



Finance & Accounting Research Journal  
P-ISSN: 2708-633X, E-ISSN: 2708-6348  
Volume 4, Issue 6, P.No. 324-337, October-December, 2022  
DOI: 10.51594/farj.v4i6.483  
Fair East Publishers  
Journal Homepage: [www.fepbl.com/index.php/farj](http://www.fepbl.com/index.php/farj)



## HAS STOCK MARKET DEVELOPMENT ENGENDERED SHORT AND LONG-RUN INCLUSIVE GROWTH IN NIGERIA?

Bernhard O. Ishioro, PhD<sup>1</sup> & Emmanuel M. Tarurhor, PhD<sup>2</sup>

<sup>1</sup>Department of Economics,  
Delta State University,  
Abraka, Nigeria

<sup>2</sup>Department of Business Administration  
Delta State University,  
Abraka, Nigeria.

\*Corresponding Author : BERNHARD O.ISHIORO,  
Corresponding Author Email: [ben\\_ishioro@yahoo.co.uk](mailto:ben_ishioro@yahoo.co.uk)

**Article Received:** 17-11-22

**Accepted:** 05-12-22

**Published:** 29-12-22

**Licensing Details:** Author retains the right of this article. The article is distributed under the terms of the Creative Commons Attribution-Non Commercial 4.0 License (<http://www.creativecommons.org/licences/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Journal open access page.

### ABSTRACT

This study examines the impact of capital market performance on economic growth. Time series data obtained from the official publications of the Securities Exchange Commission, Nigerian Stock Exchange and Central Bank of Nigeria were analyzed using regression estimation technique, in which we related the proxies of stock market performance indicators (such as stock market capitalization, value of new issues and value of shares traded) to economic growth (represented by the Gross Domestic Product). Results show that both market capitalization and the value of new issues have a positive relationship with economic growth while value and the volume of shares traded had negative relationships with economic growth. It was therefore recommended that the stock market should be made more liquid in order for turnover rate to increase. This will boost investors' confidence and awareness and would make funds available for long-term development of the industrial sector and the economy.

**Keywords:** Stock Market Development, Long-Run, Inclusive Economic Growth.

## INTRODUCTION

Since the studies of Schumpeter (1911), Shaw (1973), and McKinnon (1973), the link between stock market development (henceforth SMD) and economic growth (henceforth EG) has piqued the interest of scholars, policymakers, and other interested parties in the field of finance. Therefore, the impact of SMD on EG has become a subject matter of unending debate and contention. For example, Greenwood and Smith (1997), Levine (1997), among others, have affirmed that stock markets (SMs) promote EG, while Stiglitz and Weiss (1981), do not believe that SMs alone can promote EG. Several studies (such as Adeyemi 1998, Aigbokhan 1996, and Adebisi, 2005) have examined this relationship in the context of the Nigerian economy but reported mixed results. However, there is still no definite and clear-cut empirical consensus.

Emanating from these studies is the conclusion that the SM as a sub-sector of the financial market is fundamental to EG (Levine and Zervos, 1996; Ishioro, 2015c). The Nigerian economy, regardless of the rapid rate of growth experienced by the SM in recent decades, is still largely underdeveloped. These vestiges of underdevelopment reflect the gap between the deficit and surplus units and the exacerbated inequitable distribution of income in the economy. In the developed economy, where a large proportion of production takes place in sophisticated industrial units, the SM promotes steady and healthy growth of the economy. These developmental strides are made possible by making capital and funds available to both manufacturing and the industrial sector to enable them to acquire the necessary equipment for the purpose of production of goods and services.

However, the capital formed and utilized may not be equal to the amount of money saved (or idle funds in banks and those kept for "precautionary motive" at home) in the economy. The disparity is due to the fact that savings are generally made by economic agents (such as individuals, households, and firms) and invested at the firm level by households, institutions, or individual investors.

Among less developed countries (LDCs), including Nigeria, banks almost always either deter lending to new innovative and productive borrowers simply because of the high risk of default associated with new but unreliable borrowers or change in the risk premium in the lending rate (Stiglitz and Weiss, 1981). Historically, the financial sector in developing economies has been primarily bank-dominated. But in recent years, there has been a gradual shift away from a more holistic approach alongside the banks that seek to develop the securities markets and other non-bank financial institutions.

Hence, the main objective of this study is to investigate the impact of SMD on the EG of Nigeria and to ascertain the nature of the relationship between it and the EG. Also, we intend to apply the fundamental textbook econometric criteria in the interpretation of our resultant estimates in order to teach our students and young researchers how econometric results ought to be interpreted in a step by step manner. The rest of this paper is divided into four sections. Following the introduction in section one, section two reviews the SM channel and its contribution to EG. Section three presents the materials and methods, including model specification, with estimation techniques highlighted. This is followed by the discussion of the results. Section five concludes the study with some policy implications.

## LITERATURE REVIEW

### Stock Market Performance and Economic Growth

Arising from Patrick (1966) and other studies, the findings of recent studies on this topical issue can be categorized into four dimensions; these include but are not limited to:

- (i) Financial development (represented as SMD) versus economic growth in which financial development (SMD) is hypothesized to cause economic growth (this has been described as *the supply-leading* hypothesis or finance-led growth hypothesis);
- (ii) Economic growth versus financial development (SMD), where economic growth is posited to promote and cause financial development (stock market development). This has been christened the "demand-*following* hypothesis" or "growth-led finance hypothesis."
- (iii) The combination of (i) and (ii) (is known as the Feedback hypothesis)
- (iv) Neither Financial development nor economic growth affect each other. This has been known as neutrality hypothesis.

