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The Relationship between Stock Market and Economic Growth in Nigeria: VAR Granger Approach

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ABSTRACT

This study investigated the relationship between stock market and economic growth in Nigeria, covers the period of 20years between 2000 and 2019. Data on market capitalization, all share indexes, value of shares, Treasury bill rate and inflation were considered and gathered from CBN Statistical Bulletin, 2019. Ordinary Least Square method was employed and data were analyzed with the aid of Eview 09. The result revealed that market capitalization proxied for stock market have a positive relationship and statistically significant to influence economic growth at 82% magnitude. However, Treasury bill rate, value of shares, all share indexes and inflation rate have no significant impact on economic growth. Also, VAR-Granger causality revealed that there is no long-run relationship between the variables in the model due to the scope of the data. It was further shows that market capitalization, treasury bill rate , value of shares, all share indexes and inflation rate do not granger cause or have causal relationship with economic growth except GDP that influences the treasury bill rate and value of shares. Based on the findings, it was concluded that if stock market is well managed and improve on their activities, it contributes significantly to the Nigerian economy. Therefore, the study recommends that monetary authority should implement a policy that will boost stock market and increase the Treasury bill rate for attracting more investors.

Keywords: Stock Market, VAR-Granger, Inflation Rate, Value of Shares, All Share Indexes and Economic Growth

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INTRODUCTION

The connection stuck between stock market and economic growth has continuously attracted the interest of academia and professionals. This strong relationship between these important economic indicators played a crucial role in policies implementation, economic and investment decisions by government and investors. Thus, stock market is an open market in which stock, shares, commodity and any form of derivates are been traded at an agreed price and for a specified maturity period. It is an avenue where financial resources are mobilized and allocated efficiently whereas economic growth is the performance of an economy that is measured in relation to the value of total output estimated in an economy within a given period of year. This market is one of the financial system vehicles which capital can be accumulated and properly channeled for economic growth. Overtime, development economists (Schumpeter 1912; Keynes 1936, etc) and finance scholars (Modigliani and Miller, 1958; Mackinnon and Shaw,1973,etc) have emphasized the importance of stock market in a rapid and sustainable economic growth in the developing and emerging market economies. This connotes that achieving optimal economic growth in a country requires financial resources to be effectively and proficiently mobilized and channeled appropriately to harness the human, materials and managerial resources.

Regrettably, the developing countries are still facing the challenges of under-developed capital market where stocks and other assets are traded, especially in Nigeria. For instance, Nigeria is characterized with low financial deepening which limits the role of financial institution and ultimately led to slow economic growth. Also, there is a leakage in the financial transmission mechanisms as Nigeria government relatively maintains low interest rate and provided subsidized credits for frivolous investments which are harmful to sustainable economic growth. National Bureau of Statistics (2020) reported that economic growth has been shrinking and the growth pattern is still very low. Unlike 2011 when the growth rate increased by 2.5 percent, in 2015 and 2020 the economy record a low of -6.0 % averagely. The decreased in 2015 and 2020 was attributed to shocks in the oil sector and Covid -19 pandemic respectively. Since Nigeria economy continually rely on oil production to earn more revenue, the shocks in oil prices will continue to influence the economy and the stock market.

Therefore, it becomes imperative to emphasized the importance role played by the existence and developed stock market in an economy, which in turn seen as the important indicators for the soundness, healthy and economic strength. The possibility through which the impact of stock market could pass-through to the economic growth is many. These include the value of stock traded on the floor of stock exchange, all share indexes, market liquidity, monetary policy rate and most importantly, market capitalization. However, all these indexes have not been performing well enough. Despite the fact that the stock market facilitates economic growth across the globe, the stock market in Nigeria has not well developed satisfactorily to fully harness the potential to facilitates economic growth (Ajayi, Alaketu, and Agun, 2021). For instance, the performance of capital market has not been encouraging in the recent time. The equity market has mirrored a decreased turnover not less 20% between 2017 and 2018, with the value dropped from 13.62trillion to 11.73 trillion in 2018 though there was a slight increase in 2019 to 12.97trillion. Also the all share index posted negative returns in

2017. It could be noted that the capital market mirrored the poor performance of the economy that is experiencing a low growth path and fragile to any shocks which ultimately leading to low per capita income and unemployment challenges (NSE, 2020).

