



# IMPACT OF CAPITAL MARKET ON ECONOMIC GROWTH IN NIGERIA

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**ABSTRACT:** *This study examined impact of capital market on economic growth in Nigeria from 1990 to 2022. Specifically, the study investigated the impact of market capitalisation on the economic growth in Nigeria; analysed the impact of all share index on the economic growth in Nigeria and examined the impact of inflation on growth in Nigeria. Gross Domestic Product (GDP) was used as a proxy for economic growth which is dependent variable while market capitalisation (MCAP), all share index (ASI) and inflation (INFR) were used as independent variables. Also employed, Auto Regression Distributed Lag (ARDL) model as estimated technique. The result revealed that Market capitalisation has a positive and significantly related to gross domestic product in the long run, all share index was found to be positive and insignificantly related on gross domestic product in the long run and lastly, inflation rate was found to be positive and insignificantly related to gross domestic product and concluded that capital market has a positive and insignificant impact on economic growth in Nigeria in the long run. Therefore, the study recommended that government should formulate appropriate economic policies that ensures the stability of share prices to encourage both national and foreign investors participation in capital market in Nigeria; that government should place greater emphasis on financial sector development with special focus on capital market development to ensure economic growth in Nigeria; that government through the regulatory authority should monitor the country's inflation rate.*

**IndexTerms-** Gross Domestic Product (GDP), Market Capitalisation (MCAP), All Share Index (ASI), Total New Issues (TNI), Volume of Share Traded on Capital Market (VSTCM) and Inflation (INFR)

## INTRODUCTION

For economic growth and development, developing nations worldwide are seeking solutions to key economic issues caused by a shortage of capital (Stephen & Nkamare, 2015). Bina and Obah (2018) say the financial system drives economic growth and development. A nation's capital market may operate at maximal efficiency when money is readily allocated and mobilised, driving economic development (Keji, 2020). The capital market, a highly specialised and organised financial sector, drives economic development by facilitating and mobilising savings and investments (Celina, Nkwagu, Agbafor & Oruta, 2021). The capital market fosters capital creation and economic growth by facilitating the long-term movement of cash from surplus-to deficit-holding organisations (Patrick & Joseph, 2018).

The Nigerian stock market was expected to react when the impacted businesses went public (Egene, 2015). Nigeria's privatisation and SAP-driven financial sector growth have highlighted investors and companies the stock market's importance. Banking reforms in 2004 and 2005 drove the stock market's spectacular ascent. Entities seek long-term funding to establish new projects and modernise current commercial and industrial ventures. Ihendinihu and Onwuchekwa (2012) found that improved capital

allocation and larger financial markets boost productivity. Nigeria's currency rate suffered from the global financial crisis.

Nigeria's economy is transforming as it seeks wealth. Capital is essential to all economic operations, hence the capital market is crucial (Stephen & Nkamare, 2015). Thus, a country's capacity to save and invest depends on its capital market. All indicators for capital investment free flow are present in a completely working capital market. Nigeria's challenging economic environment has afflicted the capital market from its beginnings, making it hard for investors to regard it as a viable area to invest. Also problematic is "buy and hold," when stocks are acquired and held in escrow rather than sold. The stock market will not gain from this method. Insider misbehaviour might cause stock market fluctuations to favour some investors while hurting others.

Due to Nigeria's capital market underperformance and economic growth, many investors and market participants are wary of its stock market. It seems that most Nigerian enterprises lack medium- and long-term capital. Overdrafts and other short-term borrowing have been the main way firms fund long-term initiatives. The maturity matching approach helps businesses balance short-term and long-term finance, which benefits the economy (Edame & Okoro, 2013). A certain method to make money is the stock market. To my understanding, previous studies have primarily disregarded inflation, which will be the subject of this research. Given the current environment, this study's main goal is to assess the capital market's influence on Nigeria's economic development. The aims are to examine how market capitalization, the all share index, and inflation effect Nigerian GDP growth.

## Literature Review

### *Conceptual Literature Capital Market*

Capital markets use complicated methods to aggregate short-, medium-, and long-term assets (Keji, 2020). The most prevalent capital markets are main and secondary. Companies and governments sell freshly issued securities to the public on the primary market to fund operations. A large or limited investment group buys these securities. The secondary market trades existing securities.