In line with the above categorization, the findings in the literature supported either one or all the categories. For instance, Boubakari and Jin (2010) in their study found a statistically significant positive relationship between SMD and EG in developed and liquid SMs of France and the United Kingdom, while a negative relationship was found for Belgium and Portugal.

Luintel and Khan (1999), Magid (2007), Hongbin (2007), and Dawson (2008) were among the studies whose results synchronized with the findings of category (iv) and were among the results of some of the studies (that supported the existence of bi-directional or feedback causality between SMD and EG).

Badr (2015) investigated the relationship between SMD and Egyptian EG using the Vector Auto-Regressive Granger causality test and discovered that SMD alone cannot promote EG. The study included a control variable (foreign direct investment) in the econometric model and established a causal relationship between SMD and EG. This finding supports the results of Boubakari and Jin (2010) that weak SM does not positively affect the growth of an economy. Other studies like Osaze(1985), Popiel(1990), Adubi(1996), Pagano, Panetta & Zingales (1996), Adeyemi (1998),and Emenuga(1998) focused on stock market-related issue.

Table 1

#### *Summary of Studies on Economic Growth and Stock Market Development*

S/No	Study/Author	Country Studied	Estimation Technique	Findings
1	Atje and Jovanovic (1993)	40 Countries	Cross Country Regression analysis	Positive relationship between economic growth and stock market development.
2	Levine and Zervos (1996)	41 Countries	Pooled and Cross Country Regression Technique	Positive relationship between economic growth and stock market development.
3	Minier (2003)	47 Countries	Regression analysis	Positive relationship between economic growth and stock market development in countries with high market capitalization.
4	Adjasi and Biekpe (2006)	14 African Countries	Dynamic Panel Data Analysis	Positive relationship between economic growth and stock market development for upper and middle-income countries while low-income countries' stock markets were development-requiring.

5	Akinlo and Akinlo (2009)	7 SSA Countries	ARDL Bounds Test	Positive relationship between economic growth and stock market development for all 7 SSA countries
6	Enisan and Olufisayo (2009)	Selected African Countries	ARDL Bounds Test and vector error correction model (VECM)	There was cointegration between stock market development and economic growth in Egypt and South Africa with a significant positive long run impact on economic growth; also stock market development Granger caused economic growth in Egypt and South Africa.
7	Ishioro (2013)	Zimbabwe	Toda and Yamamoto Granger non-causality estimation technique.	Causality existed between economic growth and real stock market volatility, market capitalization, and the value traded ratio.

Source: Author's Computation

Antonious (2010) examined the link and type of relationship existing between SMD and EG in Germany for a period of 44 years, that is, from 1965 to 2007. The study applied the unit root and cointegration tests, Granger causality and the Vector Error Correction Model (ECM) as the estimation techniques. The study re-affirmed the existence of a unidirectional causality between SMD and EG. The unidirectional causality does not flow from EG to SMD, but rather it runs from SMD to EG implying that the stock market is one of the drivers of economic growth in Germany. Conversely, the Granger causality results further suggest that the growth of the German economy does not Granger cause stock market development during the period 1965 to 2007. The results are empirically instructive for other economies.

Levine and Zervos (1996) re-visited the empirical discourse on the long-run association existing between efficient stock markets and growth, and banking sector development and growth for 41 selected countries for the period 1976 to 1993. Pooled cross-country and time series data for the selected countries were used to test the models. Furthermore, the study noted that, among the financial indicators, it is a well-developed SM that contributes more to EG than the banking sector. The justification of their argument is that, an increase in the stock market capitalization helps the economy to mobilize capital and diversify risks. This is expected to foster EG.

Naceur and Ghazouani (2007) did not find any significant relationship between SMD and EG in selected eleven (11) Middle East and North African (MENA) Countries.

Nurudeen (2009) using time series data from 1981 to 2007 for the Nigerian economy and employed the ADF unit root and cointegration test, Error Correction Model (ECM) and Granger causality estimation techniques. The indicators used are the growth and stock market development represented by market capitalisation and turnover ratio and all share price index with selected control variables. The study found that increased EG was caused by the SMD and its metrics. Specifically, the results show that there is a negative and statistically significant relationship between growth and turnover ratio. Cointegration was also established, and Granger causality was observed between some of the selected indicators.

In the same vein, Adamopoulos and Vazakidis (2009) using Vector Auto-regression (VAR) model in the study of SMD and EG in France; established that economic growth has a positive and significant effect on SMD during the period 1965 to 2007.

Vazakidis and Adamopoulos (2009) examined the nature of the casual relationship between financial development (represented by SMD) and EG in Greece for the period of 30 years spanning from 1978 to 2007. Similar to the empirical results obtained by Marques, Fuinhas

and Marques (2013) for the Portugal economy, the study established a positive relationship between EG and financial development.

Also, Azarmi, Lazar and Jeyapaul (2005) found both positive and negative relationship between SMD and EG for the period of 21 years (1981 - 2001). The positive relationship was affirmed during the pre-liberalization period while the negative relationship was during the period of post-liberalization. They concluded that the Indian SM can be best described as *casino* (because it has not impacted the growth of the Indian economy).

Finally, Karim and Chaudhary (2017) investigated the effect of SMD on EG of major South and East Asian economies. They adopted a panel data regression estimation technique and re-affirmed that the contribution of SMD to EG is not significant for the East Asian region while it is relatively significant for South Asian region.

