

Linking the stock market performance indicators with economic growth in Nigeria

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Keywords

Economic growth, Performance indicators, Stock market

Abstract

This study examined the link between the performance of stock market indicators and economic growth in Nigeria for the period 1987 – 2016. Economic growth was proxied by gross domestic product while capital market performance was measured by market capitalization, total new issues, volume of transaction and listed equities. Data was collected using secondary source. The statistical technique employed for data analysis was multiple regression. The findings of the study showed that the capital market performance has positively and significantly impacted on the Nigerian economy within the period of the study (1987 - 2016). The study, therefore, recommends among others that the Central Bank of Nigeria (CBN), the Nigerian Stock Exchange (NSE) and Security and Exchange Commission (SEC) should work consciously and in tandem to ensure free flow of information and boost confidence in the stock market. This is necessary in order to attract more investors and increase new issues which will automatically increase the quantum of activities in the stock market and invariably impact positively on the economic growth of Nigeria.

Introduction

The financial system which is responsible for regulating the financial environment of the economy, determines the types and amount of funds to be issued, cost of funds and the uses to which these funds are to be put. The role of financial intermediation to economic growth and development is being increasingly recognized, especially in developing economies (Sanusi, 2011). Financial intermediation involves the process in which financial market transfer funds from the surplus economic units to deficit ones. The financial market is made up of two majors markets which are institutional arrangements that facilitate the intermediation of funds in an economy, they are: the money market and the capital market which is dominated by stock market activities. The basis of distinction between the money market and the capital market lies in the degree of liquidity of instruments bought and sold in each of the market (Osamwonyi, 2005).

The capital market on the other hand is the market for longer-term funds and securities whose tenor exceeds beyond one year. These include long-term loans, mortgage bonds, preference stocks, ordinary shares, Federal Government bonds and industrial loans and debentures. This market is the source from which companies and industries obtain capital for expansion and modernization and also from which government borrows on a long-term basis for development purposes. The capital market is generally regarded as an engine of economic growth and development. It mobilizes savings and allocates same to the real sector just in order to achieve economic growth and development. Given the strategic role of the capital market in fostering growth in an economy, it remains one of the most regulated components of the financial sector in most economies.

A number of studies believed that there exists a positive and significant relationship between capital market development and economic growth and development. That is capital market development translates to economic growth without hindrance, (Rajan & Zingales, 2001). However, the challenge therein lies on how to attain a sustainable capital market development in an emerging economy like Nigeria that work as gate way to a sustainable economic growth and development. This has generated controversies on the nature of the effect and causal relationship between the

capital market development and economic growth in Nigeria as found in other countries. Previous empirical studies usually document conflicting results. The results exhibit a different pattern for development and developing countries which suggest that institutional considerations and policies of countries do play a role in the relationship between capital market development and growth. Generally, empirical studies provide three-way evidences on the nature of the linkage between capital market development and economic growth. First, a unidirectional (one-way) causality from capital market development to economic growth. Second, there is a unidirectional causality from growth to capital market development. Such finding confirms Shan et al., (2001) conclusion that economic growth causes China's financial development. The third alternative is the co-evolution (bidirectional causality) between economic growth and capital market development hypothesized in both early and some recent literature (Odeniran & Udejaja, 2010). Studies in Nigeria seem to offer unclear conclusions as well.

The Nigerian policy makers tend to emphasize more on the benefits of stock market development and mostly in support of the view that stock market development lead to economic growth. The problem is that the nature of the relationship between the stock market performance and economic growth is still contentious, especially in developing countries like Nigeria. Previous works have focused on average stock prices of companies quoted in the respective country's stock exchange and capital market as a whole, but the current study concentrated on the specific effects of the market indicators on the growth performance of Nigeria. It is against this background that the study seeks to examine the linkage between stock market and economic growth. The choice of the period of study, 1987-2016 is predicted on the reasoning that, the market has experienced remarkable developmental changes during the post Structural adjustment era. Although, new issues and volume of transactions have all recorded significant increase during the period of study yet there have been records of downturn in some years as a result of the global financial crisis. The study is therefore set to address the following research objectives.

The broad objective of the study is to examine the linkage between stock market performance and economic growth in Nigeria while the specific objectives are to:

Determine the impact of stock market capitalization on the Gross Domestic Product (GDP).

Assess the effect of total new issues on the gross domestic product.

Identify the contribution of the volume of transaction to the gross domestic product in Nigeria.

Examine the impact of total listed equities stocks on the gross domestic product.

Accordingly, the following hypotheses have been formulated in null forms to guide the study.

H₀₁: Stock market capitalization has no significant impact on Nigeria's gross domestic product.

H₀₂: Total new issues have no significant effect on Nigeria's gross domestic product.

H₀₃: Volume of transaction has not significantly affected Nigeria's gross domestic product.

H₀₄: Total listed equities have no significant impact on Nigeria's gross domestic product.

