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Does Stock Market Development Promote Economic Growth In Emerging Markets? A Causality Evidence from Nigeria

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This paper examines the existence of causality relationship between stock market performance and economic growth in Nigeria. Specifically, it investigates whether the stock market actually promotes economic growth in Nigeria using the General-to-specific Autoregressive Distributed Lag (ARDL) / Bound testing approach. Time series data covering the period 1981 – 2011 on the focus variables, namely, Gross Domestic Product (GDP) which is a proxy for economic growth, and stock market performance indicators, such as market capitalization ratio (MCAPR), turnover ratio (TOR) and total number of deals ratio (TNDR) derived from the central bank of Nigeria (CBN) statistical bulletin, Volume 22, 2011 and National Bureau of Statistics (NBS) official website, were used. The study finds the empirical evidence of long-run co-integration between economic growth and stock market performance. However, with regard to causal relationship between GDP and Stock market performance indicators, a uni-directional causality was established from only TNDR to GDP on the short-run. On the long-run, there was no causal relationship between economic growth and stock market. This is quite understandable because the unethical practices and the subsequent crash in the stock market have undermined the potentials of the market in enhancing economic growth in Nigeria. The study therefore recommends that the regulatory authorities should initiate policies that would rekindle the dwindling interest and confidence of both domestic and foreign investors in the market, and also be more proactive in their surveillance role in order to checkmate negative practices which undermine market integrity.

Keywords: Stock market, economic growth, Autoregressive Distributed Lag model.

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1. Introduction

It is well acknowledged in academic literature that an efficient and well-developed financial system is important for influencing economic growth. The positive effects of financial development on growth are basically credited to the functions it plays particularly in the mobilization and allocation of resources needed to undertake productive investment activities by various economic agents. Theoretical literature argue that the increased availability of financial instruments and institutions greatly reduces transaction and information cost in the economy which in turn influences savings rate, investment decisions and undertaking of technological innovations.

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A large number of empirical works (e.g. King and Levine, 1993; Levine, 1991; Neusser and Kugler, 1998; Beck and Levine, 2003; etc) have also tested the finance-growth relationship employing different methodological techniques and using different indicators of financial development in Cross-Country or time series studies. The empirical findings, mostly in the developed markets, are generally in consensus that a well - functioning and efficient financial system has beneficial impacts on economic growth (Islam and Osman, 2005).

Most of the existing studies based on the developed countries experiences have used three sub sectors of the financial system in the finance-growth nexus literature as proxy for financial development or growth, namely, the banking sub sector, the capital market and the non-bank financial intermediaries. Most of the studies in particular indicate that the developed economies had explored two particular channels through which resources mobilization affects economic growth and development - money and capital markets (Demirguc - Kunt and Levine, 1996). This is not however the case in developing economies where emphasis was placed on money market with little consideration for capital market (Nyong, 1997).

Since the introduction of Structural Adjustment Programme (SAP) in Nigeria in 1986, the country's stock market has grown very significantly (Soyode, 1990). This is as a result of the deregulation of the financial sector and the privatization exercises, which exposed investors and companies to the relevance of the stock market. Equity financing became one of the cheapest and flexible sources of finance from the capital market and remains a critical element in the sustainable development of the economy (Okereke – Onyiuke, 2000).

Although the liberalization of the capital market led to the growth of the Nigerian stock market, it is said that the growth impact at the macro-economic level was negligible (Ariyo and Adelegan, 2005). The role of the stock market in economic development is primarily to channel capital into businesses. The continuous flow of capital gives businesses the liquidity they need to work and expand thereby stimulating economic growth and development.

The question at this juncture is, does stock market really promote or cause economic growth in Nigeria? If however, the growth of the stock market is not exerting corresponding impact at the macro-economic level, then it calls to question the popular opinion that stock market growth engenders national economic growth.
A much more pertinent concern is the exploration of the direction of influence or causality between stock market development and economic growth in the Nigeria emerging market setting since some authors have argued that there is no correlation between these two variables, and any seemingly co-movement is seen as contemporaneous. Hence, this study aims at:

1. Empirically investigating whether the stock market really promotes economic growth in Nigeria using *the Autoregressive Distributed Lag (ARDL) / Bound testing approach Time series data covering the period 1981 – 2011*, and
2. Determining the direction of causality between stock market development and economic growth.

