

Analysis and responses of Stock and Capital market on Nigerian Economic growth: Structural Vector Autoregressive (SVAR) model

Ali Salisu

Department of Economics, faculty of Social Sciences, Bayero University, Kano
alisalisubeto@gmail.com

Wali Sallau Abba

Department of Finance, Bayero University, Kano

Mu'azu Yunusa Riruwai

Faculty of Economics and Management Sciences, Bayero University, Kano

Abstract

The stock market development is an important part of the economy of any country. It plays a crucial role in the growth of the industry as well as commerce that ultimately affects the economy of a particular nation to a great extent. The study examines the responses of Stock and Capital market on Nigerian Economic growth using quarterly data from 2000Q1 to 2021Q4. The Zivot-Andrew unit root test indicates that real gross domestic product and all share index are integrated of order one while market capitalization, stock value traded and private investment are integrated of order zero. The study employed Structural VAR model, the results from the impulse response functions revealed that, market capitalization, all share index and stock value traded transmit positive shocks to real growth domestic product in Nigeria while Private investment transmits negative shocks to real growth domestic product in Nigeria. Therefore, the study concludes that stock and capital market transmit positive shock to economic growth in Nigeria. The study recommends that the regulatory agencies in the capital market should be focused on enhancing the efficiency and transparency of the market in order to improve investors' confidence. Government should be an efficient of macroeconomic variables in order to strengthen the performance of capital market so as to achieved economic growth.

Keywords: Market Capitalization, All share index, Private investment, Economic growth,
JEL Classification: G10, G12, E22, O40

1 Introduction

The stock market development is an important part of the economy of any country. It plays a crucial role in the growth of the industry as well as commerce that ultimately affects the economy of a particular nation to a great extent. For this reason, the government, central banks and industrial sectors of any country keep a very close watch on the activities of the stock market (Kisang, Kogei & Ochieng, 2017). The stock market remains one of the most key sources where companies can raise funds. This allows firms to be publicly listed and have their stocks traded publicly on the floor of the Nigerian Stock Exchange. The stock markets are vital for economic growth as they ensure the flow of needed resources to the most productive investment opportunities. However, with developments in economic growth theory, there has been a change in the focus of growth dynamics from the traditional elements (like capital, technology and labour) to other determinants that might also impact the growth process. These other factors comprise stock market development, macroeconomic factors, foreign direct investment, and political stability among

others. Stock market development facilitates the allocation of capital, hence enhancing the prospects of long-term growth of the economy. A liquid and efficient stock market development offer the potential for investors to effectively spread their portfolios thereby mitigating the possible risks associated with their investment, thus, facilitating investments in projects that are more rewarding and profitable (Ezeabisili & Alajekwe, 2012). Stock market provides the bridge through which the savings of surplus units may be transformed into medium and long-term investments in the deficits units. It is reported to perform critical functions, which promote economic growth and prospects of the economy. Recent studies suggest that, over the past decades, stock market liquidity has been a catalyst for long-run growth in developing countries. Without a liquid stock market, many profitable long – term investments would not be undertaken because savers would be reluctant to tie up their investments for long periods of time. In contrast, a liquid market allows savers to sell their shares easily, thereby permitting firms to raise equity capital on favourable terms (Adenuga, 2010). Without a liquid stock market, numerous profitable long-term investments would not be ignored because savers would be unwilling to tie up their investments for longer periods (Okonkwo, Ogwuru & Ajudua, 2014). Azam, et al. (2016) argue that the existence of a stable and dynamic stock market is essential in driving the rate of economic growth. (Forson and Janrattanagul, 2013) also contend that stock markets play a pivotal role in boosting the growth of an economy by increasing liquidity and making capital available for private and corporate investors which would essentially stimulate economic development. Stock price movements are basically random, with prices adjusting swiftly in response to economic news as well as expectations. Economic growth is contingent on productive investment and the financing of such productive activities can be obtained through two channels: via capital markets or banks. If these channels are themselves feeble, then they disconnect the intermediation process and thus impede economic growth. The capital market is a network of institutions, persons, and tools that interact in a process that pools medium and long-term money from surplus sectors of the economy and distributes them to productive sectors of the economy through intermediaries, all within a regulated framework. It is the method through which economic units seeking to invest surplus cash engage with those seeking funding for their businesses, either directly or through financial intermediaries (Eniekezimene & Opuofoni, 2024). The main objective of this study is to examines the responses of Stock and Capital market on Nigerian Economic growth. The rest of the paper is organized as follows: literature review which is the second part of the paper, methodology in which the objectives of the paper could be achieved and is the third part of the paper, part four of the paper is presentation and analysis of the empirical findings and the final section concludes the paper.