Base on the above poor performances, there are mounting literature, empirical studies and contradictory opinion on the effect of the stock market performance on the economic growth of a country and whether relationship exist between the two factors are genuine to be mirrored in developing countries, especially in Nigeria. Despite the huge number of researches credit to the link existed between stock market and economic growth, there is still incongruence in the previous studies. The exiting literatures have not reached a similar conclusion over time as regards the impact of stock market on economic growth. For example, the strands of literature such as ;Sule & Momoh, 2009; Ewah & Bassey, 2009;Enisan & Olufisayo,2009; have the opinion that stock market have a positive relationship with economic growth while the study by Ajayi, Alaketu, and Agun, 2021;Pan & Mishra,2016; opined that stock market pose a negative relationship with economic growth. While some investigate the causality between stock market and economic growth, some strand of the literature try to distinguished the long-run from short –run by establishing co integration between the two variables, and some consider linear regression to measure the impact,yet there is still various disagreement in the studies. Although huge studies have investigated the relationship by employing more techniques developed countries, the assumption of these studies may not always validated due to different data and techniques considered. In light of the above challenges, this study re-investigates whether long-run relationship exist between stock market and economic growth, or stock market have a significant impact on economic growth within the periods of 20years between 2000 and 2019.

Conceptual Review

The importance of stock market cannot be overemphasized in the free market economy. It allows various existing companies to obtain necessary funds for production purposes through the process of offering shares and bonds for the interested investors. This allows both domestic and foreign investors to fully committed surplus funds that foster the companies to solve financial problems while investors make returns from dividends and capital gains. However, if the companies are new, losses are eminent if the company fails to break through the economic crises. In this market, institutional investors and professionals derive benefits of the market due to adequate knowledge and ability to manage riskiness in the market, still stock market provides avenue for common interested individual investors. The existence of stock market further facilities the intermediation role by packaging pool of savings for investment purpose in a more productive sectors for expansion of businesses. Singh (1990) stressed that stock market is a better avenue that help to mobilize required funds for sustainable growth and development. On the theoretical front, the popular Mckinnon and Shaw (1973) hypothesis emphasized that stock market development pose a significant impact on economic growth. It was further stated that an efficient market operation is expected to bridge the missing piece hindering economic development and boost economic growth (Singh, 1997). Levine and Zervos,(1998). Opined that the hypothesis will only holds if firms are provided with some financial instruments that could be traded which are capable of meeting their financial demands and solve liquidity problems. This assertion further collaborates that stock market is relevant to any economy of

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the world, especially developing countries like Nigeria to foster economic growth because it offer a path where monetary authorities can influence the money in the circulation.