To the best of our knowledge, this study is unique in terms of the methodological approach used in the Nigerian context and will, to a large extent help to explain the

dynamics of the relationship between economic growth and stock market development.

The remaining part of the study is organized as follows. Section two reviews the literature. Section three provides the methodology while section four deals with empirical analysis. Section five concludes the study with summary and recommendations.

2. Literature Review

2.1 Correlation between the Stock Market and Economic Growth: The Theoretical Nexus

There has been a growing interest and studies on the impact of stock market development on economic growth. This growing concern according to Rouseau and Wachtel (2000) is due to the fact that the existence of a stock market provides important information that improves the efficiency of financial intermediation generally, and thus lowering transaction cost, increasing savings and investments, and thereby engendering economic growth.

According to Nieuwerburgh et al (2005), financial markets facilitate pooling and trading of risk. In the absence of this service, investors facing liquidity shocks are forced to withdraw funds invested in long-term projects. Such early withdrawal reduces economic growth. The stock market makes it easy for liquidity risk that individual investors face at the aggregate level to be perfectly diversified. By facilitating diversification, the market allows the economy to invest relatively more in productive technology. This spurs economic growth (Greenwood and Smith, 1997; Obstfeld, 1994).

2.2 Stock Market and Economic Growth – The Causal Test

Lately, there has been a paradigm shift from whether stock market development engenders economic growth to the direction of causality between stock markets and economic growth. Furthermore, questions have been rift about the long-term effect of stock market on economic growth.

In Belgium, Nieuwerburgh *et al* (2005) investigated the long-term relationship between economic growth and stock market development and found that the growth in stock market capitalization granger causes GDP growth in the pre-1914 while GDP growth granger causes stock market development in the post-second World War era.

Chee, et al, (2003), indicated that stock market development has a significant positive impact on economic growth in Malaysia. The authors also reported that stock market development granger causes economic growth.

The study by Muhammed et al (2008) suggests that there is a long-run relationship between stock market development and economic growth. Liu and Hsu (2006) reported a positive impact on economic growth of stock market development in Taiwan, Korea and Japan.

In Ghana, a study by Osei (2005) based on the Ghana Stock Exchange revealed that stock market performance granger–causes economic growth. Interestingly, the study did not find a reverse causality, and this development was attributed to the low level of income as evidenced in most developing economies.

In Nigeria, some authors have also attempted to examine the relationship between stock market development and economic growth. For instance, Adamu and Sanni (2005) investigated the impact of the stock market on Nigeria's economic growth using Granger-Causality test. They found a one-way causality between economic 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 which informed their recommendation that government should encourage the development of the stock market since it has a positive impact on economic growth.

Riman et al, (2008), examined if there's link between the stock market performance and economic growth in Nigeria using annual data from 1970-2004. Their empirical results suggest the existence of a long-run relationship between stock market and economic growth as indicated by their error correction model (ECM). The paper further established a Uni-directional causality that runs from stock market to economic growth. The paper therefore revealed that the stock market is significant in determining economic growth in Nigeria.

Kolapo and Adaramola (2012) examined the impact of the Nigerian capital market on its economic growth from the [period 1990-2010. They found the existence of a long-run relationship between capital market and economic growth in Nigeria. The causality test results suggest bidirectional causality between GDP economic growth proxy, and value of transaction on one hand, and on the other hand, a unidirectional causality from market capitalization to the GDP. They argued that their finding is a clear indication of the relative positive role the capital market plays in the Nigerian economy.

However, there has been a number of authors who found either a negative relationships between the stock market and economic growth in Nigeria or in-significant impact of the stock market on the economy. Among these are Nyong (1997), who used time series data for the period 1970-1994, and found a negative relationship between market capitalization and economic growth; Ezeoha et al (2009), and Eweh et al (2009) who documented non-significant impact of the stock market on economic growth in Nigeria.

