where L denotes logarithm function, ε_t is the error term; all variables are as defined above.

The study adopts the ARDL technique developed by Pesaran et al (2001) to determine long-run and short-run effects between capital market development and economic growth in Nigeria.

The ARDL approach is superior over other cointegration tools, as it provides consistent estimates regardless of order of integration (but not I(2)), sample size and it detects and overcome the problems of autocorrelation and endogeneity that is likely to occur (Pesaran et al., 2001). Having mix order of integration in our variables proves that ARDL is the appropriate technique for analysis. The ARDL model is therefore specified as follows:

$$\Delta GDPGR_t = \delta_0 + \sum_{i=1}^r a_{1i} \Delta GDPgr_{t-i} + \sum_{i=1}^k a_{2i} \Delta LCMD_{t-i} + \sum_{i=1}^k a_{3i} \Delta INT_{t-i} + \sum_{i=1}^k a_{4i} \Delta LTA_{t-i} + \sum_{i=1}^k a_{5i} \Delta LEXR_{t-i} + \sum_{i=1}^k a_{6i} \Delta LGEX_{t-i} + \beta_1 GDPgr_{t-1} + \beta_2 LCMD_{t-1} + \beta_3 INT_{t-1} + \beta_4 LTA_{t-1} + \beta_5 LEXR_{t-1} + \beta_6 LGEX_{t-1} + \varepsilon_t \quad \text{----- 3}$$

Where: Δ = the first difference operator, r = lag of the dependent variable, k = lag of the independent variable, \sum = summation sign, δ_0 = intercept, $\beta_1 - \beta_6$ = slope coefficient of the long-run form, $a_1 - a_6$ = slope coefficient of the short-run form and, ε_t = error term. The a priori expectation for our model is that $a_2, a_4, a_6 > 0, a_3, a_5 < 0$

To test for joint significance of the coefficients to examine the existence of a long-run relationship among the variables, the test was run using the F_{pss} of Pesaran et al., (2001), under the null hypothesis of no cointegration ($H_0: \rho = \beta_1 + \beta_2 + \beta_3 + \beta_4 = 0$). The condition to accept or reject H_0 is based on the F-value if, greater than upper bound, then reject H_0 and the variables are cointegrated; if it is less than lower bound, then accept H_0 and the variables are not cointegrated. Once H_0 is rejected, the error correction model was estimated to determine short-run effect and speed of adjustment to long-run equilibrium. Accordingly, the error correction model is specified as follows:

$$\Delta GDPgr_t = \beta_0 + \sum_{i=1}^r \beta_{1i} \Delta GDPgr_{t-i} + \sum_{i=1}^k \beta_{2i} \Delta LCMD_{t-i} + \sum_{i=1}^k \beta_{3i} \Delta INT_{t-i} + \sum_{i=1}^k \beta_{4i} \Delta LEXR_{t-i} + \sum_{i=1}^k \beta_{5i} \Delta LTA_{t-i} + \sum_{i=1}^k \beta_{6i} \Delta LGEX_{t-i} + \lambda_{ECM_{t-1}} + \pi_t \quad \text{----- 4}$$

Where λ = coefficient of the error term, which is expected to be less than one, negative and significant, meeting these criteria imply that there is convergence from short-run disequilibrium to long-run equilibrium between the dependent and explanatory variables.