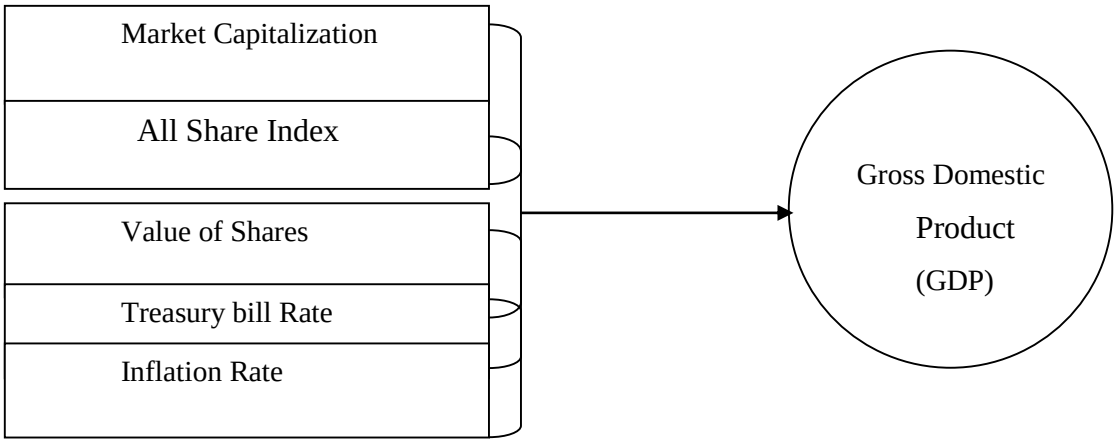

Figure 1. Conceptual Framework

The above diagram depicts the conceptual framework of the independent and dependent variables. All Share Index representing the first independent variable i.e. stock market would explain the contribution of All Share Index to dependent variable i.e. gross domestic product (GDP). This would also help in ascertaining the impact of All Share Index on the growth of Nigerian economy. Market capitalization representing the second would also explain the variation in dependent variable representing by the gross domestic product and determine the efficacy of market capitalization on gross domestic product. Value of shares represents the third variable that explain the variation in dependent variable while inflation rate and treasury bill rate are the control variable that are likely to influence the investors decision to invest in stock market.

This study relies on two major theories namely; supply leading hypothesis and endogenous growth theory. The supply side leading hypothesis assumption could be linked to the scholarly work of Schumpeter in 1912 and Mckinnon and Shaw in 1973 on the argument that stock market plays a pivotal role in engineering economic growth. Both scholarly works agreed that stock market have a positive relationship on economic development of a nation. Supply leading theory explains the connection that interplay between the development of stock market and sustainable growth. The assumption of the theory is that for an economy to reach its potential growth there is a need for huge financial resources which could not be raised other than stock market.

In addition, the economists scholars have from time to time provide steady arguments against the assumption of neo classical growth model. In the process, endogenous growth model was emerged in 1980's to solve the problem emanating from the adoption of neo classical growth model. This model assumed that a model could be expanded to accommodate policy measures that can have an influence on the economic growth in the long-run. This theory argued that there are factors that affect economic growth but generated inwardly such as economies of

scale, increasing returns or induced technological change compare to external factors like population growth, and others. The study conducted by Levine in 1996 provides empirical understanding of endogenous growth model. In his work, it was stated that stock market influence growth through endogenous growth model.

The study conducted by Ajayi, Alaketu, & Agun, (2020), using ordinary least square method to analysed data gathered Market Capitalization (MCAP), Oil Price (OILP), Exchange rate (EXCH) and economic growth to measure the relationship impact of each variable on economic growth. It was revealed that market mapitalization, oil prices, and exchange rate are positively related to economic growth but all share indexes are not positively related to economic growth. In 2017, Popoola , Ejemeyovwi ,Alege , Adu, Onabote (2017), investigated whether the relationship existed between stock market and economic growth is significant in the short-run or long-run and if they granger cause one another. The study shows that long-run relationship existed in the model and variables were significant except for all share indexes. It was further revealed that there exist a uni-lateral relationship between stock market and economic growth.

In 2016, Lazarov, Miteva-Kacarski & Nikoloski conducted a study in Republic of Macedonia on a contribution of stock market to the development of an economy between 2002 and 2012. The study adopted dynamic panel model, panel regression models, single and comparative analysis as an estimation techniques. The study concluded that the existence of stock market in countries considered in the research is significantly influence economic growth. The study by Lenuta(2012) in Central and Eastern Europe on the dynamic effect of stock market on economic growth and the role of foreign portfolio volatility. It was revealed that the market presence of market capitalization and value added shares traded contribute positively but the presence of foreign portfolio volatility further reduces the effect of market capitalization. One of the popular study was conducted by Ewah, Esang and Bassey (2009) in Nigeria to analyse the impact of capital market efficiency on economic growth. It was shown that the influence of capital market on economic growth cannot be underplayed. Though there is a need to further develop stock market that is strong enough to withstand economic shocks.