### *Stock Market Key Indicators*

Market Capitalization Ratio (MCR): Total declared share values divided by GDP provides this amount. A nation's capacity to estimate market size is thought to be linked to its ability to spread risk and raise money.

Total Value of Shares Traded Ratio (STR): This is equivalent to dividing the country's GDP by market floor stock value. The total value traded ratio measures an economy's liquidity by comparing organised share trading to output. If a market has little trade, the market capitalization ratio is incomplete.

Turnover Ratio (TR): Divide all shares traded by market cap to find turnover ratio. High turnover is sometimes used to signify low operating costs, even though it is not a direct measure of liquidity. The turnover ratio is added to market cap. An inactive company has a low turnover ratio and a high market capitalization ratio. Beyond the total value exchanged ratio, turnover is another relevant statistic. Turnover measures trading relative to the stock market, whereas total value traded ratio represents trading relative to the economy. Small markets with limited liquidity have low trading volume ratios due to high turnover ratios.

### *Economic Growth*

Economic growth is an economy's capacity to employ its capital stock and other production elements to produce more products and services (Stephen & Ajayi, 2020). Thus, raising personal incomes to compete with industrialised nations is crucial (Michael & Stephen, 2011). Economic development is the steady improvement of a population's material and social situations via new policies. However, growing economies have better GDP and market productivity. According to the Oecd (2014), GDP is a comprehensive economic measure. Add the gross values of all people and institutional units that contribute to production, subtract the value of things not included in outputs owing to subsidies, and account for taxes. Simply

defined, capital market activity should be connected to GDP, the total value of goods and services generated in a year. Any country's economic progress requires economic growth, according to Sen (1983).

## Theoretical Review

### *Efficient Market Hypothesis*

Fama's 1965 Efficient Market Hypothesis (EMH) illuminates capital market expansion and economic advancement (Keynes, 1936). If the stock market efficiently incorporates and reflects all significant information in current share prices, beating the market is impossible. According to the Efficient Market Hypothesis (EMH), stock markets always represent intrinsic value, hence investors cannot buy or sell firms below this value. Thus, stock selection and market trend forecast cannot outperform the market. The only option to get higher returns is to invest in riskier assets. Thus, asset prices represent all information, proving financial markets are efficient. Since these prices represent everyone's future expectations, they're fair. This illustrates how historical data may improve forecasts. This assertion challenges the Efficient Market Hypothesis in most emerging nations. Equity prices may have long-term memory or rely on future occurrences when institutional and regulatory frameworks are insufficient due to their small market scope (Kolapo & Adaramola, 2012).

French mathematician Louis Bachelier introduced the efficient-market hypothesis in his 1900 dissertation "The Theory of Speculation". Only in the 1950s did his studies get notice. Several studies supported his claim in the 1930s. Numerous studies have established that financial data, including US stock prices, is normally distributed. Alfred Cowles concluded that professional investors couldn't beat the market in the 1930s and 1940s. The efficient-market theory was developed by University of Chicago Booth School of Business Professor Eugene Fama in the early 1960s for his PhD thesis. This notion was popular until the 1990s. It became mainstream when behavioural finance economists, a minority, became popular. The assumption that stocks of firms with low price to earnings (and cash-flow or book value) outperform other shares is the most prevalent empirical observation that defies efficient market theory. Some suggest cognitive biases cause investors to purchase growth businesses at premium prices rather than value shares. There are long-term inefficiencies, hence the efficient-market concept may remain controversial. By the mid-1960s, the efficient-market hypothesis was a significant theory. Paul Samuelson spread Bachelier's work among economists. Paul Cootner incorporated Bachelier's 1964 dissertation and empirical findings in an anthology. Fama's 1965 dissertation argued for the random walk hypothesis, whereas Samuelson supported a form of the efficient-market hypothesis. Fama carefully analysed the claim's theoretical and empirical foundations in 1970. The study, which originated the notion, specified three financial market efficiency types: weak, semi-strong, and strong. Evidence suggests that capital markets are semi-strongly efficient and the UK stock market is weakly efficient. Khan observed that the grain futures market became semi-efficient following major trader position data releases (Khan, 1986). UK researcher Firth (1976, 1979, and 1980) compared bid offer to post-takeover share values. Firth found semi-strong-form efficiency in the UK stock market because share prices rapidly reflected their genuine values. However, the market's capacity to react swiftly to a brief and well-publicized event like takeover news does not necessarily imply market efficiency compared to other, more permanent and unexpected elements. David Dreman argues that speed does not necessarily indicate data efficiency, criticising this speedy "efficient" reaction. He believes long-term stock performance after volatility is more trustworthy. Dividend drops hurt equities 15.3% more than the market in a three-year research. Companies that raised dividends outperformed the market by 24.8% in three years.

