IMPACT OF NIGERIAN CAPITAL MARKET ON ECONOMIC GROWTH: A CO-INTEGRATION APPROACH 7/12/2016

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ABSTRACT

This study examined the impact of economic growth and development in Nigeria using vector error correction model to examine the long-run relationship between the capital market development and economic growth, the study used annual series from 1970 to 2013. Variables such as Gross Domestic Product (GDP), Market Capitalization (MCAP), Total New Issues(TNI and Value of Share Traded Total Listed Equity (VST) are used for the study. The empirical results indicate a long-run relationship between the capital market development and economic growth in Nigeria. Meanwhile, ECM_t coefficient confirmed that, there is long run equilibrium between GDP and Capital Market Variables i.e at every 1 million increase in Capital Market Variable, GDP will increase by 0.085 million since the speed of adjustment to equilibrium is 0.0857. The Granger causality results at lag 2 showed that market capitalization and value of shares traded granger causes real GDP with no reverse or feedback effect.

Keywords: Gross Domestic Product, Market Capitalization, Total New Issues, and Value of Share Traded Total Listed Equity.

JEL Classification: C22,C58,D53

1.0 INTRODUCTION

Capital market is an engine of economic growth and development globally, Nigeria inclusive. Capital market is made up of markets and institutions which facilitate the issuance and secondary trading of long-term financial instrument. The history of Nigeria Capital Market could be traced

to 1946 when the British colonial administration floated a N600,000 local loan stock bearing interest at 3.% for the financing of developmental projects under the Ten-Years Plan Local Ordinance.

The loan stock, which had a maturity of 10-15 years, was oversubscribed by more than N1 million, yet local participation of the issued was terribly poor. As a result of poor local participation federal government established several economic programmes with hope to foster economic and financial development, such Structural Adjustment Programme (SAP) 1986, Vision 2010, Vision 2020, Millennium Development Goal (MDGs), National Economic Empowerment Development Strategy (NEEDS), State Economic Empowerment Development Strategy (SEEDS), and other development plans Recently, capital market has experienced unprecedented growth which was attributed to the banking sector reform of 2004-2005. (Nwankwo, 1991) says that capital market has helped government and corporate entities to raise long term capital for financing new projects, and expanding and modernizing industrial and commercial concerns.

Kolapo and Adaramola (2012) assert that financial market development raises output by increasing the capital used in production and by ensuring that capital is put into best uses. Beckaert et al (2005) analyze that capital market development would lead to financial liberalization, which will lead to a 1% increase in annual real economic growth. Studying the link between domestic stock market development and internationalization, claessens et al (2006) using a panel data technique concluded that domestic stock market development as well as stock market internationalization are positively influenced by the log of GDP per capita, the stock market liberalization, the capital account liberalization and the country growth opportunities and negatively influenced by the government deficit/GDP ratio.

Metrick, & Yasuda (2010) argues that a nation requires a lot of local and foreign investments to attain sustainable economic growth and development. The capital market provides a means through which this is made possible. It is on the premises that this research paper wishes to examine the impact of the Nigeria Capital Market on Economic Growth and Development from 1990 to 2011.

2.0 LITERATURE REVIEW

Capital market provides for buying and selling of long term debt or equity backed securities (Wikipedia, 2012). Capital market offers a variety of financial instruments that enable economic agents to pool, price and exchange risk. Through assets with attractive yields, liquidity and risk characteristics, it encourages saving in financial form. This is very essential for government and other institutions in need of long term funds (Nwanko, 1990).

The capital market can affect economic development through the mobilization of long-term resources, the provision of liquidity, risk diversification, privatization, securitization or risk transfers and determination of the cost of capital for project valuation (Chiwuba and Amos, 2011). Ariyo and Adelegan (2005) contend that, the liberalization of capital market contributes to the growth of the Nigeria capital market, yet its impact at the macro-economy is quite negligible. Osamwonyi, (2005) sees capital market as an exchange system set up to deal in long-term credit instrument of high quality. The dealing in this high quality instrument facilitates the execution of some desirable and profitable project bearing direct relationship with economic development.