From the above literature review, stock markets can either drive the economy positively or negatively.

### **The Nigerian Stock Market in Retrospect**

Stock markets are designed to bridge the gap between savings-investment through the channels stated above. The development of the SM followed logically from the discovery of the joint stock company as an instrument for facilitating commerce and for sharing the risks of enterprises. The Stock market facilitates the refinancing of joint stock companies which no longer need to be dissolved after one venture irrespective of how successful or disastrous it may have performed (Osaze, 1985; Osaze, 2000).

In Nigeria, during the period preceding the economic boom of the 1970s; most enterprises were forced to look inward for local raw materials and funds. With strangulating interest rate in the latter part of the 1980s in the money market, the Stock market became the last hope of many investors. With an increasing patronage, industrial stocks and bonds listed on the floor of the Nigerian Stock Exchange grew during this phase from 14 in 1981 to 35 in 1998, while equities including those of the Second Tier Securities Markets (SSM) declined from 93 in 1981 to 51 in 1998 (Odife, 2000; Olugunde *et al*, 2006). This decline was due to governments' decision not to float development stocks again as from 1987, in order to allow the market grow according to the operations and interactions of the forces of demand and supply.

Following the continuing depth of meaningful foreign investments, the Nigeria Enterprises Promotion (issue of non-voting equity shares) decree 34 of 1987 was promulgated in order to attract needed foreign investment in the country. The SSMs dream was to make room for smaller indigenous companies which could not meet the listing requirements of the first tier companies to come to the market. Hence, the daily official list was reclassified in first tier equities and the SSM equities. The period 1989/1990 was regarded as the fifth phase. Since the beginning of this phase, there has been a spate of activities following the privatization exercise that introduced new dimensions into the Capital market and has kept on expanding till date.

### **Contribution of the Stock Market to the Development of the Nigerian Economy.**

The Nigerian stock exchange has continued to play an important role in the expansion of inclusive growth-facilitating and industrial development in the Nigerian economy. Specifically, the SM has been a source of capital and funds for sectoral development in particular and inclusive growth in general (Ndanusa, 2004; Ishioro, 2013a and 2022e). For

instance, government at different levels and time have sourced for funds from the stock market. Funds sourced and generated by state governments have been used for the purpose of housing and infrastructural development (provision of water, roads, building of market, drainages, etc). In 2000, Edo and Delta state sourced for funds from the capital market. Edo state generated ₦1 billion for a housing project and Delta state raised ₦5 million for a variety of developmental projects. Also, in 2002, the Yobe state government raised a ₦2.5 billion bond, Ekiti state generated ₦4.0 billion also for infrastructural development and Lagos state floated ₦1.5 billion bonds to refinance short-term facilities. This trend has continued till date. The SM has also provided opportunities for investment diversification. It discourages investors from investing in other economies' stock markets or other forms of business. This implies that capital flight is discouraged by the existence and patronage of a functional and inclusive stock market (Odife, 2000).

## MATERIALS AND METHODS

### Sources and Description of Data

The data used for the estimation of our model were collected from the official publications of the Central Bank of Nigeria (CBN): Annual Reports and statement of Accounts (for various years), Statistical Bulletin (for various years); Securities Commission publications; and the Nigerian Stock Exchange official publications: Fact Book. The study covered the period of 1980-2021, we applied time series data from the Nigerian economy for the estimation of our equation.

Table 2

### Description of Stock Market Development and Inclusive Economic Growth Variables

Stock Market Variables					
S/N	Variable	Symbol	Definition		Theoretical Expectations
1	Market capitalization ratio	$M_{CAP}$	Percentage change in the market capitalization of listed companies.		Positively related to the growth of GDP
2	Volume of stock Traded	$NW_{IS}$	This is the total volume of the stock traded in the market expressed as a quotient of GDP		Positively related to the growth of GDP
3	Value of stock Traded	$VL_{SC}$	This is the total value of the stock traded expressed as a quotient of GDP		Positively related to the growth of GDP and reflects SM impact on the economy through the liquidity channel.
Economic Variable					
S/N	Variable	Symbol	Definition		Theoretical Expectations
1	Economic Growth	$R_{GDP}$	Measured as GDP per capita: the percentage change in per capita GDP		Positively related to the explanatory variables

Source: Author's Computation

$M_{CAP}$  is one of the most important measures of the size of the SM and it is a function of the prevailing market price of quoted equities and the quantum of their issued and paid-up capital. The volume ( $NW_{IS}$ ) and values of stock traded ( $VL_{SC}$ ).

The volume of stocks traded ( $NW_{IS}$ ) is used as an indication/parameter of the popularity and effectiveness of the tempo of investments in the market. A high volume traded suggests active and vibrant market. However, the value of stocks traded ( $VL_{SC}$ ) is relatively more important compared to the volume traded as persistent rise in stock prices often result in high value of stocks traded (an indication of economic activities and performance). The

value traded usually fosters and/or complements  $M_{CAP}$  as it measures the structural organization of the tempo of firms' trading activities.

### Specification of Our Short-run Model

The functional form of our short-run model is specified as:

$$\text{Log}R_{GDP} = f(\text{Log}M_{CAP}, \text{Log}NW_{IS}, \text{Log}VL_{SC}) \quad (1)$$

where  $\text{Log} R_{GDP}$  represents the log of real Gross Domestic Product and it is the proxy for economic growth in this study.

$\text{Log} M_{CAP}$  is the log of Market capitalization (including equities and debts).