Literature review

This section reviews relevant literatures on on stock market performance and economic growth by various scholars.

Conceptual clarification

Capital market is a market for securities (debtor equity), where business enterprises (companies) and government can raise long-term funds (Sullivan & Sheffrin, 2003). Capital market is an integral part of the financial system that provides an efficient delivery mechanism for mobilization and allocation, management and distribution of long-term funds for investment project (Alile & Anao, 1990). The Capital market is defined as the market where medium or long-term finance can be raised (Akingohungbe, 1996).

Market capitalization is the total value of all shares of a publicly-traded company. Market capitalization is calculated by multiplying the total number of shares by the market price per share.

Market capitalization is one of the basic measures of the worth of a publicly-traded company; it is a way of determining the actual value of a company.

New issues market is the market where companies can raise finances by issuing shares or by floatation of securities. In other words, it is when a company attempts to raise funds by issuing additional shares or initial public offer to the general public who wish to invest in the shares of the company. An initial public offering (IPO) is a first-time offering of shares by a specific firm to the public (Agarwal, 2001).

Volume of transaction refers to the total amount of securities traded in the capital market regardless of what type of security instrument. The volume of transaction often determines the level of transactional activities or the performance of the capital market as far as the business transaction of the market is concerned and this in turn could have an effect on the growth of the economy as either positive or negative outcome of the transaction volume (Adewoyin, 2004). Equity is the ownership interest in a company in form of common stock or preferred stock. Equity investment generally refers to the buying and holding of the shares of stock from a stock market by individuals and firms in anticipation of capital appreciation as the value of the stock rises. Therefore, the more the numbers of listed equities are available in the capital market the better for the economic growth of the nation (Daniel, 2004).

Economic Growth: Economic growth is the increase in the amount of goods and services produced in an economy which is measured by positive changes in a country's gross domestic product (Okpara 2006). Economic growth is the increase in national income, as reflected in the capacity of production of goods and services regardless of either the increase is on a larger or smaller population growth rate (Anyanwu, 1996). According to Robert Solow, cited in Adebisi (2005) economic growth is a positive change in the level of production of goods and services by a country over a certain period of time. Overall, economic growth is the increase in a country's productive capacity, as measured by increase in capital stock, advancement in technology and improvement in the quality and level of literacy. The gross domestic product is a basic measure of a country's overall economic output. It is the market value of all final goods and services made within the boarder of a country in a year (Sullivan & Sheffrin, 1996). In another sense, gross domestic product is the monetary value of all the finished goods and services produced within a country's border in a specific time period. Although GDP is usually calculated on an annual basis, it includes all of private and public consumption, government outlays, investment and exporters import that occur within a defined territory (Anyanwu, 1996).

It is mathematically represented as follows:

$$GDP = C + G + I + NX$$

Where:

C = is equal to all private consumption

G = is equal to the sum of government spending

I = is equal to all the country's business spending on capital.

NX = is equal to the nation's total net exports, calculated as total export minus total imports (NX = Exports - Imports). The Nigerian economy is proxy by the use of the gross domestic product. Consequently, gross domestic product is perceived as the total value of goods and services produced in a country in a given period of time including therefore all goods and services produced in a country.

Theoretical Framework

In terms of theory, a lot of literature argues that stock markets provide activities that boost economic growth. Specifically, Greenwood and Smith (1997) show that large stock markets can lower the cost of mobilizing savings and thereby facilitate investment in the most productive technologies. Bencivenga, et al., (1996) and Levine (1991) advance the view that stock market liquidity which is the ability to trade equity easily is important for growth. Specifically, although many profitable

investments require a long-run commitment of capital, savers do not like to relinquish control of their savings for long periods. Liquid equity markets ease this tension by providing assets to savers that they can quickly and inexpensively sell. Simultaneously, firms have permanent access to capital raised through equity issues. Moreover, Kyle (1984) and Holmstrom and Tirole (1993) argue that liquid stock markets can increase incentives to get information about firms and improve corporate governance. Finally, Obstfeld (1994) shows that international risk sharing through internationally-integrated stock markets improves resource allocation and can accelerate the rate of economic growth. However, for the purpose of this study the endogenous growth theory has been adopted. This is informed by the fact that the Endogenous growth theory links human capital, capital market growth and innovation to economic growth unlike exogenous growth theory which concentrates only on productivity and not on economic growth.

Empirical studies

Adeoye (2015) examined the impact of the Nigerian capital market on the economy, upon which a nations' economic development are dependent. The study believes that the importance of Capital Market as one of the means upon which most under-developed economies could grow cannot be overemphasized. The degree to which these economies experience the growth is quite relative to the level of consciousness and management of the market. Nigeria is not left out in the desire to exploit the gains of the capital market to boost its economy. The Nigerian Capital Market was proxied as Market Capitalization against some variables of the economy such as Gross Domestic Product (GDP), Foreign Direct Investment, Inflation Rates, Total New Issues, Value of Transaction and Total Listing. Using the multiple regression analysis, the study found that Capital Market has an insignificant impact on the economy within the period under review. The study therefore advised that policies and measures that would boost investors' confidence should be enshrined in the running of Nigerian Capital Market so that it could contribute significantly to the growth of Nigerian economy noting that all elements of the market are vital ingredients to the growth of a nation.