Saunders and Allen (2010) cited in Flavia and Petru-ovidiu (2010) using a panel data technique concluded that domestic stock market development as well as stock market internationalization are positively influenced by the log of GDP per capita, the stock market liberalization, the capital account liberalization and the country growth opportunities and negatively influenced by the government deficit/GDP ratio.

2.1. Empirical Review on Nigeria

Some researchers in Nigeria studied the relationship between capital market development and economic growth. For instance, Adam and Sanni (2005) cited in Kolapo and Adaramola, (2012) examine the roles of stock market on Nigeria's economic growth using Granger-causality test and regression analysis. The authors discovered a one-way causality between GDP growth and market capitalization and a two-way causality between GDP growth and market turnover. They also observe a positive and significant relationship between GDP growth turnover ratios. The authors advised that government should encourage the development of the capital market since it has a positive effect on economic growth. Chinwuba and Amos (2011) also conclude that capital market development is a key to economic growth. Afees and Kazeem (2010) critically and empirically examined the causal linkage between stock market and economic growth in Nigeria between 1970 and 2004 and the result showed that capital market development drive economic growth.

Pedro and Erwan (2004) assert that financial market development leads to economic growth and Abdullahi (2005) also agrees with the assertion that capital market development in Nigeria is an engine to her economic growth. Moreover, Agarwal (2001) argues that financial sector development facilitates capital market development, and in turn raises real growth of the economy. In the same vein, Kolapo and Adaramola, (2012) find that Nigerian capital market development has significant relationship with economic growth.

Obamiro (2005) cited in Kolapo and Adaramola, (2012) investigate the role of the Nigeria stock market in the light of economic growth. The authors reported that a significant positive effect of stock market on economic growth.He suggested that government should create more enabling environment so as to increase the efficiency of the stock market to attain higher economic growth. Osinubi and Amaghionyeodiwe (2003) also examine the relationship between Nigeria stock market and economic growth during the period 1980-2000 using ordinary least squares regression (OLS). The result showed that there is a positive relationship between the stock market development and economic growth and suggest the pursuit of policies geared towards rapid development of the stock market.

Ogun and Iyoha (2005), using the Granger causality model document a significant relationship between current level of real gross domestic product and lagged value of stock market capitalization in Nigeria for the period 1970-2003. They concluded that stock market promotes economic activity and as such could be relied upon as a predictor of economic activity in Nigeria.

In like manner, Nyong (1996) develops an aggregate index of capital market development and use it to determine its relationship with long run economic growth in Nigeria. His findings show that capital market development is significantly correlated with long-run growth. Also there exists a bi-directional causality between capital market development and economic growth. Saint-Paul (1992), Devereux and Smith (1994), Obstefeld (1994) are also of the view that stock market promotes economic growth through risk diversification and international integration of stock markets. They argue that through greater diversification, stock markets influence growth by shifting investment into higher return projects.

Again, Filer et al (2003) use Granger causality test to show that there exists a causal relationship between stock market development and economic growth, the direction of causation flowing from stock market to economic growth. Similarly, Mohtadi and Agarwal (2001) examine the relationship between stock market development and economic growth for 21 emerging markets over 21 years, using a dynamic panel method. Results suggest a positive relationship between several indicators of the stock market performance and economic growth both directly, as well as indirectly by boosting private investment behaviour.

However, Ewah et al; (2009) appraise the impact of the capital market efficiency on economic growth of Nigeria using time series data from 1963 to 2004. They found that the capital market in Nigeria has the potential of growth inducing but it has not contributed meaningfully to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization, illiquidity, misappropriation of funds among others.

2.2 Analysis of the Nigerian Capital Market Performance

The Nigerian capital market has performed fairly despite the numerous challenges and problems some of which include: the buy and hold attitude of Nigerians, massive ignorance of a large population of the Nigerian public of the nature and benefits of the capital market, few investment outlets in the market, lack of capital market friendly economic policies and political instability, private sector led economy and less than full operation of recent developments like the Automated Trading System (ATS), Central Securities Clearing System (CSC), On-line and Remote Trading, Trade Alerts and Capital Trade Points of the Nigerian Stock Exchange.

