RESPONSE OF THE NIGERIAN ECONOMY TO SHOCKS IN THE CAPITAL MARKET: AN EMPIRICAL ANALYSIS

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ABSTRACT

This paper undertakes an empirical examination of the response of Nigerian economy to capital market shocks from 1981 to 2016. Using proxies for capital market size as well as a proxy for economic growth, the paper adopts vector error correction model (VECM) through the analysis of impulse response functions (IRFs) and variance decompositions (VDCs). Barring one exception, the IRFs results revealed a positive response of the economy to capital shocks. While two capital market variables tended to significantly cause positive changes to the Nigerian economy, shocks to one other variable tended to generate negative macroeconomic response. The results of the VDCs revealed that the variations in macroeconomic growth were attributable to own shocks as well as shocks arising from three capital market variables. The implication of the results is that MCAP and ND are the key variables of the Nigerian stock market that have greater effect/ influence on Nigerian economy whereas VLT and LEGS have no effect on it. These results argue persuasively on the need to develop the capital market as a complement to economic growth and sustainable development in Nigeria.

Keywords: Shocks, Capital Market, Nigerian Economy

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1. INTRODUCTION

Recent research has emphasized the need for a better understanding of the link between the financial sector and the real economy. Whilst substantial effort has been devoted to this topic, many questions remain unsettled. One of the hotly debated areas is concerning the extent to which sudden changes in the capital market could explain the fluctuations in the real economy. In Nigeria, these changes do occur in capital market intermittently. Typical of such is the economic reforms of 2003 that earned Nigeria a BB-credit rating which, along with pension reforms, helped raise confidence in the country's capital market (Nwude, 2012). The banking sector reforms, which raised the minimum capitalisation requirements, also helped boost the market. Most Nigerian bank stocks recorded substantial increase in value, some of them more than quadrupling in value between 2004 and 2007.

The capital market thus became the haven for profit taking. From an all-time high of N13.5 trillion market capitalization in March 2008, the stock prices experienced a free-for-all downward movement to generate less than N4.6 trillion market capitalization by the second week of January 2009. However, in 2011 the market had been shocked by the loss of approximately N1.4 trillion in market capitalization (from N7.92 trillion at the end of 2010 to N6.54 trillion – a 17.42% drop). Likewise, after the declaration of the 2015 general election's winner in April, the Nigerian Stock Exchange All Share Index had posted 10 straight days of gain in what was rightly dubbed the "Bull-Hari effect". In August 2015, another shock hit the market where Investors lost N227.7 billion peg market capitalization at N10 trillion. Likewise, the market activity declined as value and volume traded shed 43.9 per cent and 25.5 per cent to N2.8 billion and 257.7million units respectively (Anaeto, 2015). In 2016, one more shock hit the market when the recent recession in the country bit harder. The market lost over N1.7tn with market capitalization for equities dropping from N11.66tn to N9.93tn. The All Share Index equally dropped from 34,310.37 points to 28,902.25 points. However, these sudden changes are known as shocks in the capital market. They often tend to have effects on the market's supply or demand and can be positive or negative. The positive shocks are expected to promote the economy while negative shocks retard it. Although, various studies have examined the intricate connection between capital market and economic growth in Nigeria, albeit, most of the studies heavily rely on relative/partial impact of capital market on Nigerian economy while the response of the economy to the shocks in such market has been neglected. Only very few if any have investigated the response of Nigerian economy to such shocks. To fill this gap, this paper sets out to examine the response of Nigerian economy to capital market shocks. The paper is structured into five parts; the introduction which is the exordium of the paper, literature review, methodology, results and discussion and lastly, conclusion.

2. LITERATURE REVIEW

The Collins Dictionary of Economics (2005) defines capital market as a market that deals in the buying and selling of company stocks and shares and government bonds. Additionally, Armstrong (1977) describes capital market as "a market wherein to buy and