2.1 Theoretical framework

Financial Intermediary Theory

The term "financial intermediation" was first used formally in the writings of Goldsmith (1969), Shaw (1973), and Mckinnon (1973). According to Goldsmith (1969), a nation's level of growth and financial development are directly related. In his research, Mckinnon (1973) suggested that the demand for money reflects the complementary link between physical capital and money. Through financial intermediation, the process of building up physical capital is closely related to the need for money. Shaw (1973) put forth the Financial Intermediary Theory, which holds that there is financial intermediation between investors and money savers. The idea also states that financial intermediation promotes financial development and liberalization. Because there is more credit available, it also makes saving and investing more appealing and ultimately determines how

the economy grows and develops. The Financial Intermediary theory was adopted for this study as it is more applicable and encompassing of the variables under consideration. It relates financial development through mediums such as the Capital Market to economic growth.

2.2 Empirical literature

Eniekezimene and Opuofoni (2024) looked at the influence of the capital market on economic growth in Nigeria between 1981 and 2022, using vector autoregressive (VAR) analysis. The variables used included: real gross domestic product (RGDP), market capitalization (MCAP), total value of securities traded (TVST), and gross fixed capital formation (GFCF). The study concluded that while RGDP and MCAP influenced their own outcome as well as the outcome of other variables positively in both the short and long run, TVST and GFCF influenced their own outcome as well as the outcome of other variables negatively in both the short and long run, using the VAR system tools of impulse response function and forecast error variance decomposition. Based on the findings of this study, we recommended among others the urgent need to boost the perception of local firms listed in the Nigerian stock exchange both locally and internationally in terms of the total value of their corporate assets and performance measured by price-to-earnings, price-to-sales and return-on-equity metrics. This can be improved upon when these firms are able to increase the quality of their products and services thereby making them better competitors in the global space.

Haladu and Salisu (2023) examined the long-run asymmetric relationship between stock market development and poverty in Nigeria using annual time series data from 1985 to 2021. The study used nonlinear autoregressive lagged (NARDL) model. According to the Zivot and Andrews unit root test, elements like poverty reduction and market capitalization are integrated of order one while government expenditure is integrated of order zero. The results of non-linear ARDL model shows that market capitalization has a positive effect on the poverty in Nigeria, government expenditure indicates negative and statistically significant effect on the poverty in Nigeria. Therefore, the current study concludes that stock market development has a positive effect on poverty rate in Nigeria. The study recommends that Nigerian government should administer programs that will raise domestic investment in stock markets and reduce the degree of poverty in Nigeria, Government should formulate policies that would encourage foreign and domestic investors to participate in the stock market and further development of the stock market should be made by so doing more investors will be attracted and ultimately enhance private investment in the economy and finally minimize the level of poverty in the country, efforts should be emphasize in the area of enhancing stock market in Nigeria.

Ali and Adahama (2023) examined the relationship between stock market development and monetary policy on economic growth in the major oil producing African countries namely Nigeria, Angola, Algeria and Libya. The panel unit root tests show that real gross domestic product, market capitalization and interest rate are integrated of order one while money supply is integrated of order zero. The fixed effect model shows that market capitalization, money supply and interest rate have positive and statistically significant effect on the real gross domestic product in Nigeria, Angola, Algeria and Libya. The study concludes that stock market development has a positive effect on economic growth in the selected African countries and monetary policy has a positive effect on economic growth in the selected African countries. The recommends that African countries especially Nigeria, Angola, Algeria and Libya should advance buying and selling of stock by encouraging more companies and securities to be listed in the stock exchange for more equity capitalization and finally this could lead to increase in economic growth in their region,

expansionary monetary policy should have implemented in African countries in order to boost economic variables and achieved higher economic growth. Eje and Chude (2022) investigated Nigerian stock market performance and economic growth: an error correction model (ECM) approach using time series data from the Central Bank of Nigeria (CBN) Statistical Bulletin. The study employed the error correction model (ECM) technique in estimating our specified models. We specifically investigated both the direction and magnitude of the impact of stock market performance (as proxied by market capitalisation, stock market turnover and stock market returns) on economic growth over the sample period covered by the study. Findings indicate that market capitalisation had a positive and significant impact on economic growth in Nigeria. Similarly, the stock market turnover ratio and stock market returns were found to exert a positive and significant influence on economic growth. We, therefore, infer that the respective outcomes of stock market performance support the position of theoretical expectation that stock market performance should be positively related to economic growth. Moreover, for each of our estimated models, we found that stock market performance is jointly significant in explaining economic growth in Nigeria over the period of the study.