### *The Solow Growth Model*

The neoclassical Solow-Swan model explains long-term economic growth. The theory explains long-term economic development by examining capital accumulation, population or labour expansion, and technical advancement (productivity increases). This model uses a Cobb Douglas-type neoclassical production function, which is related to microeconomics. Robert Solow and Trevor Swan separately devised the model in 1956, replacing the Keynesian Harrod Domar model. One ordinary differential equation



includes the Solow Swan model. This equation shows capital per capita growth or fall. A closed economy with capital and labour as production variables underpins the Solow growth model. Domestic saving is a measure of capital stock's influence on growth, which leads to closed-model investment. Many governments reinvest export revenues to limit economic growth and public investment. Reduced economic growth lowers the Solow growth model's investment and production function curves (Adedoyi, Babalola, Otegunri, & Adeoti, 2016). Solow believes that saving, investment, and population growth drive economic growth, everything else being equal. Higher savings and investment rates may increase worker capital. Unless technical advances are made, increasing capital per worker does not increase production per worker due to diminishing returns. As capital rose, profit production slowed.

## Empirical Review

Enoruwa, Ezuem, and Nwani (2019) examined how the capital market affected Nigeria's economic development from 1985 to 2015. Econometrics' linear regression was used to examine Nigeria's GDP growth and factors. At 5% significance, economic growth associated with all variables. The dependent variable and predictors were significantly associated, except for transaction value and quantity, which were fair. These findings suggest that the capital market should prioritise information management innovation and openness to attract investors.

Stephen and Ajayi (2020) examined Nigeria's capital market and GDP growth during 2000–2018. Pearson correlation matrix, Ordinary Least Squares (OLS), heteroskedasticity, and Ramsey reset tests were used to evaluate parameter associations. Market capitalization and the all shares index favourably benefited Nigerian economic development, although not statistically. However, overall transaction value positively and statistically significantly correlated with economic growth. The study found that the Nigerian government should immediately implement capital market reforms because it is widely recognised as the best channel for mobilising and lending medium- to long-term capital to the investment sector and propelling the economy in its own unique way.

Preye and Bingilar (2020) examined Nigeria's GDP growth and capital market development from 2008 to 2018. The research estimated using multiple regression. Nigeria's GDP increased positively and statistically with stock market growth. Nigeria's stock market and GDP growth have a slight positive association. As many Nigerians prefer stock purchasing and holding over capital market trading, the government should discourage it. Improve the information and communication network. The government must also support infrastructure improvements and expansion. This would improve corporate growth, efficiency, and output, boosting the economy.

Ubesie, Nwanekpe, and Ejilibe (2020) investigated Nigeria's capital market's influence on economic development from 1990 to 2018. Study included ARFF and ECM testing. In explaining how the capital market affects Nigerian economic development, all variables except labour force were statistically significant. The data also suggest that the study's model best describes the variables. The government should enhance life with favourable initiatives.

Keji (2020) used 1980–2017 data to assess how the Nigerian capital market affects economic development. The research employed bound cointegration testing and an auto-regressive distribution-lag model. Long-term findings suggest that Nigeria's capital market and GDP growth are linked. The government should improve market technological infrastructure to simplify transactions, encourage internationalisation, and boost competition. The SEC and other regulators must increase control of the Nigerian capital market to reduce unscrupulous deals.

Fapetu, Ojo, Balogun, and Asaolu (2021) examined Nigeria's capital market performance and macroeconomic indicators from 1993 to 2020. The research estimated using the vector error correction model. The long-term link between Nigeria's macroeconomic dynamics and capital market performance was significant. The study also indicated that Arbitrage Pricing Theory (APT) suggestions work in Nigeria.

From 1985 to 2019, Celina, Nwagu, Agbafor, and Oruta (2021) examined how the capital market affects Nigeria's economy. Estimation was done using the Vector Error Correction Model and Cointegration test. Results showed a positive but statistically insignificant influence of market capitalization and all-share index on GDP in Nigeria. The study suggested that the government must stabilise share prices using economic measures to encourage local and foreign investors to the capital market. This move will boost market capitalization and the all-share index, helping the Nigerian economy.