2.2.1 Total New Issues

The total new issues before 1989 was below N1 billion. However, from 1989 to1996 it hovered between N1 billion to N10 billion. The amount crossed the N10 billion marks in 1997. For instance, between 1996 and 2001, a total of 172 new issues (securities of public companies amounting to N56.40 billion) were floated in the capital market. The total new issues were valued at N5.85 billion in 1996 but it rose by about 532% to N37.198 billion in 2001. Total new issues was N61, 284 billion, in 2002, N180, 079.9 billion in 2003. N195,418.4b in 2004 and N552,782b in 2005.It crossed the trillion mark in 2007 being N1.935 trillion that year but fell to N1.509 trillion in 2008, rose again to 2.867trillion in 2013.

2.2.2 Market Capitalization

This is the most widely used indicator in assessing the size of a capital market to an economy. In a bearish market the market capitalization falls and vice versa for a bullish market. Before 1988, the total market capitalization was less than N10 billion from 1988 to 1994. It hovered between N10 billion to N57 billion. In 2003 it was N1,3593 trillion, N2.1125 trillion in 2004 and N5.12 trillion in 2006.The market capitalization recorded the highest value of N13.2294 trillion in 2007.But this fell to N9.562 trillion in 2008 due to the global financial meltdown.

The percentage market capitalization compared to the economy's Gross Domestic Product (GDP) helps to assess the size of the stock market. In1981, this was 10.5%, but fell to 7.4% in 1994. It rose again to 9.3% in 1995, 10.6% in 1996; 18.9% in 2003, 25.6% in 2004 and 27.4% in 2005, at the end of 2013 it raised to 19.08 trillion about 65% increase.

2.2.3 Listed Securities

The number of equities listed increased from 3 in 1961 to 13 in 1971, 93 in 1981 in 2001 and 198 in 2005. For the SSM, it was 1 in 1985 and 20 in 1995. After falling from 23 in 1993, it fell

to 19 in 1997 and from then to 2005 it remains at 16. The total securities increased from 8 in 1961 to 60 in 1971;194 in 1981, 23 in 1991, 261 in 2001 , 288 in 2005, 301 in 2008 and dropped to 250 and 256 in 2012 and 2013 respectively. It would be observed the total listed securities is still low despite almost 50 years of the existence of the Nigerian Stock Exchange.

2.2.4 Value of Transactions

From 1961 to1975, the annual value of the NSE was below N100 million. However, from 1976 to 1994 it was between N100 million and N600 million. In 1995, the trading value crossed N1 billion. It was N120.70b billion in 2003, N225,820.5billion in 2004 and N4,4 trillion in 2008. From 1961 to 1994, Government Stock dominated the market between 58.91% and 99.5% whereas from 1995 and dropped N651.71 billion in 2012.the industrial securities continue to dominate the market.

2.3 EMPIRICAL REVIEW ON OTHER COUNTRIES

Studies of relationship between capital market development and economic growth in other countries were performed. Hondroyiannis, Lolos and Papapetrou (2005) study the case of Greece between 1986 and 1999 they found out that the relationship between economic growth and capital market development is bi-directional. Bolbol, Fatheldin, and Omran (2005) also analyze the effect of financial markets on total factor productivity and growth in Egypt between 1974 and 2002 it was discovered that capital market development had a positive influence on factor productivity and growth.

Mishra, et al (2010) examine the impact of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. Their study reveals that there is a linkage between capital market efficiency and economic growth in India. This linkage is established through high rate of market capitalization and total market turnover. The large size of capital market as measured by greater market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. The increasing trend of market capitalization in India would certainly bring capital market efficiency and thereby contribute to the economic growth of the country.