METHOD

The data used in this analysis are secondary data which include: Gross Domestic Product, All Share Index, Market Capitalization, Value of Shares, Treasury bill rate and inflation rate which were obtained from Nigerian Stock Exchange 2019 and CBN statistical bulletin 2019. Time series secondary data were used for the analysis and the study focuses on stock market and Nigerian economy from 2000–2019.

Model Specification

This study adopted an econometric model previously used by Lenuta(2012) with slight transmutation to estimate the impact of stock market on economic growth. Thus, economic growth trend model for Nigeria can be specified in a functional form as:

GDP = f (ASI, MAC, VOS, TBILLRATE, INFL)

In econometric term, the model is:

$GDP = \beta_0 + \beta_1 ASI_1 + \beta_2 MAC_2 + \beta_3 VOS_3 + + \beta_4\ TBILLRATE_4 + \beta_5 INFL_5 + e$

Where: GDP = Gross Domestic Product

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β_0 = Constant term
ASI = All Share Index
MAC = Market Capitalization
VOS = Value of Shares
TBILLRATE= Treasury Bill Rate
INFL = Inflation rate
$\beta_1 - \beta_5$ = Variables Coefficient
e = Error Term

RESULTS AND DISCUSSION

Table 1. Descriptive Statistics

VARIABLES	LGDP	LMACP	LTBILLRATE	LVOS	LASI	INFL
Mean	10.62	8.77	2.51	13.76	10.11	12.39
Median	10.80	9.22	2.67	13.84	10.15	11.89
Maximum	11.88	10.16	2.94	15.08	10.83	23.80
Minimum	8.84	6.16	1.50	11.00	8.81	6.60
Std. Dev.	0.95	1.29	0.42	0.92	0.51	4.07
Skewness	-0.48	-0.85	-1.01	-1.25	-0.97	1.11
Kurtosis	2.00	2.32	2.88	5.22	3.57	4.27
Jarque-Bera	1.60	2.80	3.41	9.37	3.41	5.44
Probability	0.45	0.25	0.18	0.01	0.18	0.07
Observations	20	20	20	20	20	20

Note: The data has been transformed into log form to linearisaed the data for proper interpretation.

The above table is the descriptive statistic extract from the analysis carried out by the researcher with the following interpretation: The mean value measures the average behavior of each variables employed in the model. The average value of gross domestic product, market capitalization, treasury bills rate, volume of shares, all share index and inflation rate, are 10.62 % , 8.77%,2.51%,13.76%,10.11% and 12.39% respectively. We rely on Jarque-Bera test for the normal distribution test. From the descriptive stat table; GDP, MCAP, TBILLRATE, and ASI are normally distributed because the p-values are more than 0.05%, however, VOS and INFL are not normally distributed because the p-values are more than 0.05%.

Table 2. Correlation Matrix

VARIABLES	LGDP	LMACP	LTBILLRATE	LVOS	LASI	INFL
LGDP	1.00	0.97	0.22	0.15	0.74	-0.28

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LMACP	0.97	1.00	0.05	0.30	0.85	-0.37
LTBILLRATE	0.22	0.05	1.00	-0.46	-0.26	0.16
LVOS	0.15	0.30	-0.46	1.00	0.55	-0.31
LASI	0.74	0.85	-0.26	0.55	1.00	-0.44
INFL	-0.28	-0.37	0.16	-0.31	-0.44	1.00

The above table 2 shows the dimension of relationship between variables in the model to identify the problem of multicollinearity. The analysis shows that the only market capitalization have a strong correlation with gross domestic product, however, the variable cannot be dropped because it is an important variable in the model. Above all, the model is still good to be analyzed and the researcher will rely on the post estimation analysis to reveal if there is autocorrelation in the model.