sell the world's capitalized values". According to him, "it is the citadel of capital, the temple of values, and the axle on which the whole financial structure of the capitalist system revolves." Moreover, the purpose and duty of capital market is to organize security trading between suppliers and users of medium to long term capital for investment in the economy and thereby making long-term funds available from the surplus to the deficit economic units (Urban and Vincenzo, 1990; and Atoyebi *et al*., 2013). However, the performance of the economy is boosted when capital is supplied to productive economic units (Alile, 1997). Tobias and Danson (2011) argued that for a well-developed stock market, it is expected to theoretically increase savings by enhancing the set of financial securities available for savers to diversify their portfolios thus reducing risks and effectively allocating capital to the productive units in an efficient manner and the outcome from this will be an increase in the rate of economic growth. This shows that sudden fluctuations in the market are likely to affect the economy and these are known as capital market shocks. They are unexpected and unpredictable events that typically impact the market's supply or demand which could positively or negatively affect the economy. Lütkepohl (2008) is of the view that empirically the response of economic variables at the time of such shocks and at subsequent times can be measured by impulse response functions and therefore a VAR based analysis. This technique has been used by various researchers to ascertain whether capital market shocks do affect economy. Jordan (2006) examines the impact of financial development on economic growth in China from 1978 – 2001 using a vector autoregressive (VAR) approach. The variables availed included real GDP, total credit to the economy, labor force, net investment, and total trade. The results revealed that shocks in financial development moderately cause changes to Chinese economy. Umar (2008) studies the relationship between stock markets, banks and economic growth in South Africa from1983Q_1–2007Q_4 using structural vector autoregressive (SVAR) model. The variables used include real GDP, investment ratio, Bank credit to private sector, market capitalization, turnover ratio, and total value of shares traded. The results indicated that shocks in financial development had little effect in promoting South African economy. Mansor (2011) analyzes the stock market development and macroeconomic performance in Thailand from 1993 – 2007 using vector autoregressive (VAR) framework. The analysis consists of real GDP, market capitalization ratio, investment ratio, and the aggregate price level. The results indicated that shocks in market capitalization were sizeable in stimulating the economy of Thailand. Ibrahim *et al*. (2014) have examined capital market activities and economic growth in Nigeria from 1970 – 2010 using vector autoregressive (VAR) model. The variables used include real GDP, all share index and total value of transactions. Their findings revealed that the shocks in all share index and total value of transactions were significant determinants of economic growth in Nigeria, but with greater responses and impression from total value of transactions contributing astronomically to Nigerian economy. Although, the study is from Nigeria, it neglects the other integral components of capital market, namely market capitalization, number of deals, and total listed equities and government stocks. Ugochukwu and Eleanya (2014) have examined the long-run and causal relationship between stock market performance and economic growth in Nigeria from 1987Q_1 - 2012Q_4 using vector error correction model (VECM). The variables used include real GDP, inflation, investment ratio, savings ratio, turnover ratio, total value of shares traded ratio, market capitalization ratio, capital flows, and banking sector development. The results suggest that shocks from the stock market do not impede economic growth. This study also suffers from the same flaws as Ibrahim *et al*. (2014) for

not taking into account the key variables of the capital market such as number of deals, and total listed equities and government stocks. Osama (2015) investigates the stock market development and economic growth in Egypt from $2002Q_1$ to $2013Q_4$ using vector autoregressive (VAR) model. The variables used include Real GDP and FDI as proxies for economic growth, and stock market capitalization as a proxy for stock market development. Moreover, the study used the Real GDP as internal proxy and FDI as external proxy for growth respectively. The results revealed that shocks in the Egyptian stock market were weak, inefficient and did not contribute to economic growth of the country.

3. METHODOLOGY

3.1 The Model and Estimation Technique

The paper uses annual time series data from 1981 to 2016. The data was obtained from the Central Bank of Nigeria Statistical Bulletin (2016), Nigerian Stock Exchange Fact Book, and Securities and Exchange Commission database. The variables include Nigerian economy where real GDP(Y) was used as a proxy and capital market using market capitalization (MCAP) as a proxy, number of deals (ND), value of transactions (VLT), and total listed equities and government stocks (LEGS)).

3.2 Model Specification

It has been demonstrated that when a set of variables are of the order I(1) and cointegrated the unrestricted VAR is not appropriate but the restricted VAR also called "vector error correction model (VECM) would be a more appropriate technique to adopt. In this paper, since the variables are I(1) and cointegrated, the vector error correction model (VECM) was employed. It is noteworthy that the coefficients of the variables cannot be interpreted as measures of relative/partial effects since all variables are treated as endogenous as such, the impulse response functions (IRFs) and variance decompositions (VDCs) from the estimated VEC model will be used. The IRFs and VDCs analyses are based on the estimation of the following vector error correction model equations of order *p*:

$$lnY_t = \alpha_1 + \gamma_{11}ECM_{t-1} + \sum_{j=1}^{n-1}\beta_{ij}lnY_{t-j} + \sum_{j=1}^{n-1}\delta_{ij}lnMCAP_{t-j} + \sum_{j=1}^{n-1}\varphi_{ij}lnND_{t-j} + \sum_{j=1}^{n-1}\theta_{ij}lnVLT_{t-j} + \sum_{j=1}^{n-1}\lambda_{ij}lnLEGS_{t-j} + \varepsilon_{1t} \quad (1)$$

$$lnMCAP_t = \alpha_2 + \gamma_{21}ECM_{t-1} + \sum_{j=1}^{n-1}\beta_{ij}lnMCAP_{t-j} + \sum_{j=1}^{n-1}\delta_{ij}lnY_{t-j} + \sum_{j=1}^{n-1}\varphi_{ij}lnND_{t-j} + \sum_{j=1}^{n-1}\theta_{ij}lnVLT_{t-j} + \sum_{j=1}^{n-1}\lambda_{ij}lnLEGS_{t-j} + \varepsilon_{2t} \quad (2)$$

$$lnND_t = \alpha_3 + \gamma_{31}ECM_{t-1} + \sum_{j=1}^{n-1}\beta_{ij}lnND_{t-j} + \sum_{j=1}^{n-1}\delta_{ij}lnY_{t-j} + \sum_{j=1}^{n-1}\varphi_{ij}lnMCAP_{t-j} + \sum_{j=1}^{n-1}\theta_{ij}lnVLT_{t-j} + \sum_{j=1}^{n-1}\lambda_{ij}lnLEGS_{t-j} + \varepsilon_{3t} \quad (3)$$

$$lnVLT_t = \alpha_4 + \gamma_{41}ECM_{t-1} + \sum_{j=1}^{n-1}\beta_{ij}lnVLT_{t-j} + \sum_{j=1}^{n-1}\delta_{ij}lnY_{t-j} + \sum_{j=1}^{n-1}\varphi_{ij}lnMCAP_{t-j} + \sum_{j=1}^{n-1}\theta_{ij}lnND_{t-j} + \sum_{j=1}^{n-1}\lambda_{ij}lnLEGS_{t-j} + \varepsilon_{4t} \quad (4)$$

$$lnLEGS_t = \alpha_5 + \gamma_{51}ECM_{t-1} + \sum_{j=1}^{n-1}\beta_{ij}lnLEGS_{t-j} + \sum_{j=1}^{n-1}\delta_{ij}lnY_{t-j} + \sum_{j=1}^{n-1}\varphi_{ij}lnMCAP_{t-j} + \sum_{j=1}^{n-1}\theta_{ij}lnND_{t-j} + \sum_{j=1}^{n-1}\lambda_{ij}lnVLT_{t-j} + \varepsilon_{5t} \quad (5)$$

where ln is the natural logarithm,α is constant, ECM_{t-1} is the one-period lagged error term of the cointegrating equation,$\beta, \delta, \varphi, \theta,$ and $\lambda$are the unknown parameters, *n* is the number of lags, ε_{it} is the stochastic error term which is assumed to be a white noise

process while lnY, $lnMCAP$, $lnND$, $lnVLT$ and $lnLEGS$ are the log of market capitalization, number of deals, value of transactions, and total listed equities and government stocks.

3.2 Estimation Procedure

To ascertain the order of integration of the series and to know whether Johansen approach is appropriate, we carry out unit root testing, the estimation will start by estimating the unit root test through the use of Dickey-Fuller Generalized Least Squares (DF-GLS) technique. However, the unit root test for a variable *X* is carried out using the following specification:

$$\Delta X_t = \beta_0 + \beta_{1t} + \beta_2 X_{t-1} + \sum_{i=0}^{p} \psi_i \Delta X_{t-i} + \varepsilon_t \quad (6)$$

After the unit root testis the cointegration test. To test for the cointegration among the five time series variables, the study implements the Johansen (1988) cointegration test and the test rests on the following equation.

$$\Delta y_t = \alpha_o + \alpha_{t-1} + \sum_{i=2}^{p} \alpha_i \Delta y_{t-I} + \varepsilon_t \quad (7)$$

where a = – 1 $\left[- \sum_{i=2}^{p} \alpha_i, \right] \beta_i = \sum_{i=2}^{p} \alpha_j,$

The number of cointegrating vectors (r) is determined by the maximal eigenvalue and trace tests (Rautava, 2004). Both tests are based on the likelihood ratio statistic. When λ trace and λ max conflict, we should choose the number of the cointegrating vector based on λ max, because the λ max test has the sharper alternative hypothesis (Hodo *et al*., 2013).