Ben Naceur and Ghazouani (2007) carry out research on the influence of stock markets and bank system development on economic growth with a sample of 11 Arab countries, and it was discovered that financial development could negatively influence the economic growth in countries with underdeveloped financial systems and they stress the role of building a sound financial system. Chee et al (2003) discover that stock market development has a significant

positive impact on economic growth in Malaysia and they reported that stock market development Granger-causes economic growth.

In the same vein, Liu and Hsu (2006) indicate that the capital market development has a positive impact on economic growth in Taiwan, Korea and Japan.These results were supported by Muhammed et al (2008) finding that there is a long-run relationship between stock market development and economic growth.

Brasoveanu, Draoteaa, Catarama, & Andre, (2008) examine the correlation between stock market development and economic growth in Romania using the vector Auto-regression (VAR) model. Their results show that stock market development is positively correlated with economic growth with feedback effect, but the stronger link is from economic growth to stock market, suggesting that financial development follows economic growth.

However, Gabriel (2002) as enunciated by Nyong (2003) lay emphasis on the Romanian capital market and conclude that the market is inefficient and hence it has not contributed to economic growth in Romania and this result is in line with Flavia and Petru, (2010) finding, that capital markets hasn't reached a level of development that would enable it to fulfill its main function in the economy, the gap with the countries of Europe being still quite high.

3.0 METHODOLOGY

3.1 Model Specification

A discussion on issue like economic growth in relation to capital market performance could be based on economic variables such as Gross Domestic Proudct (GDP) and capital market activities. This is because, economic growth has been defined (Nnanna, Englama and Odoko,2004) as the ability of the economy to increase production of goods and services with the stock of capital and other factors of production within the economy. The GDP being the market value of goods and services produced in the economy over a period of one year should therefore have a link to the capital market activities. Significant changes in the capital market will invariably affect its growth. Thus, increase in market capitalisation (MCap), newissues (TNI), value of shares traded (VST) and Total listed Equity and Government Bond(TLS) are expected to have a positive impact on the GDP. In the light of this, the macro-economic model for the determination of long-run impact ofcapital market Performance on the growth of Nigerian economy will be stated as follows. GDP= f (MCAP, TNI, VST, TLS)
$LnGDP= \beta 0+ \beta 1LnMCAP+ \beta 2LnTNI+\beta 3LnVTS+ \beta 4LnTLS+U$

Where;

The a priori expectation is β1, β2, β3, β4> 0

Ln = logarithm of Variables
LnGDP= Gross Domestic Product
LnMCAP= Market Capitalization
LnTNI= Total New Issues
LnVST= Value of Share Traded
LnTLS = Total Listed Equity and Government Stock
U = Disturbance Term
β = Intercept
β1 - β4 = Coefficient of the Independent Variables.

Note: All variables are in their natural logarithm form.

3.2 Sources of Data

The data for this study was obtained mainly from secondary sources particularly from Central Bank of Nigeria (CBN) statistical Bulletins, Nigerian Stock Exchange (NSE) review books, Security and Exchange Commission (SEC) market Bulletins, World Bank Data Bank and relevant journals. The sample span covered the period from 1970 to 2013 (34 observations)

3.3 Method of Data Analysis

In verifying the long-run relationship between the capital market development and economic growth, the study uses annual series from 1970 to 2013. The first stage in the empirical investigation is to analyze the time series properties of the data using the unit root (Augmented Dickey Fuller) test to determine the order and level of difference stationarity of the variables on the first order autoregressive process AR(1).