$\text{Log} NW_{IS}$  represents the log of the Volume of stocks traded.

$\text{Log} VL_{SC}$  represents the Value of stocks traded.

Equation (1) represents the functional relationship existing between EG proxied by real  $R_{GDP}$  while the explanatory variables of interest are stock market development proxies as previously defined in table 1.

To accommodate the effects of indicators that are necessary but not included, we introduced the stochastic term. Our model for estimation is specified below as:

$$R_{GDP} = \Phi_0 + \Phi_1 M_{CAP} + \Phi_2 NW_{IS} + \Phi_3 VL_{SC} + \varepsilon \quad (2)$$

The log form of our model or the logarithmic transformation (linearization) of our model is expressed as:

$$\text{Log}R_{GDP} = \Phi_0 + \Phi_1 \text{Log}M_{CAP} + \Phi_2 \text{Log}NW_{IS} + \Phi_3 \text{Log}VL_{SC} + \varepsilon \quad (3)$$

Where  $\varepsilon$  is the error term and all the other variables are as previously defined.

### Theoretical Expectations of our Model

The theoretical expectations about the coefficients of equation (2) can be expressed as :

$\Phi_1 > 0$ ,  $\Phi_2 > 0$ ,  $\Phi_3 > 0$ ;  $\Phi_0$  representing the intercept is greater than zero ( that is,  $\Phi_0 > 0$ ), implying that it can assume values ranging from zero and to values above zero (positive values) while  $\Phi_1$ ,  $\Phi_2$  and  $\Phi_3$  which are in fractions are usually either positive or negative but are theoretically expected to be positive in the context of this current study.

**Market capitalization** ( $\text{Log} M_{CAP}$ ) is expected to have a positive relationship with per capita  $R_{GDP}$  (national output), meaning that, as market capitalization (which is one of the most important measures of the size of a Stock market and market price of quoted equities) expands, it will lead to increased economic growth. The details of the impact of this channel is entirely macroeconomic. and as such transcends the spheres of this current study

The **Volume of stock traded** ( $\text{Log} NW_{IS}$ ) is expected to have a positive relationship with the GDP, implying that, as the volume or quantum of new issues traded increases, the popularity of the capital increases, thereby boosting investors confidence. This will lead to an increased investment in the economy resulting into economic growth.

**Value of stocks traded** ( $\text{Log} VL_{SC}$ ) is also expected to have a positive relationship with the GDP, which implies that, since high value of securities traded suggests a virile, active and vibrant market, it will definitely encourage and attract investment which will eventually result into an enhanced inclusive economic performance.

However, our adoption of  $R_{GDP}$  as a proxy for inclusive growth deserves some explanations. Jhingan (2001) posited that the  $R_{GDP}$  is still one of the best measures of inclusive growth and performance because of its components and how it is derived.

### Estimation Technique

The highlight of the estimation techniques adopted and applied in this study are presented below.

#### Unit Root Tests

The unit root and stationarity test of the time series data we used in this study was tested using the Augmented Dickey Fuller (ADF) as in Dickey and Fuller (1979), Phillip-Perron (PP) as in Phillips and Perron (1988), and Kwiatkowski, Phillips, Schmidt and Shin (1992), KPSS unit root test procedures. The test for the stationarity of our series is necessary because non-stationary series are bound to produce inconsistent and spurious results (Ishioro, 2022c; 2020a; 2018; 2017 and 2015c).

#### Short-run Ordinary Least Square Estimation Technique

The Ordinary Least Squares (OLS) Error Correction model was used as the estimation technique for the short-run analysis of our models. The resultant estimates were evaluated using the following criteria: first, economic signs and magnitude 'a priori' expectations criteria; second, statistical criteria, and third, econometric criteria. In order to enhance our results, the logarithms of our variables of interest were used (as in Ishioro, 2022a, 2022b, 2022d, 2022e).

#### Test for Cointegration

The variables which have been tested for the order of integration and found to have the same order, are used to estimate the cointegration regression model and Granger causality tests. Therefore, we implemented the standard Granger causality test relying on the empirical tradition of Ishioro(2015b, 2020b) , and Granger (1969).

#### The Granger Framework

A simplified bivariate Granger framework is specified as equation (4a) and (4b) in consonance with studies that adopted the econometric framework of Granger causality. These include Tekin (2019); Ishioro (2020a, 2019, 2018, 2013b); Rezina *et al.*,(2017); Bayar *et al.*,(2014);Osamwonyi and Kasimu (2013); Kaya *et al.*,(2011) , and Antonious (2010).

$$R_{GDP_t} = \alpha_0 + \sum_{i=1}^n \alpha_i R_{GDP_{t-i}} + \sum_{j=1}^m \beta_j SM_{t-j} + \varepsilon_{1t} \quad (4a)$$

$$SM_t = \beta_0 + \sum_{i=1}^p \beta_i SM_{t-i} + \sum_{j=1}^q \theta_j R_{GDP_{t-j}} + \varepsilon_{2t} \quad (4b)$$

In equation (4a) and (4b),  $R_{GDP_t}$  represents current value of inclusive growth while  $SM_t$  is the vector for  $Log M_{CAP}$ ,  $LogNW_{IS}$  and  $LogVL_{SC}$ ;  $n$ ,  $m$ ,  $p$  and  $q$  denote the optimal lag lengths selected for the implementation of the Granger causality framework; the subscripts  $t$ ,  $t-i$  and  $t-j$  are the current and previous lagged values of our series;  $\alpha$ ,  $\beta$  and  $\theta$  are the coefficients of our lagged series; and  $\varepsilon_{1t}$  and  $\varepsilon_{2t}$  are the white noise (assumed to be *iid* and mutually uncorrelated).