4. RESULTS and DISCUSSIONS

4.1 Pre-test Diagnoses

Table 1
Descriptive Statistics

	GDPGR	CMD	INT	EXR	TA	GEX
Mean	4.513243	4.80E-16	23.94919	139.3135	162.0700	2.941351
Median	4.050000	0.074368	22.90000	125.8300	76.50000	2.400000
Maximum	14.60000	2.798788	36.10000	460.0000	593.4400	9.080000
Minimum	-1.920000	-2.973316	12.00000	3.320000	0.230000	0.640000
Std. Dev.	3.798363	1.184768	4.828638	120.2880	192.3957	1.907003
Skewness	0.505368	-0.753203	0.169261	1.103385	1.032285	1.131844
Kurtosis	2.886094	4.493876	3.046255	3.638445	2.762458	4.110791
Jarque-Bera	1.594948	6.938921	0.179968	8.136062	6.658270	9.802135
Probability	0.450465	0.031134	0.913946	0.017111	0.035824	0.007439
Sum	166.9900	1.78E-14	886.1200	5154.600	5996.590	108.8300
Sum Sq. Dev.	519.3922	50.53233	839.3669	520891.7	1332579.	130.9198
Observations	37	37	37	37	37	37

Source: Eviews-10 output computation

The structural distribution of the data shown in table 1 indicates that all data series are spread around their mean values except CMD and TA whose standard deviation (1.184768, 192.3957) values are greater than their mean (4.80E-16, 162.0700) values respectively. Meaning that TA is the most volatile while, CMD is the least volatile in the distribution. The result revealed that GDPGR, INT and TA are normally distributed, but CMD, EXR and GEX are right tailed, also kurtosis indicates that INT and EXR are mesokurtic, CMD and GEX leptokurtic while GDPGR and TA are platykurtic relative to normal distribution. This implies that the data series have relatively good distribution features for estimation and further analysis.

Table 2

Unit Root Test

Variable	t-statistics	ADF			Remarks
		Level	At first diff	Pr	
GDPgr	-1.866420	-1.950394	-1.950687	0.0000	I(1)
CMD	-3.242289	-3.540328	-3.544284	0.0000	I(1)
INT	-4.074629	-3.540328	-	0.0148	I(0)
EXR	0.700189	-3.540328	-3.548490	0.0037	I(1)
TA	-1.283827	-1.950394	-1.951332	0.0045	I(1)
GEX	-3.156482	-3.552973	-3.204699	0.0000	I(1)

Source: Eviews 10 Output Computation

From table 2 the unit root test was conducted with trend and constant in all the variables except GDPGR and TA. The result shows that all variables are stationary at first difference I(1), except INT which integrates at level I(0). In view of the mix order of integration, the condition to use ARDL technique is fulfilled and therefore adopted.

Table 3

Optimal lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-702.8173	NA	5.17e+10	41.69513	41.96449	41.78699
1	-590.6376	178.1678	6.06e+08	37.21397	39.09948*	37.85699
2	-564.4640	32.33210	1.33e+09	37.79200	41.29365	38.98616
3	-496.6529	59.83329*	3.82e+08*	35.92076*	41.03856	37.66607*

Source: Eviews 10 Output Computation

The optimal lag was selected based on the Akaike Information Criterion (AIC) presented in table 3. The result indicates that three lags are appropriate for our developed model. The selection was also supported by other criteria LR FPE and HQ as indicated in the table.

Table 4
ARDL F-Bound Test

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	5.620315	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Eviews-10 output computation

The result from F-Bound test in table 4 indicates the existence of long-run relationship among the variables. Given the F-statistic value (5.6203) which is greater than the lower and upper bound critical values [I(0) = 2.39, I(1) = 3.38] at 5 percent significant level, has satisfied the condition to estimate the ARDL short and long-run coefficients to determine the type of relationships in the variables.

4.2 ARDL Coefficient Estimations

Table 5
ARDL Long-run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCMD	-0.039921	0.798304	-0.050007	0.9610
INT	-0.430270	0.231814	-1.856099	0.0904
LEXR	0.021942	0.016350	1.342024	0.2066
LTA	-0.011954	0.011238	-1.063679	0.3103
LGEX	-0.164581	0.532032	-0.309344	0.7628
C	14.04979	4.966213	2.829074	0.0164