Two basic types of time series model exist; these are autoregressive and moving average models. The basic autoregressive model for a series X expresses that series as a function of past values of itself and an error component.

$$X_t + E(L)X_{t-1} + U_t$$

Where U_t = white noise error process and

$$U(L)X_{t-1} = UX_{t-1} + U_{t-2} + \ldots\ldots\ldots + U_nX_{t-n}$$
$$\Delta Y_T = \mu + \gamma Y_{t-1} + \delta_1\Delta Y_{t-1} + \delta_2\Delta Y_{t-2} + \ldots\ldots + \delta_{p-1}\Delta Y_{t-p+1} + \varepsilon_t$$
$$\Delta Y_T = \mu + \gamma Y_{t-1} + \delta_1\Delta Y_{t-1} + \delta_2\Delta Y_{t-2} + \ldots\ldots + \delta_{p-1}\Delta Y_{t-p+1} + \varepsilon_t$$

The hypothesis for the augmented specification is tested thus;

H0: $\gamma = 0$ and H1: $\gamma < 0$ where $\gamma = p - 1$.

That variables are cointegrated, implies that they share a long-run relationship and will move closely together over time; meaning that the difference between such variables are stable over time and there is some degree of convergence in the long-run.

To test for Cointegration, Johansen''s (1991) tests the restrictions imposed by Cointegration on the unrestricted vector autoregresions (VAR) involving the series. If the VAR is of order P, the starting equation can be stated as

$$Yt = A1Yt\text{-}1 + A2Yt\text{-}2 + \ldots\ldots\ldots + ApYt\text{-}p + BXt + \varepsilon t$$

Where Ytis a k –vector of non-stationary I(1) variables, Xt is a d vector of deterministic variables and εt is a vector of innovations. The VAR can be re-written as: $\Delta Yt = \prod Yt\text{-}1 + \sum \Gamma i\Delta Yt\text{-}i + BXt + \varepsilon t$

where $\prod = \sum AP - I$, $\Gamma i = -p\sum iAj$ $_{p\,j=I+1}$

Cointegration was developed to make the concept of long-run equilibrium operational and the presence of cointegration forms the basis for error correction model specification. The dynamics of capital market performance is then specified in an error correction model (ECMt), incorporating the one period lagged residual from the static regression. The error correction model is designed to capture the short-run deviations that might have occurred in estimating the long-run co-integrating equation (Engle and Granger,1987). Thus, the capital market model will be re-specified as follows to include an error correction term (ECMt)

$$GDP = \varphi_0 + \varphi_1 Mktcap + \varphi_2 Tni + \varphi3Vst + \varphi_4 Tls + \varphi_5 ECT_{t\text{-}1} + ut$$

The researcher also employed the Granger causality test, as correlation does not necessarily imply causation in any meaningful sense of the word.

The basic principle of Granger causality analysis is to test whether past values help to explain current values.

Maddala (1998) indicates that if two variables are cointegrated, there must be at least one direction of causality between investigated variables. Thus, the Granger test is predicated on the following regression analysis:

$Yt = \beta0 + \sum\beta iYt -I + \sum\beta uXt -i\mu t$

$Xt = \alpha0 + \sum\alpha iXt-i + \sum\alpha iYt-i+vt$

Where Yt and Xit are the GDP and the capital market
variables (respectively) to be tested and μ and vt are the idiosyncratic terms that capture all variations in Yt and Xt not in the lagged values.

4.0 RESULTS AND DISCUSSIONS

To avoid producing spurious regression results, the study first carries out unit root test using the Augmented Dickey-Fuller (ADF) test. Unit root results are presented in Table 1.

Table1: Summary of ADF Unit root test result

Variables	Level Data	First Difference	1% CV	5% CV	10% CV	Order of Integration
GDP	-2.38	-5.74	-3.69	-2.97	-2.62	I(1)
MCAP	-0.39	-5.53	-3.69	-2.97	-2.62	I(1)
TLS	-2.71	-6.04	-3.69	-2.97	-2.62	I(1)
TNI	-3.88	-3.84	-3.69	-2.97	-2.62	I(1)
VST	-2.29	-5.528	-3.69	-2.97	-2.62	I(1)

Authors Computation 2016.