3. Methodology and Model

The linkage between stock market and economic growth has occupied a central position in the development literature especially in the last two decades. Different methodological approaches have been employed by different authors. However, this study adopts the methodology used by Surya and Neupane (2006), Rimah et al (2008) and Kolapo and Adaamola (2001) but with some major modifications, to test for the causal relationship between stock market performance and economic growth in the context of Nigeria.

3.1 Model Specification and Operational Definition of Variables

As a measure of economic performance the real Gross Domestic Product (RGDP) was used over the period indicated while stock market performance was measured using the Market Capitalization ratio (MCAPR), Turnover Ratio (TOR) and Total number of deals ratio (TNDR). Financial structure (FSTR) is a variable included as a control variable, and it is measured by the ratio of total asset of all commercial banks to GDP. FSTR is employed as a control variable to X-ray the soundness of the Nigerian financial system. Other control variables included are minimum rediscount rate (MRR) and trade openness (TOP). This we did following Chee, et al, (2003). The authors argued that government's intervention (through the use of discount rate) affects the relationship between financial development and economic growth. With respect to openness of the economy, it is believed that trade openness (proxied by the sum of imports and exports divided by the GDP) helps to attract foreign investment when it is favourable. This in turn increases activities on the stock market as firms would attempt to raise investment funds from the stock market.

Explicitly, the model is stated as:

$$GDP_t = \beta_0 + \beta_1 MCAPR_t + \beta_2 TOR_t + \beta_3 TNDR_t + \beta_4 TOP_t + \beta_5 FSTR_t + \beta_6 MRR_t + U_t \quad \ldots\ldots\ldots\ldots \quad (1)$$

Log-linearizing the above model, we obtain equation (2):

$$Log(GDP_t) = \beta_0 + \beta_1 \log(MCAPR_t) + \beta_2 \log(TOR_t) + \beta_3 \log(TNDR_t) + \beta_4 \log(TOP_t) + \beta_5 \log(FSTR_t) + \beta_6 \log(MRR_t) + U_t$$

$\ldots\ldots\ldots\ldots$ (2)

In order to examine the long-run and casual relationship between economic growth and stock market performance, it was necessary to do a pretesting for stationarity of variables to avoid spurious regression as suggested by Osuala (2010). The stationarity or unit root test is done using Augument Dickey Fuller test. The following equation is used to check the stationarity of the time series data used in the study.

$$\Delta Y_t = \beta_0 + \beta_1 t + \partial Y_{t-1} + \alpha \sum_{t=1}^{m} \Delta Y_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots \quad (3)$$

where ε_t is white noise error term and $\Delta Y_{t-1} = Y_{t-1} - Y_{t-2}$; and $\Delta Y_{t-2} = Y_{t-2} - Y_{t-3}$

These tests determine whether the estimates of '∂' are equal to zero or not.

If the data is found I(0) and I(1), the ARDL approach to co-integration is applied which consists of three stages. In the first step the existence of a long-run relationship between the variables is established by testing for the joint significance of the lagged variables in an error correction mechanism regression.

The second stage is to estimate the ARDL form of the equation where the optimal lag length is chosen according to one of the standard criteria such as the Akaike Information or Schwartz Bayesian. Then the restricted version of the equation is solved for the long-run solution. An ARDL representation of equation (2) above was conducted using the Bound Testing methodology developed by Pesaran and Shin (1999).

The "unrestricted" error correction model (ECM) of Pesaran and Shin of equation (2) is given in its log-linearized form as:

$$\Delta \ln Y_t = \alpha_{0y} + \sum_{i=1}^{n} \alpha_{yi} \Delta Y_{t-1} + \sum_{i=1}^{n} \alpha_{yi} \Delta X_{it-1} + \beta_{1y} \ln Y_{it-1} + \beta_{2y} \ln X_{it-1} + e_{1t}$$

$$\Delta \ln X_t = \alpha_{0x} + \sum_{i=1}^{n} \alpha_{xi} \Delta X_{it-1} + \sum_{i=1}^{n} \alpha_{xi} \Delta Y_{t-1} + \beta_{1x} \ln X_{it-1} + \beta_{2y} \ln Y_{it-1} + e_{2t} \text{ ---------- (4)}$$

where Δ denotes the first difference operator. The model represented in equation 4 shows how change in Y_t (GDP) responds to changes in X_t (i.e. vector of stock market performance indicators), and vice versa.