4. RESULTS AND DISCUSSION

4.1 Unit Roots and Lag Selection

This section presents the unit root test results, lag selection order, Johansen cointegration test results and the results of impulse response functions and variance decompositions.

Table 1: Test for Stationarity at Level and First Difference

Variables	Level		First Difference		Order
	Constant	Constant & Trend	Constant	Constant & Trend	
lnY_t	-0.269917[1]	-1.785078[1]	-2.653417[0]*	-3.260595[0]**	I(1)
$lnMCAP_t$	0.016147[1]	-1.536486[0]	-4.102792[0]*	-4.430051[0]*	I(1)
$lnND_t$	-0.339607[0]	-1.366368[0]	-5.692074[0]*	-6.016316[0]*	I(1)
$lnVLT_t$	-0.269985[1]	-1.515935[0]	-4.414505[0]*	-5.056315[0]*	I(1)
lnLEGSt	-1.493962[0]	-1.948998[0]	-5.956861[0]*	-6.803119[0]*	I(1)

Note: the DF-GLS null hypothesis is that the variable has a unit root. * and ** denote significance at 1% and 5% level respectively based on Mackinon's critical values. [ ] show lag specification.

The results of the Dickey-Fuller Generalized Least Squares (DF-GLS) unit root test reported in Table 1 (tests at level and first difference) shows that all the variables are not stationarity at level but stationary at first difference. Hence, the variables are integrated of order 1. Table 2 below reports the result for lag length selection. All the criteria indicate lag 1 as the VAR optimal lag.

Table 2: Lag Selection Criterion

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-67.11205	NA	4.79e-05	4.241885	4.466350	4.318434
1	116.9069	303.0899*	4.22e-09*	-5.112168*	-3.765379*	-4.652874*
2	137.5565	27.93774	6.04e-09	-4.856264	-2.387151	-4.014226

* indicates lag order selected by the criterion

Table 3 below reports the results for Johansen cointegration test. From the table, it can be observed that the trace test indicates 3 cointegrating equations while the max-eigenvalue test indicates 1 cointegrating equation at the 0.05 level. This shows that the λ trace and λ max statistics conflict, thus, the paper will choose the number of the cointegration vector based on λ max, because the λ max test has the sharper alternative hypothesis, hence there is one cointegrating vector and it can be concluded that there is cointegration among the variables.

Table 3: The Johansen Cointegration Test Result

		Rank Test (Trace)			**Rank Test (Maximum Eigenvalue)**		
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None*	0.787443	106.5665	69.81889	0.0000	51.10204	33.87687	0.0002
At most 1 *	0.501954	55.46444	47.85613	0.0082	23.00307	27.58434	0.1733
At most 2 *	0.417790	32.46138	29.79707	0.0241	17.85052	21.13162	0.1355
At most 3 *	0.276103	14.61085	15.49471	0.0676	10.66252	14.26460	0.1720
At most 4 *	0.112766	3.948328	3.841466	0.0469	3.948328	3.841466	0.0469

Moreover, since there is only one cointegrating vector from the Johansen cointegration framework, only normalisation restriction is imposed and to examine the long-run causality between Nigerian economy and capital market variables, normalisation restriction on the Nigerian economy was imposed.

The long-run coefficients of the cointegrating vector normalised on Nigerian economy is presented in Table 4.

Table 4: Long-Run Coefficient of the Cointegrating Vector Normalised on lnY

lnY	CONSTANT	lnMCAP	lnND	lnVLT	lnLEGS
	-24.34433	-0.125730**	-0.015274	-0.042630	1.538815*
		(0.05959)	(0.07116)	(0.06143)	(0.36378)
		[-2.11004]	[-0.21463]	[-0.69398]	[4.23006]

* and ** indicate 1% and 5% level of significance respectively. Figures in parentheses are standard error and that in square bracket is t-values. Note that the rule of interpreting the long run coefficients obtained using Eviews is to be interpreted in opposite sign; if you get a (-)ve sign, you are to interpret the result as (+)ve sign and vice-versa.