Emeh and Chigbu (2014) examined the impact of capital market on economic growth in Nigeria. The study adopts a time-series research design relying extensively on secondary data covering 1985-2012. The study utilizes regression analysis as data analysis method incorporating multivariate co-integration and error correction to examine characteristics of time series data adopting disaggregate the capital market indices approach. Observation across studies on this subject is the heterogeneity in empirical findings over what may be termed a considerably uniform theoretical framework at least with regards to causality. The finding suggests that two exhibits positive while two exhibit inverse and statistically significant relationship with economic growth. This could stimulate dialogue on the implication for policy simulation. Recommendation is that relevant regulatory agencies should focus on enhancing efficiency and transparency of market to improve investor's confidence. Therefore, the need for effective and favourable macro-economic environment to facilitate economic growth and ensure that channels of capital market induced growth are built around effective systems; and that policy institution are active in making systemic checks and appropriate policy innovations to ensure capital market led economic growth.

Oluwatosin, Adekanye and Taiwo (2013) examined the impact of Nigerian capital market on economic growth and development between 1999 and 2012. Data were sourced from Security Exchange Commission Reports, Nigerian Stock Exchange Review Reports, and Central Bank of Nigeria Statistical Bulletin respectively. Ordinary least square method of regression analysis was used to analyze the data. The result shows that capital market indices have not significantly impacted on the GDP. It was concluded that capital market in Nigeria has the potential of growth inducing but it has not contributed significantly to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization, illiquidity, and misappropriation of funds among others. The study recommends that government should restore confidence to the market through regulatory authorities which will portray transparency, fair trading transactions and dealing

in the stock exchange, improve dealing in the market capitalization by encouraging more foreign investors to participate in the market and also to increase investments instruments such as derivatives, convertibles, swap and option in the market.

Onyekachi and Odi (2013) examined the impact of capital market reform on the growth of Nigerian economy. The capital market reform was proxied by Market Capitalization, All Share Index and Total Volume of Transaction on the growth of Nigerian economy proxied by gross domestic product (GDP). The study postulates that if capital market reforms are effective, the economy will grow well.

Odita and Oghoghomeh (2013) studied resource mobilization for long term economic development, an insight into the role of the Nigerian capital market. The authors modeled the effect and importance of the Nigerian capital market, as a veritable source of medium- and long-term development. The data collected were from the Central Bank of Nigeria statistical bulletin and the Security and Exchange Commission from the period of 2001 to 2010. The economic development was proxy by Gross Domestic Product (GDP), while the capital market variables considered included the Annual Market Capitalization (AMC) and the Total Volume of Transactions (TVT). Findings revealed that there was a positive relationship between the capital market activities and gross domestic product, although the relationship was not statistically significant. The study recommended that the more fundamental issue of building investor confidence must be addressed through transparency, fair trading transactions, political stability and social security; stringent requirements for entry into the market should be relaxed and adequate publicity should be given to the activity of the capital market.

Kolapo and Adaramola (2012) examined the impact of the Nigerian capital market on its economic growth from the period of 1990-2010. The economic growth was proxied by Gross Domestic Product while the capital market variables are; Market Capitalization, Total New Issues, Value of Transactions, and Total Listed Equities and Government Stocks. Applying Johansen co-integration and Granger causality tests, results show that the Nigerian capital market and economic growth are co-integrated. This implies that a long run relationship exists between capital market and economic growth in Nigeria.

Osinubi and Amaghionyeodiwe (2003) examined the relationship between the Nigerian stock market and economic growth during the period 1980-2000 by employing the granger causality test. However, their results did not support the claim that stock market development promotes economic growth. These findings were similar to the findings in this current study. In addition, Adam & Sanni (2005) examined the role of stock market in Nigeria's economic growth using Granger-Causality test and regression analysis. The study discovered a one-way causality between GDP growth and market capitalization and a two-way causality between GDP growth and market turnover. They also observed a positive and significant relationship between GDP growth and turnover ratios. (Adeoye, 2007) assessed Nigeria's experience in financial sector development and economic growth produce evidence suggesting that the developments of the financial markets and institutions are strongly and significantly but negatively related to economic growth. A case of insufficient virility needed in the sector to produce the growth that would propel the economy. Furthermore, the GDP growth-finance development causality test result equally showed no relationship, and indication of a weak link between the financial and real sectors of the economy.