The Bound testing methodology of Pesaran and Shin has a number of features that give it some advantage over conventional co-integration testing approaches. For instance:

- It can be used with a mixture of I(0) and I(1) data.
- It involves just a single-equation set-up, making it simple to implement and interpret (except where one wants to check the reverse causality).
- Different variables can be assigned different lag-lengths as they enter the model.

3.2 Data Source and Measurement

The data for the study was collected from Central Bank of Nigeria statistical bulletin, Volume 22, 2011 and National Bureau of statistics website. Data set spanning a period of 31 years (1981-2011) was collected on our focus variables and was used to determine the causal relationship between stock market performance and economic growth in Nigeria during the period covered.

4. Analysis and Discussion of Results

4.1 Stationarity Test

As a preliminary step in ARDL/Bound testing, we employed the Augumented Dickey Fully Unit root test to confirm the stationarity or otherwise of the series. The results of these tests are presented in Table 1.

Table 1: Augmented Dickey Fuller (ADF) Unit Root Test

VARIABLE	ADF STATISTICS			
	LEVEL	FIRST DIFFERENCE	LAG LENGTH	ORDER OF INTEGRATION
Log(RGDP)	-4.690474*	-36.11679**	5	I(0)
Log(MCAPR)	0.340749	-4.275699**	5	I(1)
Log(TOR)	-1.659985	-5.559587**	5	I(1)
Log(TNDR)	-0.660295	-4.473223**	5	I(1)
Log(TOP)	-0.400162	-7.125426**	5	I(1)
Log(FSTR)	-1.236806	-3.382313*	5	I(1)
Log(MRR)	-1.913027	-6.237706**	5	I(1)

(*);(**) and (***) indicate significant at 1%, 5% and 10% respectively.

Since the variables are mixture of I(0) and I(1), any attempt to specify the dynamic function of the variables in the level of the series will be inappropriate and may lead to spurious regression in line with Osuala (2010). Based on the foregoing, it became necessary to use the bound testing approach to test for co-integration.

4.2 Co-Integration Test

We utilised the Akaike Information Criterion (AIC) for selecting the lag order up to the maximum lag of 4. The lag order of 2 is determined to be optimal. See Table 2.

Table 2: VAR Lag Order Selection Criteria

Endogenous variables: D(RGDP)
Exogenous variables: RGDP(-1) MCAPR(-1) TOR(-1) TNDR(-1) TOP(-1) FSTR(-1) MRR(-1) D(MCAPR(-1)) D(TOR(-1)) D(TNDR(-1)) D(TOP(-1)) D(FSTR(-1)) D(MRR(-1)) C

Included observations: 26

Lag	LogL	LR	FPE	AIC	SC	HQ
0	84.73573	NA*	0.000322	-5.364287	-4.638462	-5.155275
1	86.52250	1.374438	0.000316*	-5.424807	-4.650594*	-5.201862
2	87.84226	0.913681	0.000325	-5.449404*	-4.626803	-5.212525*
3	88.02469	0.112263	0.000369	-5.386514	-4.515524	-5.135701
4	88.23662	0.114119	0.000425	-5.325894	-4.406516	-5.061146

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

A key assumption in the ARDL / Bounds testing methodology of Pesaran et al. (2001) is that the errors of equation (4) must be serially independent. This we confirmed using LM test. The result is presented in Table 3.