N.B: * Indicates significant at the 1% level
** Indicates significant at the 5% level
*** Indicates significant at the 10% level

The results suggest that variables are integrated of order one, I(1) at 5 percent level of significance. Thus, the economic growth indicator GDP, follows an integrating I(1) process so that the stock market variables are a stationary process. So all the variables can be carried forward for cointegration test. The result of the Johansen cointegration test which is used to assess the presence or otherwise of a long run relationship among the variables reveals robust results. The result of the Johansen cointegration test is shown in table 2 below:

Table 2: Johansen cointegration test's Result

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.981044	231.1322	69.81889	0.0000
At most 1 *	0.927899	108.1977	47.85613	0.0000
At most 2	0.372753	26.67723	29.79707	0.1098
At most 3	0.251618	12.21838	15.49471	0.1468
At most 4	0.099045	3.233285	3.841466	0.0722

Authors Computation 2016.

$GDP = 11292 + 0.2093MCAP_{t-1} + 155.36TLS_{t-1} + 1.140TNI_{t-1} - 2.421VST_{t-1}$

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

 * denotes rejection of the hypothesis at the 0.05 level

 **M-H-Michelis (1999) p-values

The result of the Johansen Cointegration test indicates that a long run relationship exists among the variables. This is because both the max-eigen test and the trace statistic indicates two cointegrating equation in each case.

The existence of at least one cointegrating equation per units is to estimate the over parameterize. and the parsimonions ECM results. The summary of the over parameterize ECM result is shown in table 3 below:

Table 3: VECM Results

Variable	Coefficients	Std Error	t-Statistic	Prob.
Coint Eq1	-0.085471	0.07568	-1.12931	0.3017
D(GDP(-1))	0.558576	0.22905	2.43863	0.0291
D(GDP(-2))	0.153606	0.25919	0.59264	0.2841
D(MCAP(-1))	0.013814	(0.00573)	2.41128	0.7298
D(MCAP(-2))	0.016983	0.00787	2.15818	0.0360
D(TLS(-1))	-236.1342	243.224	-0.97085	0.3340
D(TLS(-2))	-147.8754	-147.8754	-0.60704	0.7070
D(TNI(-1))	-0.050843	0.05327	-0.95438	0.8091
D(TNI(-2))	-0.044165	0.05111	-0.86411	0.2588
D(VST(-1))	-0.040513	0.04918	-0.82371	0.2625
D(VST(-2))	-0.005796	0.02995	-0.19353	0.7656
C	3112.594	7060.37	0.44085	0.8800

Source: Authors Computation 2016.

R- square : 0.87 F- Statistics 9. 83 Durbin- Watson 2.09 Prob(F)0.000020

$D(GDP)_t = 3112.6 - 0.0857 ECT_{t-1} - 0.5586 GDP_{t-1} - 0.013814 MCAP_{t-1} + 236.13 TLS_{t-1} + 0.05085 TNI_{t-1} + 0.0405 VST_{t-1} + E_t$

The parsimonious model shows that the past values of real GDP, value of shares traded, market capitalisation and turnover ratios are positively and significantly impacting on the current value of growth of the real GDP. However the past values of the differences (changes) in these variables with the exception of value of share traded are significant but could not meet the a priori expectation. The coefficient of determination is highly significant and the overall regression is also significant. The error correction coefficient is expectedly negative and highly significant at both 1% and 5% levels. This shows that there is long run equilibrium or association between GDP and Capital Market Variables i.e at every 1 million increase in Capital Market Variable, GDP will increase by 0.085 million since the speed of adjustment to equilibrium is 0.0857.

Table 4 : Granger Causality

Null Hypothesis:	Obs	F-Stat	Prob
MCAP does not Granger Cause GDP	31	0.18602	0.8314
GDP does not Granger Cause MCAP		10.0447	0.0006
TLS does not Granger Cause GDP	31	1.93132	0.1652
GDP does not Granger Cause TLS		1.18970	0.3203
TNI does not Granger Cause GDP	31	0.86903	0.4312
GDP does not Granger Cause TNI		3.99657	0.0307
VST does not Granger Cause GDP	31	1.40032	0.2645
GDP does not Granger Cause VST		7.43046	0.0028
TLS does not Granger Cause MCAP	31	0.15931	0.8536
MCAP does not Granger Cause TLS		1.83329	0.1800
TNI does not Granger Cause MCAP	31	2.17089	0.1343
MCAP does not Granger Cause TNI		2.81788	0.0780
VST does not Granger Cause MCAP	31	11.3173	0.0003
MCAP does not Granger Cause VST		15.4726	4 E-05
TNI does not Granger Cause TLS	31	1.06634	0.3086
TLS does not Granger Cause TNI		2.13251	0.5566

Source: Authors Computation 2016.