Churchill, Arhenful and Agbodohuhu (2022) in their own research effort, studied the relationship between capital market and economic growth in Ghana using a four-month periodic time series from January to April. The study used Johansen multivariate integration strategies with error correction method to monitor the length of the operation and the relationship with the short-term variability of the variants. However, the Granger-causality standard was used to determine the association between the variables. The study found that economic growth, real estate prices, real estate investment has a positive effect on the development of Ghanaian businesses. The results of the Granger-causality test also indicate that economic growth leads to a commodity capitalization (commodity market development) without any response supporting the “following demand” hypothesis. The study concludes that despite Ghana's financial reforms it is new, neglected and with considerable attention, it has the potential to mobilize both domestic stocks and foreign capital for future investment. Dabo (2022) examined the impact of capitalization of the Nigerian capital market on the growth of the Nigerian economy. The study utilized the annual time series from 2011 to 2022 collected from the Annual Report and the Statement of the Nigerian Stock Exchange and the Central Bank of Nigeria Statistics Bulletin Annual Report in a statement of the Nigerian Stock Exchange. A qualitative study on the calculation of the relationship between Nigerian capital and economic development in Nigeria was adopted and the results show that, there is a reason for disagreement between the market capitalization and economic growth, ranging from GDP growth (MCAP) at 5 percent significant level. The author concludes that the Nigerian capital market should generate more trust in investors and recommended that more should be done in terms of transparency and accountability which are necessary for key support and growth in economic development in the country.

Ogunleye and Adeyemi (2022) examined the impact of stock market development on economic growth. Cointegration Analysis and Error Correlation Mechanism were adopted as the estimating techniques to verify the existence of long-run relationship between stock market development and economic growth. Questionnaires were administered to assess the investor's confidence in the Nigerian stock exchange and to authenticate the impact of stock market development on economic growth in the period under review. The empirical results revealed that there is existence of long-run relationship between stock market development and economic growth in Nigeria. The findings concluded that there is positive relationship between market capitalization and money supply with

economic growth while total value traded, turnover ratio and gross capital formation have inverse relationship with the growth. Also, market capitalization is highly significant and appears to be the major stock market indicator. Based on these findings government should address the shortage of investment assets through effective policy measures that enhance the performance of stock market in Nigeria and to restore confidence of the investors. Gwaison, Maimako, and Mwolchet (2020) examined the impact of capital market on economic growth in Nigeria from 1981 to 2018. The expo facto research design was adopted for this study. The time series data for the study were sourced from CBN statistical bulletin. Autoregressive Distributed Lag (ARDL) was used with the aid of e-view 10 software. The ARDL Bounds test revealed the existence of long run relationship among the variables. The result revealed that market capitalization has positive and insignificant effects on economic growth both in the short and long run. There is unidirectional causality among the variables. The study recommended that, regulatory authorities should restore confidence to the market by ensuring transparency and fair trading dealings and transactions in the market to enhance economic growth. There should be improvement in the moribund market capitalization, by encouraging more foreign investors to participate in the market, maintain state of the art technology like automated trading and settlement practices, electronic fund clearance and eliminate physical transfer of shares.

Aminu (2020) investigated the impact of capital market on economic growth in Nigeria utilizing the Autoregressive Distributed Lag (ARDL) Model of cointegration covering the period 1980 to 2018. The findings reveal that capital market has direct positive and significant effect on the growth of the Nigerian economy over the sampled period both in the short run and in the long-run. The paper recommends that in order to boost the economy through the capital market, Nigeria would need to work on policy frameworks that will provide suitable environment for diversified investment instruments in the capital market whereby debt and derivative instruments will assume as much prominence as ownership instruments; relevant regulatory agencies in the capital market should be focused on enhancing the efficiency and transparency of the market in order to improve investors' confidence; and there is the need for an effective macroeconomic environment to facilitate the causality from stock market to economic growth. Idris (2020) examined the impact of capital market development on economic growth in Nigeria using annual data covering the period of 1981 to 2019. The analysis involves evaluating the stochastic characteristics of each variable under consideration by testing their stationary property and further estimates the model using ordinary least square technique, Johansen cointegration test and Granger causality test. Findings reveal the existence of a positive and longrun relationship between capital market development and economic growth in Nigeria. Further result from ganger causality test indicates the presence of a unidirectional causality running from capital market to economic growth for the period under consideration. In lieu of that, there is need to make provision for modern facilities in the capital market targeted towards encouraging foreign investors by maintaining state of the art technological services. More so, there is need for Nigeria to develop a capital market that is effective and efficient, by expanding access to credit and financial services, encourage long-term savings mobilisation and long-term capital for investment.