Ewah (2009) appraised the impact of the Nigeria capital market efficiency on the economic growth of the nation using time series data from 1961 to 2004. He found that the capital market in Nigeria has potential of growth inducing but it has not contributed meaningfully to the economic growth of Nigeria because of low market capitalization, illiquidity, misappropriation of funds among others. (Ezeoha 2009), investigated the nature of the relationship that exists between stock market development and the level of investment (domestic private investment and foreign private investment) flows in Nigeria. The study discovered that stock market development promotes domestic private investment flows, thus suggesting the enhancement of the economy's production

capacity as well as promotion of the growth of national output. However, the results show that stock development has not been able to encourage the flow of foreign private investment in Nigeria.

Research methodology

Descriptive research is utilized because it enables exploring relationships between two or more variables. Also, it is appropriate for testing the hypotheses of the study and help to answer the research questions concerning the stock market and the economy which crucial concern of this study are. The data used in this study were collected through secondary sources. Documentary data has been collected via the Nigerian Stock Exchange bulletin (NSE), Security and Exchange Commission (SEC) bulletin and Central Bank of Nigeria (CBN) Statistical bulletin. The study utilizes the secondary source because it provides a basis for purposeful research work and also gives a direction for the research work. The technique deployed for this study is based on the parametric tool. A multiple regression tool has been preferred because it assists the researcher in ascertaining the relationship between the stock market and economic growth in which the Gross Domestic Product (GDP) has been used as indices of economic growth significantly influenced by other independent variables of the capital market. Overall the technique is appropriate for achieving the set objectives of the study. One of the merits of the model is because it produces optimal results in predicting numeric output when properly structured.

Operationalization of variables

The research work focused on the measurement of variables contained in the topic of research which has to do with the impact of capital market performance on the economic growth of Nigeria. The two variables involved in this research study are the dependent and independent variables. The dependent variable is the economic growth which is proxied by Gross Domestic Product (GDP) while the independent variable is concerned with the following indices: Market capitalization, total new issues, volume of transaction and total listed equities. The following table presents the variables used in the model above and their measurements.

TABLE 3: 1 Variable Measurement

S/NO	Variables	Symbol	Measurement of Variable
1	Gross Domestic product	GDP	C + G + I + X. M
2	Market Capitalization	MCAP	Number of shares of the company x Market share price
3	Total New Issues	TNI	Existing number of shares / New number of shares
4	Volume of Transaction	VLT	Total number of shares traded / Total number of shares outstanding
5	Listed Equities	LEQ	Total Debt / Net worth

The definitions of the variables that are used in the model are based on the regression model developed in the study. The four Variables MCAP, TNI, VLT and LEQ represent Capital Market performance, while the variable GDP represents economic growth.

Model Specification

The model specified for the purpose of testing the hypotheses of the study is presented below:

$$Y = a + bx$$

$$GDP_t = a_0 + a_1MCAP_t + a_2TNI_t + a_3VLT_t + a_4LEQ_t + e_t$$

Where:

GDP = Gross Domestic Product

a_0 = Regression Constant

$a_1 - a_4$ = Coefficient of independent variables.

MCAP = Market Capitalization

TNI = Total New Issues
 VLT = Volume of Transactions
 LE = Listed Equities
 e = Stochastic Error term (Disturbance term)
 t = Time series

Method of Data Analysis

The multiple regression analysis was used to determine whether the stock market indices (market capitalization, total new issues, volume of transaction and total listed equities) have impacted significantly on the economic growth of Nigeria, (proxied) by Gross Domestic Product during the period of the study.

The decision to test the hypothesis of the study is as follows: If the p-value of the t-coefficient is less than 5% (0.05), the null hypothesis is rejected and otherwise we fail to reject it.

Findings/ results

This chapter presents results of the analysis of data gathered from the Statistical Bulletin of the Central Bank of Nigeria and the Publication of the Nigerian Stock Exchange.

Table 4.1.1 Descriptive Statistics

STATISTIC	GDP	MCAP	TLE	TNI	VOT
Mean	22699275	6755.215	3.245921	2.525131	399955.7
Median	7345500.	55.32916	3.088464	1.723650	376300.1
Maximum	89043620	28261.81	3.699634	4.451200	604589.7
Minimum	328600.0	19.98215	2.990443	1.300642	192590.0
Std. Dev.	29489545	9653.832	0.253428	1.343629	121364.4
Skewness	0.194978	0.949063	0.838880	0.511700	0.158972
Kurtosis	2.805247	2.309663	2.110976	1.343494	1.711851
Jarque-Bera	7.187270	5.099314	4.506552	4.739201	2.200521
Probability	0.027498	0.008108	0.005054	0.003518	0.032784
Sum	6.81E+08	202656.4	97.37762	75.75394	11998671
Sum Sq. Dev.	2.52E+16	2.70E+09	1.862545	52.35484	4.27E+11
Observations (years)	30	30	30	30	30