The Granger causality results at lag 2 (presented in table 4) show that market capitalisation and value of shares traded granger causes real GDP with no reverse or feedback effect. The model is fit, non-spurious and does not have problem of serial correlation nor heteroskedacticity with reference to table 6 and 7 in the appendix.

5. CONCLUSION

This study investigated the impact of the capital market performance on the growth of Nigerian economy. The result shows that there exist a long run relationship between the growth of the economy proxied by gross domestic product and the capital market indicators. There exists three significant vectors or three different linear combinations of the capital market indicators that can drift together roughly at the same time with the GDP. The one period lag of the market capitalisation, new issues, value of shares traded and turnover ratio, all impact significantly on the growth of the GDP.

In addition, the results from causality test show that market capitalisation and value of shares traded, each drives real GDP with no reverse or feedback effect. Thus, the granger causality test supports the evidence of unidirectional causal link from capital market to gross domestic product. The economic implication of the finding suggests a need for more focus on the enhancement of the capital market so as to engender greater growth of the economy.

This could be achieved through enlightment campaign on the importance of the capital market to the industrialists/small scale investors and more relaxation of the stringment entry requirements of the companies into the Nigerian Stock Exchange.

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APPENDIX

Table 4: Lag Selection

Lag	Logl	LR	FPE	AIC	SC	HQ
0	-1808.51	205.2608	143e+48	125.097	125.3055	125.1435
1	-1679.11	84.78720*	1.31e+39*	102.3349*	107.2855*	118.3125
2	-1576.60	127.2544	6.21e+42	112.5239	115.1171	113.3361
3	-1532.53	39.50591	2.73e+42	111.2092	114.9810	103.8854*
4	-1378.86	205.2608	1.10e+45	117.8695	119.2839	113.3361

Table 6: Serial test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.069082	0.131285	0.526195	0.6064
C(2)	0.006189	0.012682	0.488016	0.6326
C(3)	0.820052	0.819209	1.001030	0.3327
C(4)	-1.257662	0.805440	-1.561461	0.1393
C(5)	0.004856	0.011984	0.405169	0.6911
C(6)	0.001614	0.012557	0.128521	0.8994
C(7)	0.085592	0.076867	1.113502	0.2830
C(8)	0.069682	0.067978	1.025067	0.3216
C(9)	-0.099087	0.103914	-0.953549	0.3554
C(10)	-0.055497	0.071363	-0.777664	0.4489
C(11)	-70.60456	295.5994	-0.238852	0.8145
C(12)	325.9038	343.2266	0.949530	0.3574

C(13)	5484.806	14470.05	0.379045	0.7100
RESID(-1)	-0.969029	0.834204	-1.161621	0.2635
RESID(-2)	0.987006	0.634852	1.554704	0.1409

Table 7 Heteroskedasticity test

Variable	Coefft	Std.Error	t-Stat.	Prob.
C	-31831288	1.89E+09	-0.016812	0.9868
GDP(-1)	5183.572	8470.759	0.611937	0.5504
TNI(-1)	-1135.129	2467.311	-0.460067	0.6525
VST(-1)	-244.4540	3302.260	-0.074026	0.9420
TLS(-1)	-746858.5	10930057	-0.068331	0.9465
MCAP(-1)	259.7777	686.6115	0.378347	0.7108
GDP(-2)	-6672.352	15537.25	-0.429442	0.6741
GDP(-3)	1114.976	12293.97	0.090693	0.9290
MCAP(-2)	-154.0661	389.7710	-0.395273	0.6986
MCAP(-3)	-389.4041	1018.575	-0.382303	0.7080
TNI(-2)	-132.8902	545.1612	-0.243763	0.8110
TNI(-3)	-411.7748	3358.753	-0.122598	0.9042
VST(-2)	1598.394	3205.349	0.498665	0.6258
VST(-3)	1790.632	3466.929	0.516489	0.6136
TLS(-2)	-4255133.	11011289	-0.386434	0.7050
TLS(-3)	6419536.	10409949	0.616673	0.5473