Manasseh, Ogbuabor, Anumudu, Abada, Okolie and Okoro (2018) examined the causal relationship between stock market development, financial sector reform and economic growth in Nigeria, using Vector autoregressive and error correction model for the analysis. We observed bidirectional causality between stock market development and economic growth, along with financial sector reform and economic growth. This implies that stock market development and

economic growth and; financial sector development and economic growth promote each other. More so, the findings reveal a unidirectional causality running from financial sector reform to stock market development. Hence, there is an evidence of positive long-run relationship between the variables of cointegrating equations. Furthermore, more inquiries on the relationship between business environment, legal framework and stock market development, show a positive long run relationship between the variables of the cointegrating vectors, suggesting that good business environment and quality legal framework could be a prerequisite for stock market development through confidence building and investors protection. Anigbogu and Nduka (2014) examined the long-run and causal relationship between stock market performance and economic growth in Nigeria for the period from 1987Q1 to 2012Q4 inclusive. The study employs the Augmented Dickey Fuller test for unit root, the Johansen (1995) Maximum Likelihood cointegration technique and Vector Error Correction Model framework to capture long-run and short-run relationships in the cointegrating vectors of Nigerian stock market and economic growth. The study further employs Granger (1969) Causality, Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) to capture shocks transmission and AR root graph for stability. The optimum lag length was selected based on the Schwartz and Hannan-Quin information criteria. The results of the cointegration test confirm that there exists a long-run relationship between stock market performance and economic growth, while the causality test results suggest that stock market performance causes economic growth with feedback. The Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) suggest that shocks from the stock market do not impede economic growth. Furthermore, the result of the AR root graph indicates that the Nigerian stock exchange market is not stable. Hence, the current reforms and policies going on in the Nigerian stock exchange should be sustained to boost investors' confidence and participation. Keywords: Stability, Stock, Market, Economic, Growth, Relationship, Causality, Impulse.

Adenuga (2010) explored the hypothesis that stock market development promotes economic growth in Nigeria and attempts to confirm its validity or otherwise, using quarterly data from 1990Q1 to 2009Q4 for Nigeria by employing vector error correction model (VECM) technique on the commonly used stock market development indicators. From the result, the model for the total value of shares traded ratio (vr) has the best fit followed by the market capitalization ratio (mcr) model while the model for the turnover ratio (tr) lagged behind. The results for mcr and vr are analysed in this paper, as they performed better than the model for tr. From the result, it was revealed that the coefficient of the error correction term ECM (-1) carries the expected negative sign and is highly significant at 1.0 per cent level. The model validates the hypothesis that the stock market promotes economic growth in Nigeria during the period of analysis. The F-test statistic of 10.88 shows the overall model fit is significant at 1.0 per cent. Similarly, the vr model shows that the ECM (-1) has the expected negative sign and significant at 1.0 per cent. The model favours the proposed direct relationship between stock market indicators and economic growth in Nigeria during the period of analysis. The F-test statistic of 13.39 shows that the overall model fit is significant at 1.0 per cent.

2.3 Literature gap

Most of the literature reviewed concentrated on the relationship between stock market on economic growth in Nigeria and other countries in the world. In view of the above the current study examines

the responses of Stock and Capital market on Nigerian Economic growth and also employed unit root test with break which none of the previous studies considered it.

3 Methodology

3.1 model specification

The model of the study is adopted from the work of Eniekezimene et al, (2024) and Manasseh et al, (2018) is shown as

$$RGDP = F(MC, INTR, MS) \quad (3.1)$$

The model is specified as

$$RGDP = F(MC, ASI, SVT \text{ and } PI) \quad (3.2)$$

Where:

RGDP = Real gross domestic product measured as economic growth.

MC = Market capitalization measured in Naira.

ASI = The all share index measured in Naira.

SVT = Stock value traded measure as Stocks traded, turnover ratio of domestic shares (%)

PI = Private investment

3.2 Structural Vector Autoregressive (SVAR) Model

For the purpose of achieving the objectives of this research work, the study employed structural VAR which would determine the effects of external debt on government expenditure in Nigeria. The goal of VAR analysis is to determine the interrelationship among the variables not to determine the parameters estimates Enders (20015). VAR is a system of equations which expresses each variable in the system to be a function of its own lags and lags of the remaining variables in the system. Thus, it treats all variables to be potentially endogenous. VAR is an econometrics tool that shows the dynamic interrelationship between stationary variables. VAR is a model which consists only of endogenous variables and allows for the variables to depend not only on its own lags Enders (2015).