The cointegration equation results in Table 4 indicate that in the long run *MCAP* is positively related to *Y* where a 1% increase in *MCAP* will lead to 0.13% increase in *Y* and is statistically significant at 5% level. The *ND* and *Y* are positively related where a 1% increase in *ND* causes 0.02% increase in *Y* but is statistically insignificant. The link between *VLT* and *Y* is positive where a 1% increase in *VLT* induces 0.04% increase in Nigerian economy while the relationship between *LEGS* and *Y* is negative where a 1% increase in LEGS causes a decrease in Nigerian economy by 1.5% and is statistically significant at 1% level.

The implication of the cointegration equation results is that market capitalization in Nigeria engenders positive growth in the economy but number of deals and value of transactions do not seem to contribute significantly to changes in the growth of Nigerian economy while total listed equities and government stocks seem to encumber it.

With cointegration, the dynamic causal interactions among the variables should be phrased in a vector error correction form. This allows us to assess both the long run and short run causality. The VECM causality test results are presented in Table 5.

Table 5: VECM-Granger non causality Test

Panel A: Short Run Non-Causality and Strong Exogeneity Test Results

Hypothesis	Short Run Non-Causality	Strong Exogeneity
Ho: ΔMCAP → ΔY	$\delta_{ij} = 0$	$\gamma_{11} = \delta_{ij} = 0$
χ^2	0.038202(1)	0.383120(2)**
Ho: ΔY → ΔMCAP	$\beta_{ij} = 0$	$\beta_{ij} = \gamma_{21} = 0$
χ^2	1.407792(1)	0.432662(2)
Ho: ΔND → ΔY	$\varphi_{ij} = 0$	$\varphi_{ij} = \gamma_{11} = 0$
χ^2	2.409904(1)	0.466342(2)
Ho: Δ Y → ΔND	$\beta_{ij} = 0$	$\beta_{ij} = \gamma_{31} = 0$
χ^2	0.000657(1)	2.409888(2)
Ho: ΔVLT → ΔY	$\theta_{ij} = 0$	$\theta_{ij} = \gamma_{11} = 0$
χ^2	1.766241(1)	1.209881(2)
Ho: Δ Y → ΔVLT	$\beta_{ij} = 0$	$\beta_{ij} = \gamma_{41} = 0$
χ^2	0.735427(1)	3.319848(2)
Ho: ΔLEGS → ΔY	$\lambda_{ij} = 0$	$\lambda_{ij} = \gamma_{11} = 0$
χ^2	0.560536(1)	2.901161(2)
Ho: Δ Y → ΔLEGS	$\beta_{ij} = 0$	$\beta_{ij} = \gamma_{51} = 0$
χ^2	2.941841(1)	1.159449(2)

Panel B: Results of the Vector Error Correction Model

Error Correction:	D(LOGY)	D(LOGMCAP)	D(LOGND)	D(LOGVLT)	D(LOGLEGS)
ECT	-0.123390*	-0.059097	-0.129630	0.378448	-0.762177

	(0.020012)	(0.04937)	(0.41264)	(0.44373)	(0.46541)
	[-6.16580]	[-1.19710]	[-0.31415]	[0.85288]	[-1.63763]

*and** indicate significance at1% and 5%. The numbers in parenthesis indicate the standard errors while the square bracket indicates t-statistic.

Panel *A* of Table 5 reports the results of the vector error correction model with all the market variables. The results indicate that some variables should be treated as weakly exogenous in the model. Furthermore, it is clear that in the short run, capital market variables in the system do not Granger cause Nigerian economy and that the null hypothesis *MCAP* does not Granger cause *Y* is rejected at the 5% level of significance. On the other hand, Panel *B* of Table 5 reveals evidence of unidirectional causality between *Y* and capital market variables in the system in the long run and is significant at 1% level.

Table 6: Stability Test (AR Root Table)