Table 3. All Unit Root Test (Adf)

Null Hypothesis: the variable has a unit root							
	At Level						
		LGDP	**LMACP**	**LTBILLRATE**	**LVOS**	**LASI**	**INFL**
With Constant.	t-Statistic	-4.1606	-2.2489	-1.5915	-1.2663	-3.0494	-3.8524
	Prob.	0.0063	0.1970	0.4673	0.6226	0.0482	0.0096
		***	n0	n0	n0	**	***
With Constant & Trend	t-Statistic	-1.0376	-1.4990	-1.7240	-0.4605	-2.3929	-3.8311
	Prob.	0.9136	0.7934	0.7002	0.9760	0.3708	0.0375
		n0	n0	n0	n0	n0	**
Without Constant & Trend	t-Statistic	1.6824	2.4959	-0.0907	-0.4677	0.9453	-1.0267
	Prob.	0.9723	0.9949	0.6395	0.4991	0.9013	0.2629
		n0	n0	n0	n0	n0	n0
	At First Difference						
		d(LGDP)	**d(LMACP)**	**d(LTBILLRATE)**	**d(LVOS)**	**d(LASI)**	**d(INFL)**
With Constant	t-Statistic	-2.4363	-3.5076	-3.7621	-2.8258	-3.5146	-7.0873
	Prob.	0.1464	0.0202	0.0121	0.0744	0.0208	0.0000
		n0	**	**	*	**	***
With Constant & Trend	t-Statistic	-5.8171	-3.9175	-3.6658	-3.8788	-4.1046	-6.8985
	Prob.	0.0010	0.0333	0.0523	0.0357	0.0250	0.0001
		***	**	*	**	**	***
Without Constant & Trend	t-Statistic	-2.0090	-2.7717	-3.8756	-3.0116	-3.4343	-7.2820
	Prob.	0.2690	0.0085	0.0006	0.0049	0.0019	0.0000
		n0	***	***	***	***	***

Notes:
1: * Significant at the 10%; **Significant at the 5%; * Significant at the 1% and (no) Not Significant**
2: Probability based on MacKinnon (1996) one-sided p-values.

The table 3 above shows the stationarity of the variables employed in the model. It was that there is a unit root in the model at level because the variables were non-stationary at level, which indicates a presence of unit root. However, the unit root eliminated when the data were subjected to first difference, which indicates that data all variables are appropriate to run Johansen co-integration test and causality test.

Table 4. Regression Output

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Dependent Variable: LGDP				
Method: Least Squares				
Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	6.282022	1.512646	4.153003	0.0010
LMACP	0.823155	0.068839	11.95768	0.0000
LTBILLRATE	0.205118	0.113803	1.802404	0.0930
LVOS	-0.058956	0.053778	-1.096284	0.2915
LASI	-0.264879	0.193947	-1.365731	0.1936
INFL	0.007923	0.010254	0.772737	0.4525
Observations	20			
R-squared	0.978418	Akaike info criterion		-0.55656
Adjusted R-squared	0.970711	Schwarz criterion		-0.25784
F-statistic	126.9397	Hannan-Quinn criter.		-0.49825
Prob(F-statistic)	0.0000	Durbin-Watson stat		2.168427

LGDP = 6.28201912831 + 0.823154752773*LMACP + 0.205118386662*LTBILLRATE - 0.0589564482946*LVOS - 0.264878969334*LASI + 0.00792335770696*INFL

From the result above, the coefficient of market capitalization reveal a positive sign which indicates that for every unit increase in market capitalization, Treasury bill rate and inflation rate, gross domestic product will increase by 82%, 21% and 7%. However, volume of shares and all share indexes depicts a negative sign which means for every unit increase in all share indexes and volume of share, GDP will decline by 26% and 5% respectively. The result further shows that only market capitalization has significantly impacted GDP during the period under review, but treasury bill rate , volume of shares, all share index and inflation rate are statistically insignificant to predict economic growth within period under review. R-squared statistic shows that explanatory variables in the model (ASI, MAC,VOC, LTBILLRATE and INFL) account for about 96.3 percent of the deviation in GDP in this model. From the above results, the F-Stat is 0.000000 , this means that all the variables in the model were jointly influenced economic growth in Nigeria.