$$Y_t = b_{10} - b_{12}Z_t + \gamma_{11}Y_{t-1} + \gamma_{12}Z_{t-1} + \varepsilon_{yt} \dots\dots\dots(3.3)$$

$$Z_t = b_{20} - b_{21}Y_t + \gamma_{21}Y_{t-1} + \gamma_{22}Z_{t-1} + \varepsilon_{zt} \dots\dots\dots(3.4)$$

From equations (3) and (4), y_t and z_t are endogenous variables, b_{12} and b_{21} captures the contemporaneous effect of z_t on y_t and y_t on z_t respectively. The coefficients γ_i captures the lagged relationship between the variables, while ε_{yt} and ε_{zt} are structural errors.

$$B_0Y_t = B_1Y_{t-1} + B_2Y_{t-2} + \dots + B_pY_p + \varepsilon_t \dots\dots\dots(3.5)$$

The reduced form VAR is specified as

$$Y_t = C + A_1Y_{t-1} + A_2Y_{t-2} + \varepsilon_t \dots\dots\dots(3.6)$$

Where ε_t denotes a mean zero serially uncorrelated error term, also referred to as structural shock.

$$ASI_t = \alpha_{10} - \alpha_{20}MC_t - \alpha_{30}SVT_t - \alpha_{40}PI_t - \alpha_{50}RGDP_t + \sum_{t-1}^p \beta_{10}^t ASI_{t-1} + \beta_{11}^t MC_{t-1} + \beta_{13}^t SVT_{t-1} + \beta_{14}^t PI_{t-1} + \beta_{15}^t RGDP + \mu_t^{ASI} \dots\dots\dots(3.7)$$

$$MC_t = \alpha_{10} - \alpha_{20} ASI_t - \alpha_{30} SVT_t - \alpha_{40} PI_t - \alpha_{50} RGDP_t + \sum_{t-1}^p \beta_{10}^t MC_{t-1} + \beta_{11}^t ASI_{t-1} + \beta_{13}^t SVT_{t-1} + \beta_{14}^t PI_{t-1} + \beta_{15}^t RGDP_t + \mu_t^{MC} \dots \dots \dots (3.8)$$

$$SVT_t = \alpha_{10} - \alpha_{20} ASI_t - \alpha_{30} MC_t - \alpha_{40} PI_t - \alpha_{50} RGDP_t + \sum_{t-1}^p \beta_{10}^t SVT_{t-1} + \beta_{11}^t ASI_{t-1} + \beta_{13}^t MC_{t-1} + \beta_{14}^t PI_{t-1} + \beta_{15}^t RGDP_t + \mu_t^{SVT} \dots \dots \dots (3.9)$$

$$PI_t = \alpha_{10} - \alpha_{20} ASI_t - \alpha_{30} MC_t - \alpha_{40} SVT_t - \alpha_{50} RGDP_t + \sum_{t-1}^p \beta_{10}^t PI_{t-1} + \beta_{11}^t ASI_{t-1} + \beta_{13}^t MC_{t-1} + \beta_{14}^t SVT_{t-1} + \beta_{15}^t RGDP_t + \mu_t^{PI} \dots \dots \dots (3.10)$$

$$RGDP_t = \alpha_{10} - \alpha_{20} ASI_t - \alpha_{30} MC_t - \alpha_{40} SVT_t - \alpha_{50} PI_t + \sum_{t-1}^p \beta_{10}^t RGDP_{t-1} + \beta_{11}^t ASI_{t-1} + \beta_{13}^t MC_{t-1} + \beta_{14}^t SVT_{t-1} + \beta_{15}^t PI_{t-1} + \mu_t^{RGDP} \dots \dots \dots (3.11)$$

$$\begin{bmatrix} ASI \\ MC \\ SVT \\ PI \\ RGDP \end{bmatrix} = \begin{bmatrix} C_1 \\ C_2 \\ C_3 \\ C_4 \\ C_5 \end{bmatrix} \begin{bmatrix} 1 & A_{12} & A_{13} & A_{14} & A_{15} \\ A_{21} & 1 & A_{23} & A_{24} & A_{25} \\ A_{31} & A_{32} & 1 & A_{34} & A_{35} \\ A_{41} & A_{42} & A_{43} & 1 & A_{45} \\ A_{51} & A_{52} & A_{53} & A_{45} & 1 \end{bmatrix} \begin{bmatrix} ASI_{t-1} \\ MC_{t-1} \\ SVT_{t-1} \\ PI_{t-1} \\ RGDP_{t-1} \end{bmatrix} + \begin{bmatrix} 1 & A_{12} & A_{13} & A_{14} & 0 \\ A_{21} & 1 & A_{23} & A_{24} & 0 \\ A_{31} & A_{32} & 1 & A_{34} & 0 \\ A_{41} & A_{42} & A_{43} & 1 & 0 \\ A_{51} & A_{52} & A_{53} & A_{54} & 1 \end{bmatrix} \begin{bmatrix} U_t^{ASI} \\ U_t^{MC} \\ U_t^{SVT} \\ U_t^{PI} \\ U_t^{RGDP} \end{bmatrix}$$