Table 4.1.2 Augmented Dickey Fuller Unit Root Test

Variables	Test Critical Values			At Level	At First Difference	At Second Difference	Order of Integration
	1%	5%	10%				
GDP	-3.7025	-2.9024	-2.6147	-7.0057 (0.0000)	-	-	I (1)
MCAP	-3.6999	-2.9763	-2.6274	-7.1485 (0.0000)	-	-	I (1)
TNI	-3.6892	-2.9719	-2.6251	-6.8803 (0.0000)	-	-	I (1)
VOT	-3.6702	-2.9640	-2.6210	-5.7713 (0.0000)	-	-	I (1)
TLE	-8.0335	-4.5412	-3.3806	-9.0156 (0.0001)	-	-	I (1)

P-values at 5% statistical significance

Table 4.1.3 Impact of Stock Market Capitalization (MCAP) on the Gross Domestic Product (GDP)

Dependent Variable: GDP
 Method: Least Squares
 Date: 03/12/18 Time: 14:18
 Sample: 1987- 2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MCAP	0.300185	0.076198	3.939518	0.0291
C	-0.258716	0.144052	-1.795982	0.1704
R-squared	0.838011	Mean dependent var		0.290058
Adjusted R-squared	0.784015	S.D. dependent var		0.176568
S.E. of regression	0.082058	Akaike info criterion		-1.873596
Sum squared resid	0.020201	Schwarz criterion		-2.029821
Log likelihood	6.683991	Hannan-Quinn criter.		-2.292888
F-statistic	15.51980	Durbin-Watson stat		1.974248
Prob(F-statistic)	0.029146			

Source: Author's Computations using EViews

Table 4.1.4 Effect of Total New Issues (TNI) on the Gross Domestic Product (GDP)

Dependent Variable: GDP
 Method: Least Squares
 Date: 03/12/18 Time: 15:22
 Sample: 1987 -2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TNI	0.820800	0.478821	1.714209	0.0150
C	1.196503	0.905209	1.321798	0.2780
R-squared	0.582483	Mean dependent var		2.697023
Adjusted R-squared	0.326430	S.D. dependent var		0.628290
S.E. of regression	0.515646	Akaike info criterion		1.802381
Sum squared resid	0.797671	Schwarz criterion		1.646156
Log likelihood	-2.505952	Hannan-Quinn criter.		1.383089
F-statistic	2.938511	Durbin-Watson stat		1.879073
Prob(F-statistic)	0.005003			

Source: Author's Computations using EViews

Table 4.1.5 Contribution of the Volume of Transaction (VOT) to the Gross Domestic Product (GDP)

Dependent Variable: GDP
 Method: Least Squares
 Date: 03/012/18 Time: 16:45
 Sample: 1987 -2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VOT	-0.012547	2679135.	-1.675533	0.0124
C	66402014	5064889.	13.11026	0.0010
R-squared	0.583419	Mean dependent var		58195620

Adjusted R-squared	0.311225	S.D. dependent var	3476433.
S.E. of regression	2885178.	Akaike info criterion	32.87725
Sum squared resid	2.502+13	Schwarz criterion	32.72102
Log likelihood	-80.19311	Hannan-Quinn criter.	32.45795
F-statistic	2.807412	Durbin-Watson stat	1.836144
Prob(F-statistic)	0.002423		

Source: Author's Computation using EViews

Table 4.1.6 Impact of Total Listed Equities Stocks (TLE) on the Gross Domestic Product (GDP)

Dependent Variable: *GDP*

Method: Least Squares

Date: 03/12/18 Time: 17:45

Sample: 1987 -2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TLE	0.110862	13.19683	6.397644	0.0000
C	9.299651	140.8545	6.602308	0.0000

R-squared	0.758946	Mean dependent var	28.84606
Adjusted R-squared	0.740404	S.D. dependent var	6.810844
S.E. of regression	3.470166	Akaike info criterion	5.449848
Sum squared resid	156.5467	Schwarz criterion	5.544255
Log likelihood	-38.87386	Hannan-Quinn criter.	5.448842
F-statistic	40.92985	Durbin-Watson stat	1.851040
Prob(F-statistic)	0.000024		

Source: Author's Computation using EViews

Table 4.1.7 Impact of Stock Capital Market on the Gross Domestic Product in Nigeria

Dependent Variable: *GDP*

Method: Least Squares

Date: 04/012/18 Time: 09:44

Sample: 1987 -2016

Variables	Coefficient	Std. Error	t-Statistic	Prob.
MCAP	0.032522	364.1151	13.23901	0.0256
TNI	0.063120	339.5369	18.59019	0.0036
VOT	0.080645	802.1033	16.92063	0.0270
TLE	0.124266	461.9821	28.25847	0.0000
C	08.51443	499.8400	13.27073	0.0276

R-squared	0.720800	Mean dependent var	93788.07
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Adjusted R-squared	0.641600	S.D. dependent var	38324.41
S.E. of regression	28638.35	Akaike info criterion	23.66306
Sum squared resid	3.250519	Schwarz criterion	23.77263
Log likelihood	101.4838	Hannan-Quinn criter.	23.42661
F-statistic	112.5816	Durbin-Watson stat	1.977268
Prob(F-statistic)	0.000012		