Table 3: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.607954	Prob. F(2,13)	0.5592
Obs*R-squared	2.394880	Prob. Chi-Square(2)	0.3020

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 08/08/13 Time: 09:13
Sample: 4 31
Included observations: 28
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-1)	-0.019029	0.065319	-0.291317	0.7754
TNDR(-1)	0.000236	0.023713	0.009973	0.9922
TOP(-1)	-0.000783	0.021562	-0.036321	0.9716
FSTR(-1)	0.004184	0.022478	0.186138	0.8552
MRR(-1)	-0.010881	0.033975	-0.320264	0.7539
D(MCAPR(-1))	-0.002241	0.026488	-0.084621	0.9339
D(TOR(-1))	-0.009317	0.019129	-0.487063	0.6343
D(TOP(-1))	-0.005357	0.021643	-0.247507	0.8084
D(FSTR(-1))	0.018120	0.073384	0.246915	0.8088
D(MRR(-1))	0.006956	0.031329	0.222034	0.8277
D(RGDP(-1))	0.104793	0.228327	0.458960	0.6538
D(TNDR(-2))	-0.015433	0.027708	-0.556997	0.5870
C	0.112358	0.346464	0.324300	0.7509
RESID(-1)	-0.371776	0.366066	-1.015600	0.3283
RESID(-2)	0.110763	0.332146	0.333478	0.7441

R-squared	0.085531	Mean dependent var	-5.63E-16
Adjusted R-squared	-0.899281	S.D. dependent var	0.007603
S.E. of regression	0.010478	Akaike info criterion	-5.974871
Sum squared resid	0.001427	Schwarz criterion	-5.261190
Log likelihood	98.64820	Hannan-Quinn criter.	-5.756692
F-statistic	0.086851	Durbin-Watson stat	1.877927
Prob(F-statistic)	0.999974		

The result in table 3 shows that we do not have problem of serial correlation. We therefore proceed with the bound-testing to see if the coefficients of both RGDP(-1) and $\sum X_i(-1)$ are jointly zero in our estimated model in order to confirm the existence or otherwise of a long-run relationship between economic growth and stock market performance indicators in Nigeria within the period specified in the study. $\sum X_i(-1)$ is a vector of lagged independent variables in the model. The result of this is presented in table 4.

Table 4 (a): The estimated model based on Equation 4

Dependent Variable: D(RGDP)
Method: Least Squares
Date: 08/08/13 Time: 08:38
Sample (adjusted): 4 31
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-1)	-0.487629	0.145596	-3.349190	0.0074
MCAPR(-1)	-0.011503	0.071427	-0.161047	0.8753
TOR(-1)	0.031990	0.014949	2.139988	0.0580
TNDR(-1)	0.143730	0.047841	3.004341	0.0132
TOP(-1)	0.080173	0.021479	3.732564	0.0039
FSTR(-1)	0.132573	0.039600	3.347801	0.0074
MRR(-1)	-0.106106	0.044851	-2.365736	0.0396
D(MCAPR(-1))	0.067637	0.053734	1.258741	0.2367
D(RGDP(-1))	-0.633296	0.217856	-2.906951	0.0156
D(MCAPR(-2))	0.026853	0.019804	1.355969	0.2049
D(TOR(-2))	-0.018493	0.016542	-1.117903	0.2897
D(TNDR(-2))	-0.104457	0.029004	-3.601421	0.0048
D(TOR(-1))	-0.092994	0.020581	-4.518339	0.0011
D(TNDR(-1))	-0.047216	0.037475	-1.259941	0.2363
D(TOP(-1))	-0.072058	0.020058	-3.592521	0.0049
D(FSTR(-1))	-0.325969	0.074375	-4.382798	0.0014
D(MRR(-1))	0.126748	0.033873	3.741864	0.0038
C	2.323455	0.888470	2.615118	0.0258

R-squared	0.940281	Mean dependent var	0.021045
Adjusted R-squared	0.838758	S.D. dependent var	0.022105
S.E. of regression	0.008876	Akaike info criterion	-6.354778
F-statistic	9.261753	Durbin-Watson stat	2.671780
Prob(F-statistic)	0.000527		

Table 4(b): Wald Test

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	20.66667	(7, 13)	0.0000
Chi-square	144.6667	7	0.0000

Null Hypothesis: C(1)=C(2)=C(3)=C(4)=C(5)=C(6)=C(7)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.700769	0.166770
C(2)	-0.010882	0.094223
C(3)	0.015387	0.024726
C(4)	0.072632	0.057389
C(5)	0.028607	0.041896
C(6)	0.049141	0.072195
C(7)	-0.053599	0.082073

The first thing to note is the negative sign, and the statistical significance (at 5% level) of RGDP(-1). This is as expected. The result in Table 4(b) - Wald Test, shows that the calculated F-statistic exceeds the critical upper bound at 5% levels and so suggesting the existence of a long-run relationship between economic growth and stock market in Nigeria.