## DISCUSSION OF RESULTS

### Results of Unit Root Tests

The results of the unit root, cointegration and Granger causality tests, and the short-run ordinary least squares are presented in tables 3, 4,5, and 6 with the ensuing explanations and discussions.



Table 3  
Results of the Unit Root Tests

Variables	ADF UNIT ROOT TEST		PHILLIPS- PERON UNIT ROOT TEST		KPSS UNIT ROOT TEST	
	Level	First Difference	Level	First Difference	Level	First Difference
R <sub>GDP</sub>	-1.954	-5.042*	-1.963	-5.041*	0.200	0.0911
NW <sub>IS</sub>	-2.954	-5.665*	-2.386	-5.872*	0.146	0.157
VL <sub>SC</sub>	4.339	-3.680**	-3.226	-13.624*	0.186	0.334
M <sub>CAP</sub>	3.512	-6.082	-1.623	-7.817*	0.207	0.117

Source: Author's Computations

The resultant outcomes of the ADF, PP and KPSS displayed in table 3 confirmed that the series are only stationary at first difference (that is, I(1)) when tested at the 1 percent and 5 percent levels of significance. The absolute values of the calculated ADF test statistics for all the variables are less than their critical values at either 1, 5 or 10 percent significance level at the series levels.

### Results of the Short-run Ordinary Least Squares

Table 4  
Results of the Ordinary Least Squares Error correction

Growth proxy	Constant	Stock Market Variables			Short-run Adjustment Statistic	Econometric Statistics	
Log R <sub>GDP</sub>	C	Log M <sub>CAP</sub>	Log NW <sub>IS</sub>	Log VL <sub>SC</sub>	Ecm ( <i>t</i> -1)	R <sup>2</sup>	DW
<b>Coefficient</b>	2.798*	(+) 1.0859*	(+) 0.0447	(+) 2.30*			
<b>S.E.</b>	(0.3551)	(0.08301)	(0.0690)	(0.5552)			
<b>t-values</b>	7.88	13.08	0.65	4.14	(-) 0.38		
<b>Lagged Values</b> →	Log RGDP <sub>t-1</sub>	Log MCAP <sub>t-1</sub>	Log NWIS <sub>t-1</sub>	Log VLSC <sub>t-1</sub>	(0.5310)	0.97	1.896
<b>Coefficient</b>	0.064	0.562	1.077	0.1089	0.12		
<b>S.E.</b>	(0.224)	(0.5300)	( 0.034)	(0.011)			
<b>t-values</b>	0.29	1.060	8.04	9.90			

Source: Author's Regression Result

NOTE: Standard errors (S.Es) are in parentheses and the t-values reported underneath the S.Es

Following and adopting the practice of Koutsoyiannis (1977) and Dougherty (1992), we adopted the stages outlined above in the interpretation of the resultant outcomes our regression equation (estimated models).

First, we used **the signs** of the coefficients of our explanatory variables in the discussion of our resultant estimates. From table 4, the signs of the coefficients of *Log M<sub>CAP</sub>*, *Log NW<sub>IS</sub>* and *Log VL<sub>SC</sub>* are congenial to our *a priori* / theoretical expectations. For market capitalization (*Log M<sub>CAP</sub>*) representing market size, value of stocks traded (*Log NW<sub>IS</sub>*) and volume of stocks traded (*Log VL<sub>SC</sub>*) the signs of the coefficients are positive and are in consonance with our *a priori* expectations. This means that market capitalization, the volume of Stocks traded and the value of stocks traded increase or boost the growth performance of the Nigerian economy during the period studied.

Second, we adopted the **statistical criteria** in the interpretation of our results. In terms of statistical significance, all the series except the value of stocks traded (*Log NW<sub>IS</sub>*) were statistically significant at the 5 percent level. This implies that all the series except value of stocks traded are significant in explaining the observed changes and variations in the growth of the Nigerian economy within the period studied. The positive and statistical significance of the constant term means that there are other important explanatory variables that were not

included in the econometric model adopted in this study that are quite insightfully and empirically potent (Ishioro, 2022e).

Third, we adapted the **magnitude of the slope coefficients**. The slope coefficients were relatively large except that of  $\text{Log } NW_{IS}$ . The slope coefficients indicated that as each of  $\text{Log } M_{CAP}$ ,  $\text{Log } NW_{IS}$  and  $\text{Log } VL_{SC}$  increases by one unit of each of the explanatory variables, GDP increases by 1.0859, 0.0447 and 2.30 units (of  $\text{Log } R_{GDP}$ ) respectively. But, both  $\text{Log } R_{GDP}$ ,  $\text{Log } M_{CAP}$ ,  $\text{Log } NW_{IS}$  and  $\text{Log } VL_{SC}$  are measured in N millions, so, the slope coefficient predicts that if  $\text{Log } M_{CAP}$ ,  $\text{Log } NW_{IS}$  and  $\text{Log } VL_{SC}$  increase by one percent, the  $\text{Log } R_{GDP}$  will increase by ₦108.6 million, ₦4.47 million and ₦22.96 million respectively. This depicts the high degree of potency and robustness of our results.