Where

$$A = \begin{bmatrix} 1 & A_{12} & A_{13} & A_{14} & A_{15} \\ A_{21} & 1 & A_{23} & A_{24} & A_{25} \\ A_{31} & A_{32} & 1 & A_{34} & A_{35} \\ A_{41} & A_{42} & A_{43} & 1 & A_{45} \\ A_{51} & A_{52} & A_{53} & A_{45} & 1 \end{bmatrix}, C = \begin{bmatrix} C_1 \\ C_2 \\ C_3 \\ C_4 \\ C_5 \end{bmatrix}, Z = \begin{bmatrix} ASI \\ MC \\ SVT \\ PI \\ RGDP \end{bmatrix}, Z_{t-1} = \begin{bmatrix} ASI_{t-1} \\ MC_{t-1} \\ SVT_{t-1} \\ PI_{t-1} \\ RGDP_{t-1} \end{bmatrix}, U_t = \begin{bmatrix} U_t^{ASI} \\ U_t^{MC} \\ U_t^{SVT} \\ U_t^{PI} \\ U_t^{RGDP} \end{bmatrix}$$

$$\text{and } a = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} & a_{15} \\ a_{21} & a_{22} & a_{23} & a_{24} & a_{25} \\ a_{31} & a_{32} & a_{33} & a_{34} & a_{35} \\ a_{41} & a_{42} & a_{43} & a_{44} & a_{45} \\ a_{51} & a_{52} & a_{53} & a_{45} & a_{55} \end{bmatrix} \text{ such that } U_t \sim iid(0, \alpha^2)$$

4.1 Descriptive statistics

Table 4.1 Descriptive statistics

Statistics	LRGDP	LMC	LASI	LSVT	PI
Mean	11.20916	4.110196	4.907614	9.325249	3.246161
Median	11.56467	3.921816	4.575450	9.434027	1.457501
Maximum	11.75891	5.098939	6.767325	10.23955	5.538530
Minimum	4.597858	3.649315	4.301104	8.220631	1.259430
Std. Dev.	1.281252	0.399725	0.633396	0.588072	1.977978
Skewness	-0.745986	0.224011	0.175416	-0.801042	0.124058
Kurtosis	4.266241	3.304824	4.025632	2.868724	1.027435
Jarque-Bera	2027.671	22.06077	23.84647	1.081730	13.99871
Probability	0.436783	0.2974516	0.385217	0.582244	0.435616
Sum	965.9381	349.4120	417.7968	58.49545	275.9237
Sum Sq. Dev.	52.55755	13.73990	34.28636	0.239782	328.6414
Observations	87	87	87	87	87

Source: Researcher computation using E-views 12.

Table 4.1 depicts the result of descriptive statistics of the study, it indicates that the standard deviations of the variables of used in the study are not far away from their means, this means that there is a minimum chance to have an error in the study. The Skewness of the distribution in the table shows that real gross domestic product and stock value traded are skewed to the left but less than one while market capitalization, all share index and private investment are skewed to the right and less than one, by implication all the variables employed are normally distributed. The Kurtosis shows that real gross domestic product and all share index are greater than 3, this means that real gross domestic product and all share index are not normally distributed while market capitalization, stock value traded and private investment are less than 3, by implication by implication market capitalization, stock value traded and private investment are normally distributed. The Jarque-Bera test for normality is also estimated. It indicates that real gross domestic product, market capitalization, all share index, stock value traded and private investment are normally distributed as their p-values is greater than 5%.

4.2 Zivot and Andrew Unit Root Test

The study used Zivot and Andrew unit root test in order to confirm the order of integration among the variables employed, because ignoring unit root test with break may lead the acceptance of null hypothesis where is supposed to be rejected.