According to Udo, Nwezeaku, and Kanu (2021), Nigeria's financial market expansion influenced economic growth between 1983 and 2016. The Augmented Dickey-Fuller unit root test and ARDL bounds test for co-integration were used to estimate. The findings demonstrated that the All Share Index and Number of Listed Securities considerably affected Nigeria's short- and long-term economic growth. Since tax, legal, and regulatory barriers hinder capital market investment and stock market growth, the government should eliminate them. The government must maintain policy consistency to boost Nigeria's capital market. We must act immediately to prevent unproductive policies from hiding capital market development's benefits and limiting long-term economic progress. Finally, the government should improve investor confidence to keep them investing.

Adolphus and Samuel (2021) examined Nigeria's capital market development and economic growth from 1981Q1–2017Q4. The research used Augmented Dickey-Fuller Test and Vector Auto Regression for estimation. The findings show that market capitalization as a proportion predicts financial development variation ( $p = 0.0205$ ). Stock percentage and banking framework capitalization composition have minimal impact on Nigeria's Real GDP. Nigeria's capital market is driven by strong market capitalization. The banking sector should promote economic growth and capital market activity in emerging nations to sustain economic progress.

Imade (2021) examined US and Nigerian capital market performance and GDP growth from 1990 to 2017. Estimates were made using the error correction model and cointegration econometrics. Gross fixed capital formation was the sole element that influenced Nigeria's economic development immediately and long-term, the research showed. The study's final recommendation was that the government control the capital market and its workers. This quantitative investigation used yearly time series data, however it lacked the 30 observations required for time series analysis.

Bello, Umaru, and Umar (2022) examined capital market performance and emerging countries' economic development from 2012 to 2022. Research employed descriptive synthesis, a qualitative method. The results showed that 30% of empirical findings from developing country capital market and economic development studies did not meet forecasts. Time series analysis employing diverse variables and methodologies in impoverished nations yielded inconsistent results. Thus, domestic capital production in money and capital markets should be encouraged to finance enterprises. Standardising capital market research methods ensures uniformity in findings.

Umar (2022) studied Nigeria's capital market and economic development from 2012 to 2021. SQAT was employed in study. The findings showed that Nigeria performed most of the study. These empirical studies all found that capital market health influences GDP growth. However, global financial market maturity caused variations across states. Studying capital markets is crucial to economic progress since they are linked to it.

## Research Method

This model is built on the modification of Celina, Nwagu, Agbafor and Oruta (2021) which can be expressed below as;

$$GDP = f(MCAP, ASI, INFL) \dots\dots\dots 1$$

This model can for the purpose of simplicity be stated in the econometric form of equation as depicted below

$$GDP = \beta_0 + \beta_1MCAP + \beta_2ASI + \beta_3INFR + u \dots\dots\dots 2$$

Where;

GDP = Gross Domestic Product

MCAP= Market Capitalisation

ASI = All Share Index

TNI = Total New Issues

$\mu$  = Error Term

$\beta_0$  = Constant Parameter

$\beta_1$ –  $\beta_3$  = Coeficients of Regression

## Data Analysis and Interpretation

From 1986 until 2022, the research examined Nigeria's capital market and economic development. It employed the ARDL model to quantify effect over time with different integration levels. The research model's dependent variable was GDP, which measured economic advancement. Market capitalization, inflation, and the all-share index were also employed as explanatory factors. Instead of using Ordinary Least Square (OLS), the Unit Root Test was used to analyse the data. Since the OLS technique emphasises short-term results, the ARDL method takes them into consideration. This component of the study analyses and interprets the research results.

### Data Presentation

The research utilised 1986 to 2022 raw and log-linearized secondary data. The carefully selected data is in the table below.

### Test for Sattionary of Variables (Unit Root Test)

The Augmented Dickey Fuller Unit Root Test (ADF URT test) is needed to confirm stationarity because time series data usually do. Avoiding misleading regression is another test goal. The working hypothesis for stationary research model variables is:

$H_0$ : X has a unit root i.e. data is non-stationary

$H_1$ : X has no unit root i.e. data is stationary

### Decision Rule:

Before a variable is steady, its ADF test statistics must exceed the Mackinnon Critical Value by 5%. Therefore, disregard the negative ADF test findings and Mackinnon critical value. If this condition is met, we reject the null hypothesis and accept the alternative. We reject the alternative and accept the null hypothesis if none of these requirements apply. Table below shows the Augmented Dickey Fuller Unit Root test results.