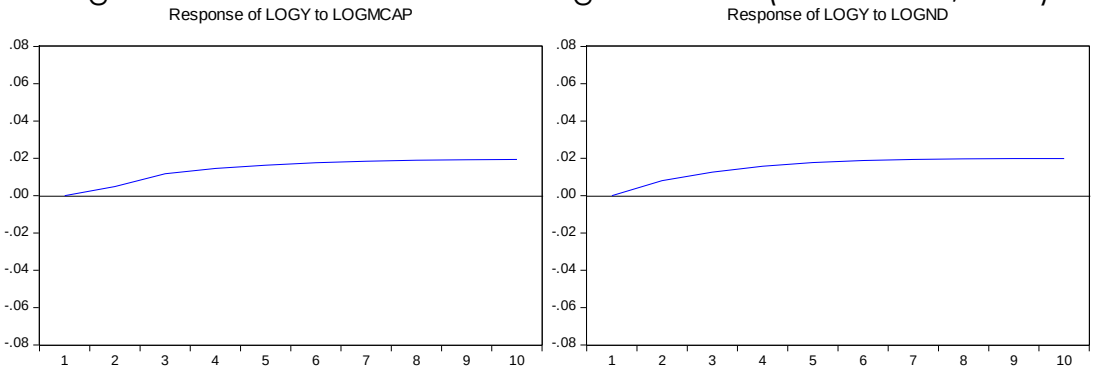
Root	Modulus
0.950233 - 0.082843i	0.953838
0.950233 + 0.082843i	0.953838
0.884194 - 0.305698i	0.935548
0.884194 + 0.305698i	0.935548
0.287277 - 0.496340i	0.573481

No root lies outside the unit circle.

The paper employed the AR root stability test to ensure the reliability of the estimated model. The model is stable if all roots have modulus less than one and lie inside the unit circle. The result of AR root stability test of the estimated VECM satisfies the stability condition as shown in Table 6.

4.2 Generalized Impulse Response Functions (IRFs)

Impulse response functions are dynamic simulations showing the response of an endogenous variable over time to a given shock (Hodo *et al*., 2013).



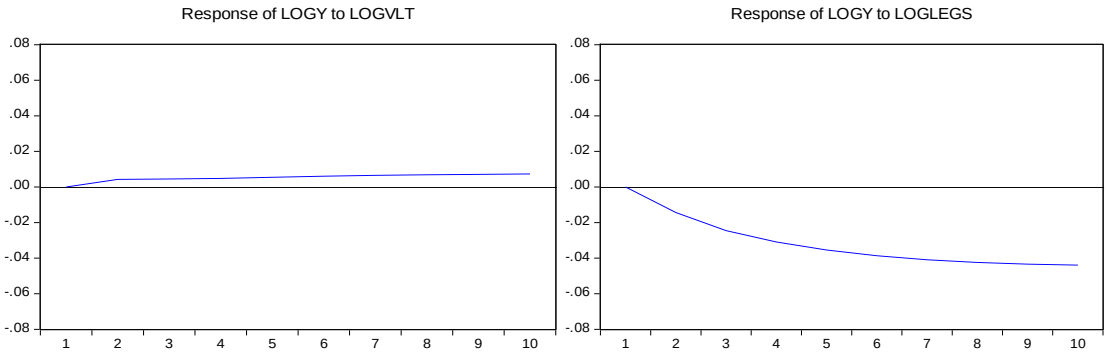


Figure 1 shows the response of Nigerian economy (Log Y) to a one time shock in market capitalization (Log MCAP), number of deals (Log ND), value of transactions (Log VLT), total listed equities and government stocks(Log LEGS) for a 10-year horizon.

Figure 1 shows the impulse response functions of Nigerian economy to the shocks from capital market variables, namely market capitalization, number of deals, volume of transactions, and total listed equities and government stocks over a 10 year period horizon. The horizontal axis indicates time /period horizon and the vertical axis indicates the response of the variables to the shocks. It can be seen that the response of the Nigerian economy to one standard deviation shock to Market capitalization is both positive and significant from the first to the tenth year period horizon. The shock continues to rise up to the ninth year and then became steady in the remaining part of the period. This suggests that shock in market capitalization has had significant effect on the Nigerian economy at that time horizon. Nonetheless, the response of Nigerian economy to one standard deviation shock to number of deals was also positive and significant throughout the 10 years horizon. The shock remained positive and significant up to the ninth year then leveled for the remaining period. This explains that shocks in the number of deals had induced a rise in the growth rate of the economy over the time horizon. The response of Nigerian economy to the value of transactions has also been found to be positive throughout the 10 years horizon but is not significant. This suggests that shocks in the value of transactions are weak in causing changes to Nigerian economy. The response of Nigerian economy to total listed equities and government stocks has been found to be negative and significant throughout the 10 years horizon. The shock had risen significantly up to the tenth year. This suggests that shocks in total listed equities and government stocks resulted in decrease in the growth of Nigerian economy.