Table 4.2 Zivot-Andrew Unit Root Test

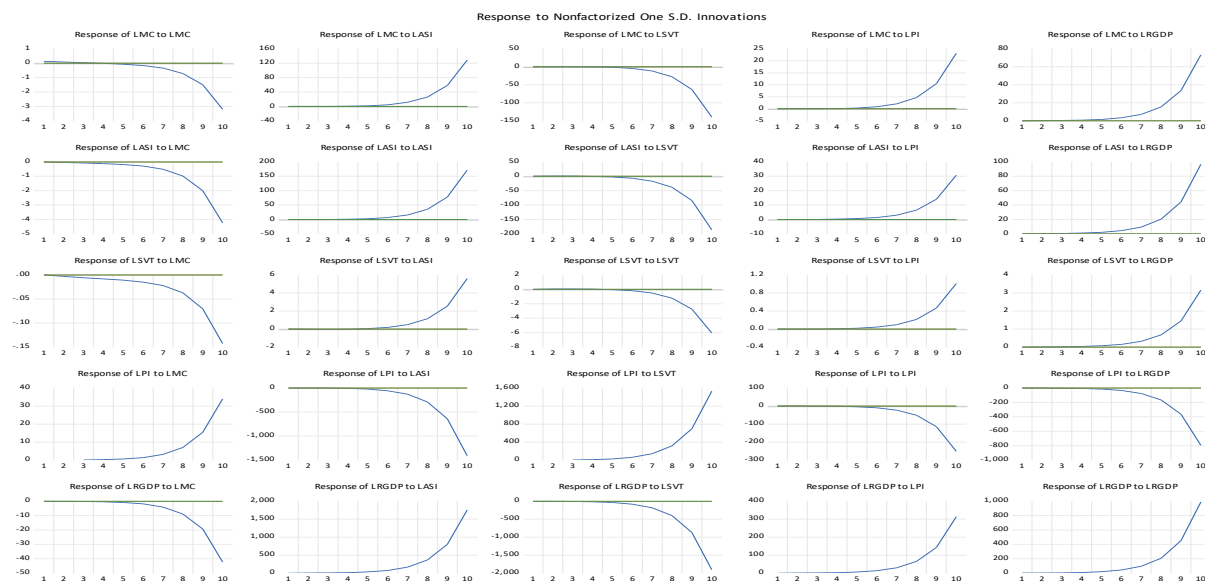
Variables	Level		First difference	
	Statistics	Break point	Statistics	Break point
LRGDP	-3.912221	2018q2	-10.80898	2018q1
LMC	-9.440898	2010q1	-	-
LASI	-4.700107	2010q1	-10.46973	2007q3
LSVT	-5.743884	2004q1	-	-
LPI	-80.65209	2010q1	-	-

Source: Researcher computation using E-views 12.

Table 4.2 presents the Zivot-Andrew unit root test indicates that real gross domestic product and all share index are integrated of order one in other words are stationary at first difference i.e. they are I(1) process, the break dates are 2018q1 and 2007q3 respectively. The variable market capitalization, stock value traded and private investment are integrated of order zero in other word are stationary at level i.e. they are I(0) process, the break dates are 2010q1, 2004q1 and 2010q1.

4.3 Impulse Response Functions (IRF)

Impulse Response Functions (IRFs) are one of the useful tools of the unrestricted VAR approach for examining the interaction between the variables in this study. They reflect how individual variables respond to shocks from other variables in the system. When graphically presented, the IFRs give a visual representation of the behavior of variables in response to shocks. The results can be presented in the figure 4.1 below:



Source: Researcher computation using E-views 12.

According to the impulse response function presented above, one-unit response of market capitalization shock to its own is negative throughout the period ten. The responses of market capitalization to all share index is positive throughout the horizon period. The responses of market capitalization to stock value traded is negative from period one to ten. The responses of market capitalization to private investment is positive throughout the horizon period. The one-unit response of market capitalization to real growth domestic product is positive from period one to ten. The response of all share index to market capitalization is negative from period one to ten. The response of all share index to stock value traded is negative throughout the horizon period. The one-unit response of all share index to real growth domestic product is positive from period one to ten. The response of stock value traded to market capitalization is negative from period one to ten. The response of stock value traded to all share index is positive throughout the horizon period. The response of stock value traded to private investment is positive throughout the horizon period. The one-unit response of stock value traded to real growth domestic product is positive from period one to ten. The response of private investment to market capitalization is positive from period one to ten. The response of private investment to all share index is negative from period one to ten. The response of private investment to stock value traded is positive throughout the horizon period. The one-unit response of private investment to real growth domestic product is negative from period one to ten. The response of real growth domestic product to market capitalization is negative throughout the horizon period. The response of real growth domestic product to all share index is positive throughout the horizon period. The response of real growth domestic product to stock value traded is negative throughout the horizon period. The response of real growth domestic product to private is positive throughout the horizon period.