The coefficient of the error correction term ( $Ecm_{t-1}$ ) is -0.38 indicating that, the model corrects 38 percent of previous short-run disequilibrium during the current period. The lagged values of  $R_{GDP}$ ,  $\text{Log } M_{CAP}$ ,  $\text{Log } NW_{IS}$  and  $\text{Log } VL_{SC}$  are all statistically significant except  $\text{Log } M_{CAP (t-1)}$ . This according to Ishioro (2022e) is an indication of positive retrospective tendency of the stock market fundamentals.

Fourth, the R squared criteria shows that about 98 percent of the variations in the dependent variable was explained by the changes in  $\text{Log } M_{CAP}$ ,  $\text{Log } NW_{IS}$  and  $\text{Log } VL_{SC}$  respectively. The value of the constant term indicated that the predicted level of  $R_{GDP}$  when each of the explanatory variables is zero; implying that, if all the explanatory variables were equated to zero, about N279.8 million would still have been contributed by other unspecified variables to  $R_{GDP}$ .

The value of the DW statistic shows that our results are not auto-correlated. However, the findings of Adebisi (2005) and Ishioro (2022e) that studied the relationship between stock market development variables and economic growth in Nigeria approximated to our findings.

### Results of the Generalized Cointegration Tests.

Table 5

#### Results of Cointegration Tests.

GROWTH / MARKET SERIES : $R_{GDP}$ , $M_{CAP}$ , $NW_{IS}$ , $VL_{SC}$						
Hypothesized CE(s)	No. of	Eigen Value	Trace Statistics	0.05 C.V.	Max. Eigen Value	0.05 C.V.
None * : (0.000)		0.9743	194.023	47.856	128.132	27.584
At Most 1* : (0.000)		0.7063	65.890	29.797	42.877	21.132
At Most 2* : (0.031)		0.4589	23.014	15.495	21.494	14.265
At Most 3 : (0.218)		0.4250	1.520	3.841	1.520	3.841

Source: Authors' Computation

The resultant outcomes of the cointegration test displayed in table 5 indicated the Johansen Cointegration test is optimized at most at 3 cointegrating equations for both trace and maximal Eigen value statistics. The empirical connotation of the resultant estimates of the cointegration test is an empirical *prima facie* indication that, there is a long-run joint movement, variation and performance among the market and inclusive growth fundamentals towards a common steady state and/ or equilibrium. Like Adebisi (2005) and Nurudeen (2009), we established that there is a long-run and statistically significant relationship between  $R_{GDP}$  and stock market development exemplified as  $M_{CAP}$ ,  $NW_{IS}$  and  $VL_{SC}$  at the current period. That is, one percent increase in stock market development using market capitalization ratio would lead to a rise in real  $R_{GDP}$  in the long-run. This shows that stock market has significant impact on economic growth as exemplified by the growth rate of real  $R_{GDP}$  ( Ndanusu, 2004).

Table 6  
*Results of the Granger Causality Test*

Equations	F- Statistic	Inference
$H_0$ : $M_{CAP}$ does not Granger cause $R_{GDP}$	30.021***	$M_{CAP}$ $R_{GDP}$ : Significant Causality
$H_0$ : $R_{GDP}$ does not Granger cause $M_{CAP}$	5.124*	$R_{GDP}$ $M_{CAP}$ : Significant Causality
$H_0$ : $NW_{IS}$ does not Granger cause $R_{GDP}$	9.806***	$NW_{IS}$ $R_{GDP}$ : Significant Causality
$H_0$ : $R_{GDP}$ does not Granger cause $NW_{IS}$	17.422***	$R_{GDP}$ $NW_{IS}$ : Significant Causality
$H_0$ : $VL_{SC}$ does not Granger cause $R_{GDP}$	6.332**	$VL_{SC}$ $R_{GDP}$ : Significant Causality
$H_0$ : $R_{GDP}$ does not Granger cause $VL_{SC}$	0.7710	$R_{GDP}$ $VL_{SC}$ : Not significant Causality

Source: Authors' Computation

In the context of causality test, it suggests the existence or flow of either a bidirectional or unidirectional causality. The results displayed in table 6 show and support the feedback hypotheses for  $R_{GDP}$  versus  $M_{CAP}$  and  $R_{GDP}$  versus  $NW_{IS}$  while it indicated the existence of one-way causality flow from  $VL_{SC}$  to  $R_{GDP}$ . Our results established that  $M_{CAP}$  Granger caused  $R_{GDP}$ ;  $NW_{IS}$  Granger caused  $R_{GDP}$ , and  $VL_{SC}$  Granger caused  $R_{GDP}$ , implying unequivocally that either SMD or its surrogate(s) Granger caused  $R_{GDP}$ . This is a validation of the existence of *the supply-leading* hypothesis or SMD-led growth hypothesis for the Nigerian economy. This also means that, growth in Nigeria over the period considered is SMD-led; thus confirming SMD as a veritable and potent determinant of inclusive growth in Nigeria.

Also, our results affirmed that  $R_{GDP}$  Granger caused  $M_{CAP}$  and  $NW_{IS}$  in Nigeria during the period studied. Arising from our findings, since  $R_{GDP}$  does not Granger cause  $VL_{SC}$  but Granger caused only  $M_{CAP}$  and  $NW_{IS}$ ; this could be a partial confirmation of the existence of the growth-led or the *demand-leading* hypothesis for the Nigerian economy.