In a nutshell, Nigerian economy has been observed to respond positively to shocks in all the Nigerian stock market variables except shocks to listed equities and government stocks.

4.3 Variance Decompositions (VDCs)

Variance decompositions analysis provides information about the proportion of the shock that is due to each variable / relative importance of each shock in affecting the variables within the VAR system. In other words, it shows the contribution of the variance in the forecast error for each variable to shocks to all variables in the system (Enders, 1995). The results of the variance decomposition are reported in Table 4 below. The table shows the contribution of each variable to its own as well as its contribution to the shocks in other variables of the VAR system. In other words, the variance decomposition also

known as forecast error variance decomposition, does provide an explanation of the proportion of the shocks that are due to the variables' own shocks as well as shocks to other variables within the VAR framework. In this paper, this explanation is provided for 10 years period horizon.

Table 6: Variance Decompositions

Log Y

Period	S.E.	LOGY	LOGMCAP	LOGND	LOGVLT	LOGLEGS
1	0.035351	100.0000	0.000000	0.000000	0.000000	0.000000
5	0.143844	78.07638	3.095554	3.806197	0.444748	14.57713
10	0.227016	**66.59918**	4.662022	5.231047	0.625425	22.88232

Log MCAP

Period	S.E.	LOGY	LOGMCAP	LOGND	LOGVLT	LOGLEGS
1	0.295488	1.345726	98.65427	0.000000	0.000000	0.000000
5	0.789377	5.290356	92.10853	1.126791	1.313050	0.161274
10	1.136117	8.682309	**88.48510**	1.081941	1.580610	0.170039

Log ND

Period	S.E.	LOGY	LOGMCAP	LOGND	LOGVLT	LOGLEGS
1	0.351895	1.175472	11.36852	87.45601	0.000000	0.000000
5	0.891651	1.555316	42.09218	48.89698	0.363915	7.091607
10	1.342315	6.276122	41.19968	**41.96355**	0.191837	10.36881

Log VLT

Period	S.E.	LOGY	LOGMCAP	LOGND	LOGVLT	LOGLEGS
1	0.395037	8.388585	27.47979	3.843199	60.28843	0.000000
5	1.341677	4.689534	65.74559	0.610072	19.29755	9.657258
10	1.952213	5.793212	66.08226	0.353635	**17.35054**	10.42035

Log LEGS

Period	S.E.	LOGY	LOGMCAP	LOGND	LOGVLT	LOGLEGS
1	0.056809	2.680232	9.230014	1.051542	5.215472	81.82274
5	0.108621	5.593471	35.47809	6.255415	2.033407	50.63961
10	0.154248	16.47851	39.55543	6.634526	1.150948	**36.18059**

From Table 6 above, it is clear that the huge preponderance of the proportions of the shocks were due to the variables' own shock except in the case of *ND*, *VLT* and *LEGS*. In other words, the greatest share of *Y* and *MCAP* shocks stemmed from the variables themselves not from one variable to another i.e. each variable contributed the largest share of the shocks to itself. In particular, the variance decomposition of *Y* revealed that the variation in *Y* is due to its own shock followed by a shock to LEGS, ND, MCAP, with the VLT variable contributing very negligible proportion of the shocks.

5. CONCLUSION AND RECOMMENDATIONS

The ultimate goal of this paper is to empirically examine the response of Nigerian economy to capital market shocks in Nigeria from 1981 to 2016 using vector error correction model through the analyses of impulse response functions (IRFs) and variance decompositions (VDCs). The results of the IRFs revealed that the response of Nigerian economy to the shocks in all the market variables is positive except that of total listed equities and government stocks which is negative where only the shocks to market capitalization and number of deals are significant in causing positive changes to Nigerian economy but value of transactions is neutral while shocks to total listed equities and government stocks revealed evidence of retarding effect on it. The results of the VDCs revealed that the variation in Nigerian economy is due to its own shock followed by a shock to total listed equities and government stocks, number of deals, market capitalization, with the value of transactions contributing very negligible proportion of the shocks.

The policy implication of these results is that the key variables of the Nigerian stock market, namely market capitalization and number of deals are the variables that seem to have greater influence on the economy since the response of the growth variable of the economy i.e. real GDP has been found to be positive and significant to the shocks in these variables. Hence, any developments on the Nigerian stock market that could affect these variables could also be deemed as capable of affecting the economy as a whole. This further corroborates the fact embedded in the finance literature on the positive link between financial development and growth of an economy.

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