Table 1: Result of ADF Unit Root Test at Level

Variable	ADF Statistical value	Mackinnon Critical Value	$H_0$	$H_1$	Remark
LNGDP	-4.581722	-2.945842	Reject	Accept	Stationary
LNMCPAP	-1.844603	-2.945842	Accept	Reject	Non-Stationary
LNASI	-2.336815	2.945842	Accept	Reject	Non-Stationary
LNINFR	-3.778415	-2.948404	Accept	Reject	Stationary

Source: Author's computation using E-views 9 (2024)

LNGDP and LNINFR were stationary before first differencing since their ADF statistics value was bigger than the Mackinnon critical value at the 5% significant level, according to Table 1. Therefore, GDP and INFR are variables where the alternative hypothesis is more likely. Differentiation must be done first to attain stationarity as other variables are currently non-stationary. In table below, the first discrepancy's conclusion is succinctly expressed.

Table 2: Result of ADF Unit Root Test at First Difference

Variable	ADF Statistical Value	Mackinnon Critical Value	$H_0$	$H_1$	Remark
D(LNMCPAP)	-4.542617	-2.948404	Reject	Accept	Stationary
D(LNASI)	-6.294899	-2.948404	Reject	Accept	Stationary

Source: Author's computation using E-Views 9 (2024)

Table 2 shows that LNMCPAP and LNASI were stationary at initial difference. At a 5% significance level, the ADF statistics exceeded the Mackinnon critical threshold in absolute terms. This showed that ADF statistics were more significant. These factors support the alternative hypothesis and reject the null hypothesis.



### Summary of Order of Co-integration

The summary of the Augmented Dickey Fuller (ADF) unit root test is presented in the table below:

*Table 3: Summary of Order of Integration*

Variable	Order of Integration
LNGDP	I(0)
LNMCAP	I(1)
LNASI	I(1)
LNINFR	I(0)

Source: Author's computation using E-view 9 (2024)

When the variables have heterogeneous order of integration, the Auto Regressive Distribution Lag (ARDL) model must be employed to assess their long-term relationship instead of the co-integration test.

### The Augmented Dickey Fuller Test Equations

Table 4 shows the ADF test equation results for all variables. For each variable in the table, you can see its stationarity, delayed time, and multiple determination coefficient.

*Table 4: - Result of ADF Test Equation on Variables at their Stationary point*

Variable	Coefficient	Standard Error	T-Statistics	Probability	R <sup>2</sup>
LNGDP(-1)	-0.030177	0.006586	-4.581722	0.0001	0.381730
C	0.470166	0.062763	7.491117	0.0000	
D(LNMCAP(-1))	-0.783750	0.172533	-4.542617	0.0001	0.384734
C	0.188934	0.064644	2.922698	0.0062	
D(LNASI(-1))	-1.202935	0.191097	-6.294899	0.0000	0.545616
C	0.146208	0.090338	1.618443	0.1151	
LNINFR	-0.568989	0.150589	-3.778415	0.0006	0.312869
C	1.551168	0.414992	3.737830	0.0007	

Source: Author's Computation using E-views 9 (2024)

### ARDL Bound Test Approach to Co-integration

For co-integration in the ARDL framework, the Pesaran, Shin, and Smith (2001) limits testing method is used to determine if the variables are in long-term equilibrium. This is the test hypothesis:

H<sub>0</sub>: There is no co-integration among variables

H<sub>1</sub>: There is co-integration among variables

### Decision Rule:

At 5% significance, the model's F-Statistics must exceed the test result's upper limit to indicate co-integration. This prompts us to choose the alternative hypothesis, which asserts that variables are co-integrated if F-Statistics are bigger than the top limit at 5% significance. This shows long-term relationship between variables. If F-Statistics is below the upper limit, we accept the null hypothesis. The co-integration result is shown below and summarised in table 5:

This research used the Schwarz Information Criterion to choose the ARDL (1,1,0, 0) model.

*Table 5: Co-Integration Result*

F-Statistics	Lower Bound (5%)	Upper Bound (5%)
5.039371	2.62	3.79

Source: Author's Computation using E-views 9 (2024)

The findings above suggest a stable long-term equilibrium relationship between the variables. F-Statistics exceeded the upper limit at a 5% critical value, supporting the alternative hypothesis. Thus, the long-term relationship is clear.