### CONCLUSION AND RECOMMENDATIONS

Our study confirmed that the value of stocks traded is a determinant of inclusive growth and development and, it is statistically significant in explaining the tempo of economic and productive activities and growth in Nigeria during the period studied. However, the contribution of  $M_{CAP}$  to the performance of real Gross Domestic Product ( $R_{GDP}$ ) is positive and that of the value of stocks traded is also positively related to  $R_{GDP}$ . Our results supported Adebisi (2005) and other studies such as Ishioro (2013a,2013b, and 2022e) that  $M_{CAP}$  boosts and enhances the performance of economic and productive activities.

It must be borne in mind that stock markets are not mere casinos where players come to bet, rather, they provide funds, that are critical elements for economic development of a country. Therefore, if the market is more liquid and as a result turnover rate increases based on investors' reaffirmed confidence and awareness; the growth of the economy would be achieved within both short and long-run periods.

### References

- Adamopoulos, A., & Vazakidis, A. (2009) Stock market development and economic growth. *American Journal of Applied Sciences*, 6(1), 1932-1940.
- Adebisi, M. A. (2005). Capital Market Performance and the Nigerian Economic Growth. In O.F. Oluwatayo and A. Olasupo (eds) *Issues in Money, Finance and Economic Management in Nigeria* (pp.146-176). Lagos: University of Lagos Press.
- Adeyemi, K.S. (1998). Options for effective development of the Nigerian capital market. Nigerian Economic Society Proceedings of the One-Day Seminar on the Capital

- Market and Nigeria's Economic Development held at the Nigerian Institute of International Affairs, Lagos, (January 21st, 1998)
- Adubi A.A. (1996). The design and management of sectoral policies in Nigeria: agriculture and economic reform programme. macro economic policy analysis, tools, techniques and application to Nigeria (eds) M. Obadan and M. Iyoha.
- Aigbokhan, B.A. (1996) Financial sector liberalization and capital market developments in Nigeria in Mensah Ed. (Rector Press Limited, Massachusetts, Pp 196-209.
- Antonious, A. (2010). Stock Market and Economic Growth: An Empirical Analysis for Germany. *Business and Economics Journal*, EEJ-1. <http://astonjournals.com/bej/>
- Azarmi, T., Lazar, D., & Jeyapaul, J. (2005). Is the Indian stock market a casino? *Journal of Business & Economics Research (JBER)*,3(4), 63-72.
- Badr, O.M. (2015). Stock Market Development and Economic Growth: Evidences from Egypt, *International Journal of Trade, Economics and Finance*, 6(2), 96-101.
- Bayar, Y., Kaya, Y., & Yildirim, M. (2014). Effects of stock market development on economic growth: evidence from Turkey. *International Journal of Financial Research*, 5, 93–100.
- Boubakari, A., & Jin, D. (2010). The role of stock market development in economic growth: evidence from stone Euro-nest Countries. *International Journal of Financial Research*, 1(1), 14-20.
- Dawson, P.J. (2008). Financial development and economic growth in developing Countries, *Progress in Development Studies*, 4(8), 325-331.
- Dougherty, C. (1992). *Introduction to Econometrics*. London, Oxford University Press.
- Emenuga, C. (1998). The Nigerian capital market and Nigeria's economic performance. Paper presented at a seminar organized on 21<sup>st</sup> January 1998 by Nigeria Economic Society (NES) at NIIA, Lagos.
- Granger, C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, 37, 424-438.
- Greenwood, J., & Smith, B. (1997). Financial markets in development and the development of financial markets. *Journal of Economic Dynamics and Control*,145-181.
- Hongbin, D. (2007). Stock market development and economic growth: evidence from China, *The Index of Science Engineering*, (SET) Database.
- Ishioro, B. O. (2022a). Dynamic effects of health expenditure shocks on HIV prevalence in sub-Saharan Africa. *Journal of Academic Research in Economics*, 14 (3),November.
- Ishioro, B. O. (2022b). Deposit money bank-based financial inclusion and economic growth in Nigeria: The Role of a Dual Folded Proxy, *Gusau International Journal of Management and Social Sciences*, 5(3), 1-23.
- Ishioro, B. O. (2022c). Unit root and stationarity tests in expenditure on health and economic growth series: maximizing the power of breakpoints. *Himalayan Journal of Community Medicine and Public Health*, 3(6),14-21
- Ishioro, B.O. (2022f). Expenditure on well-being, HIV prevalence and Performance of economic growth in East and Southern African Sub-regions. *International Journal of Applied Research in Social sciences*, 4(10), 399-414
- Ishioro, B. O. (2020a) Crude oil and economic growth in Nigeria: a simplified pair-wise causality test. *Journal of Academic Research in Economics*, 12(2), 224-246