Source: Author's Computation using EViews

Results

Descriptive Statistics

Results as presented in the Table 4.1.1 showed the descriptive statistics of the study variables as shown in the Table, the mean Market Capitalization (MCAP) was about 6755 (million) with minimum and maximum values of 328600 and 89043620 respectively. The Total New Issues (TNI) had a median value of 1.7237 at a standard deviation of 1.3436. The mean value of the Total Listed Equities Stock (TLE) was 3.24 with minimum and maximum values of 2.9904 and 3.6996 respectively. The average Total New Issues (TNI) was 2.5251 while that of the Volume of Transaction (VOT) was 399955.7 and their standard deviations were 1.34 and 121364.4 respectively. Furthermore, the table shows the deviations from the mean as well as the maximum and minimum values for the other time series data gathered for this study. The coefficient of skewness for all the variable data were below one (1) signifying a normal frequency distribution for the study variables. Kurtosis coefficients were 2.8052(GDP), 2.3097(MCAP), 2.1110 (TLE) and 1.7119 (VOT). Jarque-Bera statistic shows that all the variables have insignificant p-values. Both Kurtosis and Jarque-Bera statistic confirm that the time series variable data were normally distributed.

Unit Root Test

Unit root test was conducted on the time series data to avoid spurious regression which tends to accept a false relationship or reject a true relationship as a result of the use of non-stationary data series for the analysis. The Augmented Dickey Fuller (ADF) procedure was adopted in testing for existence of unit root in the time series data and the order of integration of all the variables. Since a spurious regression is not desirable, testing for stationarity is a prerequisite when working with time series data. This transforms the non-stationary data into stationary data by means of differencing. The results of the Unit Root Test are summarized in the table 4.1.2.

The results showed that the study variable data were stationary at level and this made for the rejection of the null hypothesis stating that they have unit root at levels, owing to their p-values which were less than 0.05 at level. This pointed that there was no need for first nor second differencing. This means that for these variables, we rejected the null hypothesis at level which state that they have unit root. All the variable dataset was stationary at level, indicating the absence of unit root in the variable data. Having tested for stationarity therefore, the time series data are suitable for analysis. This makes an Ordinary Least Squares model suitable for estimating the regression model.

Discussions and conclusions

Impact of Stock Market Capitalization on the Gross Domestic Product (GDP)

Testing Hypothesis One

H₀₁: Market capitalization has no significant impact on Nigeria's gross domestic product

The model equation of the impact of market capitalization (MCAP) on the gross domestic product (GDP) is: ' $GDP = -0.2587 + 0.3002 MCAP$ '

This model (Table 4.1.3) established the empirical relationship between MCAP and GDP. The intercept of the equation was -0.2587 and this (constant) represents the GDP if the MCAP was zero, i.e., Nigeria's GDP would be negative (-0.259) if the MCAP was zero. Furthermore, the coefficient of the MCAP was 0.3002 at p=0.0291. This coefficient was significant, and it indicated that for a unit

increase in the MCAP, there would be about 30% ($0.3002 * 100$) positive increase in the Nigeria's GDP.

The R-squared value of this model was 0.8380. This meant that MCAP accounted for about 84% ($0.8380 * 100$) of variations in the GDP in this model. The remaining 16% ($1 - 0.8380$) was due to error factors, determined by other variations not covered in this model. An R-squared value of 84% demonstrated that this model was very good.

The F-statistic shows overall significance of models. The F-statistic is significant at 5% level. The probability of its value (0.0001) is less than the 0.05 critical level. Hence, the null hypothesis (**H₀₁**: Stock market capitalization has no significant impact on Nigeria's gross domestic product) was rejected. Hence, the study concluded that Stock market capitalization had significant positive impact on the GDP).

Effect of Total New Issues on the Gross Domestic Product

Testing Hypothesis Two

H₀₂: Total new issues have no significant effect on Nigeria's gross domestic product

The model equation of the effect of total new issues (TNI) on the gross domestic product (GDP) is: ' $GDP = 1.196 + 0.2208TNI$ '

This model (Table 4.1.4) established the empirical relationship between TNI and GDP. The intercept of the equation was 1.196 and this (constant) represents the value of the GDP if the TNI was zero, i.e., Nigeria's GDP would 1.196 trillion if the TNI was zero. Furthermore, the coefficient of the TNI was 0.2208 at $p=0.0150$. This coefficient was significant, and it indicated that for a unit increase in the TNI, there would be about 22% ($0.2208 * 100$) positive increase in the Nigeria's GDP.

The R-squared value of this model was 0.5825. This meant that TNI accounted for about 58% ($0.5825 * 100$) of variations in the GDP in this model. The remaining 42% ($1 - 0.5825$) was due to error factors, determined by other variations not covered in this model. An R-squared value of 58% demonstrated that this model was good.