Using the General-to-Specific ARDL procedure, we confirmed that on the long-run, out of the three stock market performance indicators, namely MCAPR, TOR and TNDR, only TNDR was a significant contributor to economic growth at 5% level, in addition to the control variables- TOP, FSTR and MRR. On the short-run, all the regressors were important determinants of economic growth at 5% level. See Table 5.

Table 5: Result of General-To-Specific ARDL Test

Dependent Variable: D(RGDP)
Method: Least Squares
Date: 08/08/13 Time: 08:59
Sample (adjusted): 4 31
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-1)	-0.413989	0.059859	-6.916097	0.0000
TNDR(-1)	0.140194	0.023030	6.087406	0.0000
TOP(-1)	0.054441	0.020625	2.639617	0.0186
FSTR(-1)	0.133511	0.020262	6.589117	0.0000
MRR(-1)	-0.090903	0.031647	-2.872392	0.0116
D(MCAPR(-1))	0.085697	0.025330	3.383177	0.0041
D(TOR(-1))	-0.059571	0.016637	-3.580580	0.0027
D(TOP(-1))	-0.046429	0.020280	-2.289383	0.0370
D(FSTR(-1))	-0.334707	0.068466	-4.888652	0.0002
D(MRR(-1))	0.111142	0.029863	3.721697	0.0020
D(RGDP(-1))	-0.501637	0.200118	-2.506713	0.0242
D(TNDR(-2))	-0.103515	0.022922	-4.516023	0.0004
C	2.002366	0.312531	6.406940	0.0000

R-squared	0.881696	Mean dependent var	0.021045
Adjusted R-squared	0.787052	S.D. dependent var	0.022105
F-statistic	9.315961	Durbin-Watson stat	2.291545
Prob(F-statistic)	0.000065		

We can also see clearly that the long-run multiplier between RGDP and TNDR is – (0.140194/-0.413989) = 0.3386 implying that on the long-run, an increase of 1.0 unit in TNDR will lead to an increase of 0.34 units in RGDP.

We estimated the model (i.e., equation 4) at level by OLS and constructed the residuals series (RES_t) in order to fit a restricted ECM. We noticed that the coefficient of the lagged error correction term RES(-1), is negative and significant (though at 8% level). This is expected. The magnitude of this coefficient of -1.65 implies that about 165% of any disequilibrium between economic growth and stock performance is corrected within one period.

The pair-wise causality test between GDP and the stock market performance proxies indicates that on the short-run, there is a unidirectional causality from one of the stock market performance indicators – TNDR, to GDP. There is however neither causality nor reverse causality from GDP to stock market in the long-run. Two of the control

variables (MRR and FSTR) were granger-caused by GDP on the short-run. (See Table 6).

Table 6: Pairwise Granger Causality Tests

Date: 08/18/13 Time: 21:55
Sample: 1 31
Lags: 1

Null Hypothesis:	F-statistic	Prob .
D(RGDP) does not Granger Cause D(FSTR(-1))	5.54576	0.0112
D(TNDR(-2)) does not Granger Cause D(RGDP)	3.47854	0.0496
RGDP(-1) does not Granger Cause D(MRR(-1))	5.31163	0.0131

5. Conclusion

The study investigated the existence of causality between the stock market and economic growth in Nigeria using time series data obtained from the central bank of Nigeria for the period-1981-2011. It found the existence of a unidirectional causality from one of the stock market performance indicators (TNDR) to economic growth in the short-run. In the long-run, there is no causality from all of the stock market development indicators to GDP. The reason for this development may be as a result of the various anomalies experienced within the Nigerian financial system and the downturn in the capital market in the recent times. This suggests that stock market development is neither a strong factor influencing economic growth, nor is economic growth very strong in influencing stock market development in Nigerian in the long-run. Hence, there might be other exogenous factors in existence that might have influenced both economic growth and stock market development in Nigeria.

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