Source: Eviews-10 output computation

The long-run coefficients presented in table 5 shows that all variables are statistically insignificant ($P_v > 0.05$) with negative coefficients except the exchange rate. Meaning that capital market, interest rate, technological advancement and government expenditure have insignificant negative effects on economic growth in the long-run. This negative effect of capital market on growth may account for the low patronage of corporate entities to raise fund in the market, without which technological advancement is hampered. Similarly, the fall in growth due to government spending could be linked with corrupt practices at all levels of government administration, such as budget padding, non-execution of contracted capital projects, etc. While the result is inconsistent with the a priori in all variables except interest rate which shows that a percentage increase in interest rate will lead growth to fall by 0.43 per cent. This finding however supports the work of Shobande (2017) who established that capital market does not stimulate long-term growth; and negates that of Tan and Shafi (2020) with the view that stock market influences growth positively in the long-run.

Table 6
ARDL Short-run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPGR(-1))	0.484842	0.091930	5.274014	0.0003
D(LCMD)	1.150304	0.344304	3.340955	0.0066
D(LCMD(-1))	-1.067857	0.352659	-3.028013	0.0115
D(LCMD(-2))	2.181804	0.354959	6.146639	0.0001
D(INT)	0.104317	0.060239	1.731711	0.1112
D(INT(-1))	-0.054452	0.080249	-0.678534	0.5115
D(INT(-2))	0.159360	0.054490	2.924552	0.0138

D(LEXR)	-0.050768	0.010875	-4.668470	0.0007
D(LEXR(-1))	0.067864	0.015187	4.468673	0.0009
D(LEXR(-2))	-0.051885	0.013473	-3.851062	0.0027
D(LTA)	0.006657	0.002173	3.063627	0.0108
D(LTA(-1))	-0.006497	0.005389	-1.205625	0.2533
D(LTA(-2))	0.024657	0.004922	5.009831	0.0004
D(LGEX)	-1.328095	0.185580	-7.156470	0.0000
D(LGEX(-1))	-0.484045	0.226396	-2.138045	0.0558
D(LGEX(-2))	-0.817494	0.193913	-4.215782	0.0014
CointEq(-1)*	-0.662167	0.084920	-7.797537	0.0000
R-squared	0.951771			
Adjusted R-squared	0.906379			
Durbin-Watson stat	2.654970			

Source: Eviews-10 output computation

The short-run effect is presented in table 6, and the result indicates a mixed effect in all the variables except GEX for the three lag periods. However, considering the current period in each variable, capital market development coefficient has positive and significant effect on growth. Meaning that an increase in capital market development influences economic growth to rise by 1.15 percent. Suggesting that capital market development has positive impact on growth. This finding concurs with that of Musa et al (2022), Tan and Shafi (2020), Kapaya (2020), Akintola, et al (2020), Wait, et al (2017), Taiwo, et al (2016), Gani, and Ibrahim, (2015), but disagrees with that of Chan and Li (2024), Abdullahi (2023), Algaeed (2021), Michael, et al (2021).

Similarly, the result reveals that interest rate has positive but insignificant effect on growth. This positive effect deviates from the theoretical expected relationship between interest rate and economic growth. This inconsistent relationship of interest rate on growth could be as a result of the import dependent status of Nigeria.

The result further reveals that exchange rate has statistically significant negative effect on growth which suggests that a one naira increase in exchange rate decreases growth by 0.05. This finding supported that of Akintola, et al (2020), also in consonance with the supporting theory.

Furthermore, it is found that technological advancement and economic growth have positive relationship, meaning that technological advancement causes growth to rise minimally by 0.01. However, the result does not agree with that of Wait, et at (2017) who found negative effect of technological advancement on economic growth.

Government expenditure is found to be statistically significant but negative. This implies that a billion naira increase in government spending will reduce growth by 1.33 percent. The negative effect of government spending suggests that government was pursuing a counter-cyclical budgetary policy where allocations in capital expenditure is below its recurrent expenditures. This result is also consistent with that of Wait, et al (2017).