### Long-Run Results

The long run result of the model obtained through the use of the ARDL technique as presented in table 6 is summarized below in table 6:

*Table 6: Long Run Result of the Model  
Dependent Variable: GDP*

Variable	Coefficient	Std. Error	T-Statistics	Prob.
LNMCP	0.026121	0.506555	0.051565	0.9593
LNASI	0.513986	0.421467	1.219518	0.2336
LNINFR	0.962693	0.767111	1.254959	0.2207
C	-0.661923	3.583206	-0.184729	0.8549

Source: Author's Computation using E-views 9 (2024)

From the table 6 above, the long run equation specifying the long run relationship among the variables can be presented below as:

$$GDP = -0.661923 + 0.026121_{MCP} + 0.513986_{ASI} + 0.962693_{INFR} + \mu$$

(3.583206) (0.506555) (0.421467) (0.767111)

Note: The standard error statistics are those stated in parenthesis

The long-run equation constant parameter coefficient is -0.661923. If all other factors remain constant, GDP will drop by -0.661923 units over time. The positive, statistically insignificant association between market capitalization and GDP was 0.026121. GDP will expand by 0.026121 units for every unit growth in market capitalization over time. A positive correlation of 0.513986 between the all shares index and GDP was not statistically significant. This means that GDP will rise by 0.513986 units for every all shares index unit increase over time. One unit of inflation increases GDP by 0.962693 units over time, according to the 0.962693 unit positive correlation between the two variables.

The Error Correction Model (ECM)'s -0.089582 value shows its relevance in achieving long-term equilibrium by correcting previous errors. This suggests the GDP figure responds quickly to model explanatory component modifications.

#### *Test for Statistical Significance of Parameters in the Long Run (Probability Test)*

This study examined variables for statistical significance using a probability test. We use the ARDL long-run outcome and variable probabilities to achieve this.

#### *Decision Rule:*

If the probability value attached to the variable is less than 0.05 i.e. 5% significant is statistically significant but if otherwise, the variable is considered to be statistically insignificant.

*Table 7: Probability Test Long Run*

Independent variable	Coefficient probability	Probability value	Decision
LNMCP	0.026121	0.9593	Insignificant
LNASI	0.513986	0.2336	Insignificant
LNINFR	0.962693	0.2207	Insignificant

Source: Author's Computation using E-views 9 (2024)

The result from the table above revealed that capital market indices has a positive and insignificant impact on GDP in the long run.

#### *Diagnostic and Stability Test*

Diagnostic and stability tests assess model robustness, stability, and dependability using various methods. The diagnostic battery includes serial correlation, autocorrelation, normalcy, and heteroskedasticity.



### Serial Correlation Test

In this study, the test for serial or autocorrelation of residuals was based on the Breusch Godfrey Serial Correlation Language Multiplier (LM) test. The LM test is a general test for error autocorrelation (Asteriou & Hall, 2011). The test for the serial correlation in the model adopted for the study is based on the following hypothesis:

$H_0$ : There is no serial correlation

$H_1$ : There is serial correlation

### Decision Rule:

If the probability value (P-Value) of the F-Statistic is more than 5%, then there is no serial correlation and the null hypothesis is accepted but if otherwise, the alternative hypothesis is accepted.

*Table 8: Result of the Breusch-Godfreyb Serial Correlation LM Test*

F-Statistics	0.93274	Prob. F(2,24)	0.4073
Obs*R-squared	2.596416	Prob. Chi-Square(2)	0.2730

Source: Author's Computation using E-views 9 (2024)

With P-Value 0.4073 and F-Statistics 0.932744, both thresholds of significance are above 5%. Thus, the null hypothesis supports no autocorrelation. Thus, the model is reliable for policy suggestions and findings.

### Heteroskedasticity Test

Heteroskedasticity test is a common problem in data analysis. It occurs when the variance of errors varies across observations; hence, it is imperative to test for heteroskedasticity as the estimated standard error can either be too large or too small. Hence, it can result in incorrect inference (Hendry, 1995). As a result, to test for heteroskedasticity, the test is based on the following hypothesis:

$H_0$ : There is no heteroskedasticity in the model

$H_1$ : There is heteroskedasticity in the model

### Decision Rule:

If the probability value of the F-Statistics is more than 5%, there is no heteroskedasticity in the study and the null hypothesis is accepted but if otherwise, the alternative hypothesis is accepted.