Graph 1: Normality Test

(Histogram of residuals)	Series: Residuals Sample 1984 2013 Observations 30 Mean -2.75e-11 Median -1931.201 Maximum 48494.39 Minimum -18155.72 Std. Dev. 13460.88 Skewness 1.953194 Kurtosis 7.618616 Jarque-Bera 45.73935 Probability 0.000000

Histogram x-axis: -20000, -10000, 0, 10000, 20000, 30000, 40000, 50000; y-axis: 0 to 8
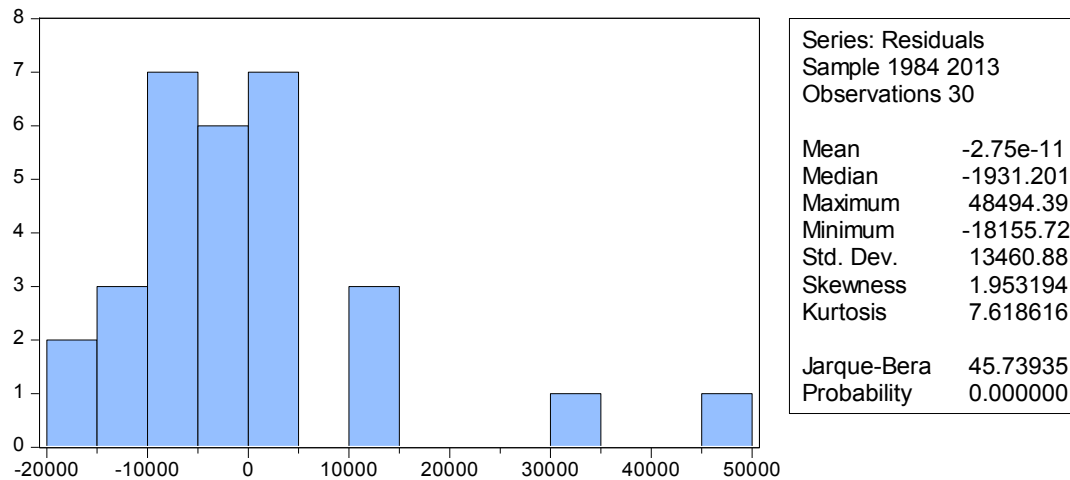
TABLE 8 UNIT ROOT ON MARKET CAPITALISATION

Null Hypothesis: D(MCAP) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.525690	0.0005
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

TABLE 9 UNIT ROOT ON GROSS DOMESTIC PRODUCT

Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.738624	0.0003
Test critical values:	1% level	-4.296729	
	5% level	-3.568379	
	10% level	-3.218382	

*MacKinnon (1996) one-sided p-values.

TABLE 10 UNIT ROOT ON TOTAL LISTED SHARES

Null Hypothesis: D(TLS) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.045847	0.0001
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

TABLE 11 UNIT ROOT ON TOTAL NEW ISSUES

Null Hypothesis: D(TNI) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 5 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.839322	0.0304
Test critical values: 1% level	-4.356068	
5% level	-3.595026	
10% level	-3.233456	

*MacKinnon (1996) one-sided p-values.

TABLE 12 UNIT ROOT ON VALUE OF THE SHARE TRADED

Null Hypothesis: D(VST) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 5 (Automatic – based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.528670	0.0005
Test critical values: 1% level	-4.296729	
5% level	-3.568379	
10% level	-3.218382	

*MacKinnon (1996) one-sided p-values.