The error correction coefficient (-0.6622) has fulfilled the basic rule of adjustment, that is, negative, less than one and statistically significant (Pv 0.0000). Meaning that 66 per cent of short-run distortions converge to long-run equilibrium suggesting that there is high speed of adjustment from short-run to long-run equilibrium. This result substantiates the significant impact of the capital market on growth which supports both theory and empirical findings of Mus a et al (2022), Tan and Shafi (2020), Setiawan et al (2021), Akintola et al (2020). However, the divergent effect found in the long-run could be explained to the inefficiencies experienced in the Nigerian capital market to finance the real sector.

4.3 Post Diagnostic and Stability Test

Table 7
Serial Correlation, Heteroscedasticity and Normality Test

Test	Type	F-statistics/Value	Obs. R-squared	Prob.
Serial Correlation	Breusch-Godfrey	70.8883	33.9521	0.0922
Heteroscedasticity	Breusch-Pagan Godfrey	1.5698	25.7867	0.2213
Normality	Jacque-Bera	0.6140	-	0.7357

Source: Eviews10 Output Computation

Serial correlation, heteroscedasticity and normality test results are presented in table 7, which shows that the model is free from these problems (Serial correlation, heteroscedasticity & normality) as indicated by their probability values (0.0922, 0.2213, 0.7357) which are greater than the 5 per cent significant level.

Stability Test Figure 1 CUSUM

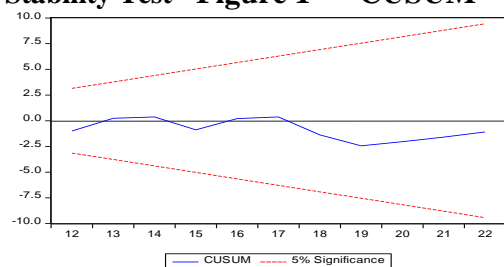
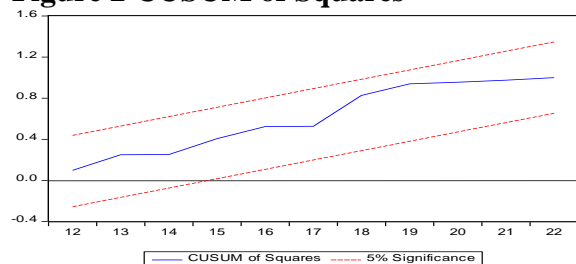


Figure 2 CUSUM of Squares



Source: Eviews10 Output Computation

Figures 1 and 2 present the stability test, indicating that the model is stable given the CUSUM and CUSUMSQ lines lying within the critical boundaries at 5 per cent level of significance suggesting that valid inferences can be drawn from the estimated coefficients in the model.

5. CONCLUSION and RECOMMENDATIONS

This paper examined the impact of capital market development on economic growth in Nigeria between 1986 to 2022. Capital market development index (CMD) was constructed with the aid of principal component analysis (PCA). The Bound test result established a long-run relationship and the short-run estimates, revealed a positive relationship between capital market development, technological advancement and economic growth. This finding therefore suggests that capital market development accelerates growth in Nigeria through technological advancement. Thus, the paper concludes that capital market development is a driver of economic growth in Nigeria.

However, to sustain higher growth, the paper recommends that financial authorities should ensure full implementation of Fin-Tech policies. This will enhance full automation and efficiency of the market intermediation processes thereby improving access to finance and more growth in the economy.

Also, there is the need to strengthen investor's protection law to protect the interest of stakeholders. This will promote public confidence, attract more domestic savers as well as foreign investors thereby increase liquidity and more access to finance.

Public awareness on Radio, Television and mobile social media is necessary to unveil the opportunities available in the market to prospective local investors; especially small and medium enterprises. This will aid in fostering diversified economy.

National budget should be standardized on the capital-recurrent ratio, to enhance the development of infrastructural facilities. At the same time, corruption must be curtailed through proper monitoring and close supervision on contract awarded capital projects. This will create conducive business environment and expand the investment climate in the country.

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