The F-statistic shows overall significance of models. The F-statistic is significant at 5% level. The probability of its value (0.005003) is less than the 0.05 critical level. Hence, the null hypothesis (**H₀₂**: Total new issues have no significant effect on Nigeria's gross domestic product) was rejected. Hence, the study concluded that total new issues had significant positive impact on the GDP.

Contribution of the Volume of Transaction to the Gross Domestic Product in Nigeria

Testing Hypothesis Three

H₀₃: Volume of transaction has not significantly affected Nigeria's gross domestic product

The model equation of the contribution of volume of transaction (VOT) to the gross domestic product (GDP) is: ' $GDP = 1.196 + 0.2208TNI$ '

This model (Table 4.1.5) established the empirical relationship between VOT and GDP. The intercept of the equation was 0.0125 and this (constant) represents the value of the GDP if the VOT was zero. Furthermore, the coefficient of the VOT was 0.6620 at $p=0.0124$. This coefficient was significant, and it indicated that for a unit increase in the VOT, there would be about 66% ($0.6620 * 100$) positive increase in the Nigeria's GDP.

The R-squared value of this model was 0.5834. This meant that VOT accounted for about 58% ($0.5834 * 100$) of variations in the GDP in this model. The remaining 42% ($1 - 0.5834$) was due to error factors, determined by other variations not covered in this model. An R-squared value of 58% demonstrated that this model was good.

The F-statistic shows overall significance of models. The F-statistic is significant at 5% level. The probability of its value (0.002423) is less than the 0.05 critical level. Hence, the null hypothesis (**H₀₃**: Volume of transaction has not significantly affected Nigeria's gross domestic product) was rejected. Hence, the study concluded that volume of transaction had significant positive impact on the GDP.

Impact of Total Listed Equities Stocks on the Gross Domestic Product

Testing Hypothesis Four

H₀₄: Total listed equities have no significant impact on Nigeria's gross domestic product

The model equation of the impact of total listed equity stocks (TLE) on the gross domestic product (GDP) is: ' $GDP = 0.0997 + 0.1109TLE$ '

This model (Table 4.1.6) established the empirical relationship between TLE and GDP. The intercept of the equation was 0.0997 and this (constant) represents the value of the GDP if the TLE was zero. Furthermore, the coefficient of the TLE was 0.1109 at $p=0.0000$. This coefficient was significant, and it indicated that for a unit increase in the TLE, there would be about 11% ($0.1109 * 100$) positive increase in the Nigeria's GDP.

The R-squared value of this model was 0.7589. This meant that TLE accounted for about 76% ($0.7589 * 100$) of variations in the GDP in this model. The remaining 24% ($1 - 0.7589$) was due to error factors, determined by other variations not covered in this model. An R-squared value of 76% demonstrated that this model was very good.

The F-statistic shows overall significance of models. The F-statistic is significant at 5% level. The probability of its value (0.000024) is less than the 0.05 critical level. Hence, the null hypothesis (**H₀₄:** Total listed equities have no significant impact on Nigeria's gross domestic product) was rejected. Hence, the study concluded that total listed equity stocks had significant positive impact on the GDP.

Overall, the regression model equation of the impact of the Stock Market on the gross domestic product (GDP): ' $GDP = 8.51443 + 0.124TLE + 0.081VOT + 0.033MCAP + 0.063TNI$ '

This model (Table 4.1.7) established the empirical relationship between the Stock market, measured through the MCAP, TNI, VOT and TLE and the gross domestic product (GDP). The intercept of the equation was 8.5144 at $p=0.0276$ and this represented the value of the GDP if all the capital market indices were zero. This means that if the MCAP, TNI, VOT and TLE were zero, the GDP would be about 8.5144.

The coefficient of the MCAP was 0.033 at $p=0.0256$. This coefficient was significant, and it indicated that a unit increase in the MCAP would result into about 3% ($0.033 * 100$) positive changes in the GDP and vice versa. For the VOT, the coefficient was 0.081 at 0.0036 and this indicated that a unit increase in VOT would lead to significant positive changes in GDP. This was also same of TLE having a coefficient of 0.1243 at $p=0.000$, indicating that TLE also had significant positive effect on GDP. Also, the TNI had a positive coefficient (0.063 at $p=0.0036$). This indicated that a unit increase in TNI would result into about 6% positive changes in the GDP and vice versa.

The R-squared value of this model was 0.7208. This means that capital market accounted for about 72% ($0.7208 * 100$) of variations in the GDP in this model. The remaining 28% ($1 - 0.7208$) was due to error factors, determined by other variations not covered in this model. This demonstrates that this model is very good. The F-statistic shows overall significance of models. The F-statistic is significant at 5% level. The probability of its value (0.000012) was less than the 0.05 critical levels. Hence, the null hypothesis (The Nigerian stock Market performance has no significant impact on domestic gross product in Nigeria) was rejected.