- Ishioro, B. O. (2020b). Financial Market Inclusion, Shadow Economy And Economic Growth Paradigm: A Less Developed Country Perspective. *Scientific Papers of the University of Pardubice, Series D*, Vol. XXVIII: No.1/ 2020, 67-78
- Ishioro, B. O. (2019). Energy consumption and economic growth in Nigeria: an augmented neoclassical growth model perspective. *Journal of Environmental Management and Tourism*.
- Ishioro, B.O. (2018). Energy consumption and performance of sectoral outputs: evidence from an energy-impooverished economy. *Journal of Environmental Management and Tourism, IX, Winter*, 7(31), 1539-1558.
- Ishioro, B.O. (2017). Banking sector reforms and economic growth: recent evidence from a reform-bound economy. *Binus Business Review*, 8(1), 46-60.
- Ishioro, B.O. (2016) HIV/AIDS and Macroeconomic Performance :Empirical Evidence From Kenya. *Scientific Papers of the University of Pardubice, Series D*, Vol. XXIII (36): 102-117.
- Ishioro, B.O. (2015a). Intertemporal optimization of the consumption of petroleum stock: empirical evidence from Nigeria. *Journal of Academic Research in Economics*, 7(2), 232-255.
- Ishioro, B.O. (2015b). The long-run relationship between foreign reserves inflows and domestic credit: evidence from a small open economy, *Oeconomica*, 11(2), 18-41.
- Ishioro, B.O. (2015c). Causal Relationship among economic growth, finance, exchange rate and investment in Nigeria. *Journal of Arts and Social Sciences*, 3(2), 1-21
- Ishioro, B.O. (2013a). Stock market development and economic growth in Zimbabwe. *EKONOMSKA MISAO I PRAKSA*, Dubrovnik, 343-360
- Ishioro, B.O. (2013b). Monetary transmission mechanism in Nigeria: a simple causality test, *Mediterranean Journal of the Social Sciences*, 4(13), 377-388
- Jhingan, M.L. (2001). *Economic theory*. India, Vrinda Publications (P) Ltd
- Karim, S., & Chaudhary, G .M (2017) Effect of stock exchange development on economic growth of major South Asian and East Asian Economies. A comparative analysis ,*Journal of Business Studies Quarterly* , 8(3), 81-83.
- Kaya, E., E. Bekta, & M. Feridun (2011). Stock market and banking sector development in Turkey: do they have the same impact on economic growth? *Economic Research-Ekonomska Istraživanja*, 24, 65–74.
- Koutsoyiannis, A. (1977) *Theory of Econometrics*, Second Edition, Palgrave Macmillan
- Levine, R., & Zervos, S. (1996). Stock Markets Development and Long-Run Growth, The World Bank Economic Review, *Policy Research Working Paper*, 1582 (May).
- Levine, R. (1997). Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*. 668-726.
- Luintel, K.B., & Khan, M. (1999). A quantitative reassessment of the finance-growth nexus, Evidence from multivariate VAR. *Journal of Development Economics*, 60, 381-405.
- Magid, M.S.A. (2007) Re-Examining the Finance-Growth Nexus: Empirical Evidence from Indonesia, *Gadjah, Mad. International Journal of Business*, 2(9), 137-156.
- Maraques, L. M., Fuinhas, J.A., & Maraques, A. C (2013). Does the stock market cause economic growth? Portuguese evidence of economic regime change. *Economic Modelling*, 32, 316-324.

- McKinnon, R. I. (1973). *Money and Capital in Economic Development*. Washington D.C.: Brookings Institution.
- Naceur, S. B., & Ghazouani, S. (2007). Stock markets banks and economic growth: empirical evidence from the MENA region. *Research in International Business and Finance*, 21(2), 297-315.
- Ndanusu, S. (2004) The capital market as an alternative source of funds: the role of the securities and exchange commission (SEC). *Journal of the Nigerian Securities and Exchange Commission*, 2(1) November, 2004.
- Nurudeen, A. (2009). Does stock market development raise economic growth? *The Review of Finance and Banking*, 01(1), 15-026
- Odife, D.O. (2000). Changing trends in stock exchange and capital market development: lessons for Africa. *United Nations Institute for Training and Research (UNITAR) Sub-Regional Workshop on Capital Market Development for West Africa (Accra-Ghana, 10 to 14 April, 2000)*.
- Olugunde, O., Elumilade, D.O., & Asaolu, T.O. (2006). Stock market capitalisation and interest rate in Nigeria. a time series analysis. *International Research Journal of Finance and Economics*, 4(4), 154-167.
- Osamwonyi, I. O., & Kasimu, A. (2013). Stock market and economic growth in Ghana, Kenya and Nigeria. *International Journal of Financial Research*, 4, 83–98.
- Osaze, B. (1985). Effect of corporate earnings dividends and volume on stock price movements in Nigeria: 1976-1980. *Benin Journal of Social Sciences*, 1(1).
- Osaze, B. (2000). *The Nigerian capital market in the African and global financial*. Benin City, Bofic Publishers and Consulting Group Limited.
- Pagano, M., Panetta, F., & Zingales, L. (1996). The stock market as a source of capital: some lessons from initial public offerings in Italy. *European Economic Review*, 40(3-5), 1057-1069.
- Patrick, H. T. (1966). Financial development and Economic Growth in Underdeveloped Countries. *Economic Development and Cultural Change*, 14, 174-189.
- Phillips, P.C.B., & Perron, P. (1988). Testing for Unit Root in Time Series Regression, *Biometrika*, 75(2), 335-346
- Popiel, P.A. (1990). Developing financing markets in Sub-Saharan Africa EDI working papers, Washington, D.C.: *The World Bank*.
- Schumpeter, J.A. (1911). *The Theory of Economic Development*. Harvard University Press, Cambridge, M.A.
- Shaw, E. S. (1973). *Financial Deepening in Economic Development*, New York: Oxford University Press.
- Stiglitz, J.E., & Weiss, A. (1981). Credit rationing in markets with imperfect information, *American Economic Review*, 71, 393-410.
- Tekin, B. (2019). The causality between economic growth and stock market in developing and developed countries: toda-yamamoto approach. *Theoretical and Applied Economics*, XXVI, 79–90.
- Vazakidis, A. & Adamopoulos, A. (2009). Financial Development and Economic Growth An Empirical Analysis for Greece . *American Journal of Applied Sciences*, 6(7), 1410-1417. <https://doi.org/10.3844/ajassp.2009.1410.1417>