*Table 9 Breusch-Pagan-Godfrey Heteroskedasticity Test Result*

F-Statistics	0.511129	Prob. F(5,26)	0.8530
Obs*R-Squared	5.411922	Prob. Chi-Square(9)	0.7970
Scaled explained SS	2.686584	Prob. Chi-Square(9)	0.9754

Source: Author's Computation using E-views 9 (2024)

From the table 9 above, the white heteroskedasticity test has an F-Statistics of 0.511129 and Probability Value is more than 5% at 0.8530. Hence, the null hypothesis of no heteroskedasticity is accepted and it can be deduced that the model has no heteroskedasticity problem.

### Normality Test

According to Hair (2010), a robust model must be linear and should be normally distributed. In a bid to verify the normality of the variables, the Jarque Bera statistics of the normality test was adopted. Hence, the hypothesis underlining the test is formulated below:

$H_0$ : Data is normally distributed

$H_1$ : Data is not normally distributed

*Table 10: Normality Test Result*

Jarque Bera Statistics	1.530734	Probability value	0.465163
Skewness	0.502783		

Source: Author's Computation using E-views 9 (2024)

From table 10 above, the normality test revealed that the Jarque Bera statistics has a value of 1.530734 while its probability value is 0.465163; hence, the null hypothesis is accepted that there is normal

distribution in the model. Furthermore, considering the value of the skewness which falls within the range of -1 to +1, hence, it can be deduced that the data is normally distributed.

### Summary of the Research Findings

The research seeks to demonstrate how Nigeria's capital market influences economic development. The Augmented Dickey Fuller Unit Root Test verified that variables were not stationary. All variables were stationary at first difference except GDP and inflation, which were stationary at the level. To identify the long-term equilibrium connection between variables, the Auto Regressive Distributed Lag (ARDL) approach was utilised, which integrated variables at several stationary locations. The ARDL Bounds testing approach showed a strong long-term link between variables via co-integration.

Researchers tested a long-term ARDL model and found capital market indices had minimal effect on GDP. Market cap and GDP has a long-term positive and statistically significant association. Although not statistically significant, the all-share index and GDP correlated positively over time. Although not statistically significant, GDP and inflation correlated positively. All components met expectations in the end.

Diagnostic and stability testing assessed model robustness and dependability. These tests detected serial or autocorrelation, heteroskedasticity, normal distribution, and functional correlations between data using the Breusch-Godfrey Serial Correlation LM test, Breusch-Pagan Godfrey Heteroskedasticity test, and normality test. Autocorrelation, functionality, instability, and heteroskedasticity tests were negative for normal distribution data. Thus, the study's results may inform appropriate decisions.

### Implication of Research Findings

This research examines how Nigeria's capital market affects economic development. The Auto Regressive Distributed Lag (ARDL) model showed that all parameters except total new issue negatively affected long-term economic growth. We found that all factors met expectations.

Although statistically negligible, market capitalization boosted Nigerian economic development, according to theory. Celina, Nwagu, Agbafor, and Oruta (2019) and Stephen, Ajayi (2020) concluded that increasing market capitalization would boost Nigeria's economy.

The study's positive but statistically insignificant link between Nigeria's stock index and GDP growth was expected. This supports Celina, Nwagu, Agbafor, Oruta (2019) and Stephen and Ajayi (2020) findings that stock index growth promotes long-term economic growth.

According to the study's positive but weak association, greater inflation may boost Nigeria's economy. It was statistically significant that fiscal policy explained long-term economic progress in Nigeria. According to LM correlation, heteroskedasticity, normality, stability, and functionality reset tests, these results correctly represent the capital market's influence on Nigeria's economic development.

### Conclusion and Recommendations

This study examined Nigeria's capital market's influence on economic development. The independent variables were market capitalization, the all-share index, and inflation, whereas GDP was the dependent variable. The research examined long-term variable relationships using Auto Regressive Lag modelling. The research covered 1986 to 2022. Capital markets benefited Nigeria's long-term economic growth but not significantly. To attract local and foreign investors to Nigeria's capital market, the government should adopt economic policies that maintain share prices. National inflation should be monitored by the regulatory authorities.

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