The Durbin-Watson statistic approximately equals 2.0. This showed the absence of serial autocorrelation, meaning that there is independence of observation in the error terms. It indicates independence of observations or no autocorrelation among the independent variables used in this study. Findings from this study showed that stock market had significant impact on the Nigeria's economic growth. Situating this within the literature, this is in line with Aigbokhan (2006) that estimated the relationship between financial development and economic growth by testing the hypothesis on supply-leading and demand-following finance in Nigeria. The study applied quarterly data for the period 1978 to 1993 and Granger causality modeling was employed to test the two-contending hypothesis. Results obtained were consistent with the supply-leading argument, giving rise to a conclusion in the work that financial development resulting from increases in financial

institutions and financial resources, following financial liberalization, has stimulated growth in the real sector.

Based on the findings of the research, the study concludes as follows: First, the study has provided evidence on the four independent variables; market capitalization, total new issues, volume of transaction and listed equities in explaining and predicting economic growth in Nigeria. The study concluded that the four variables have played a significant role in influencing the capital market performance on Nigeria's economic growth.

Secondly, the study also establishes significant positive relationship between total new issues and economic growth. It is therefore concluded that as new issues are raised and floated in the market, this in turn increases the number of shares traded and economic growth equally expands as well as impacting on the GDP.

Thirdly, the study documents a significant positive relationship between volume of transaction and the gross domestic product. This concludes that the volume of transaction is an important factor in determining the magnitude of trading of shares in the stock market and it goes a long way in improving the performance of the market and as well increases the efficiency of the market which invariably improves the economic growth of Nigeria. Among the predictable variables market capitalization contributes highest to economic growth. In respect of volume of transaction, the study concluded as having the lowest contribution to the aggregate impact of capital market performance on economic growth in Nigeria.

In addition, in respect of listed equity, the study concludes that listed equity of Nigerian capital influences the performance of the market and improves economic growth.

Finally, the study concludes that there is a complete absence of serial correction between market capitalization, total new issues, volume of transaction and listed equities as proxies of capital market performance. Also, the correlation matrix reveals that, market capitalization has the highest relationship with economic growth which signifies more contribution of capital market performance to Nigeria's economic growth.

This study has developed a prudent multiple regression model for the purpose of explaining and analyzing empirically, the impact of capital market performance on economic growth in Nigeria. Using multiple regression analyses to model development, the study estimates the relationship between four explanatory variables; market capitalization, total new issues, volume of transaction and listed equities and one explained variable, Gross Domestic Product, by means of the ordinary least square technique. The study hypothesized a significant impact between the four explanatory variables and the Gross Domestic Product, and the findings of the research are based on the time series data collected for the period 1981-2016 from the NSE, SEC and CBN. The result of the study reveals that the four predictor variables market capitalizations, total new issues, volume of transaction have an aggregate significant impact at 1 percent level of significance and listed equities is at 5 per cent level of significance on the GDP. The foregoing provided the justification for the rejection of all the null hypothesis of the study. The study also reveals that market capitalization, has the highest impact on the GDP followed by total new issues and then the volume of transaction and finally listed equities.

Based on the findings and conclusions of the study, the following recommendations are hereby presented:

Firstly, there is need for improvement in the declining market capitalization by encouraging more foreign investors to participate in the market, maintain state of the art technology that will ensure a free flow of information in the market to attract more investors as well as increase new issues which will automatically increase the quantum of market capitalization. There is also the need to restore confidence in the market by the Securities and Exchange Commission and the Nigerian Stock Exchange through ensuring transparent and fair-trading transactions and dealings in the stock exchange. Government should remove impediments to market growth in form of legal and regulatory barriers because they are sometimes disincentives to investment.

Secondly, as observed the total listed equities in the NSE are still very low compared to other stock markets like those of South Africa and Egypt. Therefore, to increase the number of listed companies there is need to ensure stable macroeconomic environment, to encourage foreign multinational companies or their subsidiaries to be listed on the Nigerian stock exchange and also to improve the trading system in order to increase the ease with which investors can purchase and sell shares.

Furthermore, the government should invest more and develop the nation's infrastructure in order to create an enabling environment for businesses to grow and for productivity and efficiency to thrive which will bust economic activities.

Thirdly, total new issues are very important to the growth of any capital market. Therefore, government should employ appropriate trade policies such as establishing National Association of Securities Dealers (NASD) that promote the inflow of international capital and foreign investment, so as to enhance the production capacity of the nation. The Government should restore the confidence of shareholders (investors) due to the declining fortune of the stock market.

Finally, the volume of transaction needs to be boosted by NSE through introducing more derivatives, convertibles, futures and options in the markets in order to meet up with other markets of the world.

Limitations and direction for future research

The study concentrated on the effect of the performance of stock market indicators on the economic growth in Nigeria. It is worthy of note, that Nigeria as a country is rocked by volatile macroeconomic variables which should be incorporated in future research for a more realistic result of its economic behaviour.

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