4.4 Variance Decomposition

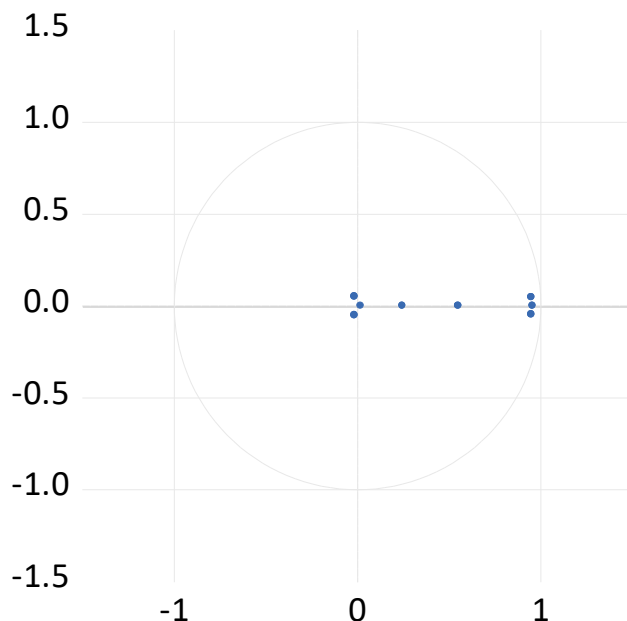
The variance (see appendix) of all share index is always caused by 100 percent to itself in the first year. The fluctuation in all share index in both the short-run and long-run are explained by its own

shock, approximately 19 percent in the 3 period and only to fall to 18 percent in periods 10. The shock attributable to market capitalization is very minimal, able to explain only 8 percent of market capitalization variability in the long-run while for real growth domestic product is only 98 percent as a result of fluctuations in all share index. Market capitalization in the short run explained itself by 48 percent in first period, in 3 periods is 9 percent and it continues to fall in long run to 8 percent. Stock value traded in the short run explained itself by 18 percent in first period, in 3 periods is 87 percent and it continues to fall in long run to 1 percent. The shock attributable to real gross domestic product is 98 percent in the long run. Private investment traded in the short run explained itself by 7 percent in first period, in 3 periods is 6 percent and it continues to fall in long run to 4 percent. The shock attributable to real gross domestic product is 98 percent in the long run. Real gross domestic product explained itself in the short run and long run by 98 and 98 percent. In the long run, shocks attributable to market capitalization, all share index, stock value traded and private investment are 18, 8, 1 and 4 percent respectively.

4.5 SVAR Stability Test

The SVAR stability test was employed to check whether all the Eigen values are less than one or all the moduli are lies inside the unit circle. The figure 1 shows that all the moduli lies inside the unit circle. This indicates that SVAR model is stable, it implies that the impact of the shocks are finite and calculable. Hence, the SVAR satisfies its condition.

Figure 4.2 SVAR Stability Test
Inverse Roots of AR Characteristic Polynomial



Source: Researcher computation using E-views 12.

4.6 Diagnostic Test

The diagnostic test is conducted to check the consistency and reliability of the estimated coefficients included in the model. Test such as Serial Correlation, Heteroscedasticity and normality test, SVAR stability tests are also conducted.

Table 4.3 post estimation test

Residual serial correlation LM tests		
Lags	LM-Stat	Prob
1	0.530785	0.9696
2	0.738232	0.9031
Residual heteroscedasticity tests		
Chi-square	Df	
324.3391	135	0.2456
Residual Normality tests		
Jarque-Bera	Df	
22629.29	10	0.0000

Source: Researcher computation using E-views 12.

From table 4.3, it is clear that the model is free from serial correlation and Hetroskedasticity because their p-values are greater than 5% while Normality test indicates that we cannot reject the null hypothesis because its p-value is less than 5%.

5. Conclusions and Recommendations

The study examines the asymmetric effect of selected Capital market indices on the growths of Nigerian Economy. Variables used in the study includes; real gross domestic product, market capitalization and all share index, stock value traded and private investment. The Zivot-Andrew unit root test indicates that real gross domestic product and all share index are integrated of order one while market capitalization, stock value traded and private investment are integrated of order zero. The impulse response function shows that market capitalization transmits positive shocks to real growth domestic product for the period under study. All share index transmits positive shocks to real growth domestic product for the period under study. Stock value traded transmits positive shocks to real growth domestic product for the period under study. Private investment transmits negative shocks to real growth domestic product in Nigeria. Therefore, the study concludes that stock and capital market transmit positive shock to economic growth in Nigeria. The study recommends that the regulatory agencies in the capital market should be focused on enhancing the efficiency and transparency of the market in order to improve investors' confidence. Government should be an efficient of macroeconomic variables in order to strengthen the performance of capital market so as to achieved economic growth.

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