Table 5. Vector Autoregression Estimates

VARIABLES	LGDP	LMACP	LTBILLRATE	LVOS	LASI	INFL
LGDP(-1)	0.96225	0.592074	0.904006	-2.727127	-0.767262	1.171446
	(0.09042)	(0.51944)	(0.36581)	(1.32134)	(0.44694)	(7.60432)
	[10.6421]	[1.13983]	[2.47127]	[-2.06391]	[-1.71668]	[0.15405]
LMACP(-1)	-0.0206	0.45892	-0.466631	2.205922	0.704067	-1.571282
	(0.08038)	(0.46178)	(0.3252)	(1.17467)	(0.39733)	(6.76021)
	[-0.25627]	[0.99381]	[-1.43490]	[1.87791]	[1.77199]	[-0.23243]
LTBILLRATE(-1)	-0.011614	-0.089303	0.388631	0.363278	0.22356	0.200216
	(0.04826)	(0.27723)	(0.19524)	(0.70522)	(0.23854)	(4.05853)
	[-0.24067]	[-0.32212]	[1.99057]	[0.51513]	[0.93720]	[0.04933]
LVOS(-1)	0.011925	-0.021198	0.318448	0.729017	-0.069353	-3.312475
	(0.04939)	(0.28371)	(0.1998)	(0.7217)	(0.24412)	(4.15338)
	[0.24147]	[-0.07472]	[1.59384]	[1.01014]	[-0.28410]	[-0.79754]
LASI(-1)	0.021859	0.001753	-0.730071	-1.219286	0.313116	2.212791
	(0.06979)	(0.4009)	(0.28233)	(1.01981)	(0.34495)	(5.86903)
	[0.31323]	[0.00437]	[-2.58587]	[-1.19560]	[0.90771]	[0.37703]

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INFL(-1)	0.004313	-0.013052	0.013136	0.014055	0.000725	-0.160395
	(0.00348)	(0.01998)	(0.01407)	(0.05082)	(0.01719)	(0.29246)
	[1.24042]	[-0.65337]	[0.93370]	[0.27657]	[0.04217]	[-0.54844]
CONSTANT	0.326551	-0.673533	-1.167509	24.53352	9.389528	38.77568
	(0.91617)	(5.2632)	(3.70653)	(13.3885)	(4.52865)	(77.0506)
	[0.35643]	[-0.12797]	[-0.31499]	[1.83244]	[2.07336]	[0.50325]
R-squared	0.997504	0.953384	0.831425	0.493406	0.737244	0.217392
Adj. R-squared	0.996256	0.930076	0.747138	0.240109	0.605865	-0.173912
Sum sq. resids	0.03423	1.129672	0.560257	7.309934	0.836354	242.1053
S.E. equation	0.053409	0.306821	0.216074	0.780488	0.264	4.491709
F-statistic	799.3685	40.9038	9.864161	1.947937	5.611612	0.555557
Log likelihood	33.07155	-0.145969	6.516258	-17.88539	2.710017	-51.1367
Akaike AIC	-2.744374	0.752207	0.05092	2.619514	0.451577	6.119653
Schwarz SC	-2.396423	1.100158	0.398871	2.967466	0.799528	6.467604
Mean dependent	10.71749	8.905759	2.506465	13.82554	10.17556	12.28316
S.D. dependent	0.872907	1.160307	0.429696	0.895345	0.420516	4.14566
Observations	19					

Table 6. VAR Granger Causality/Block Exogeneity Wald Tests

Included observations: 19

Dependent variable: LGDP				
Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LMACP	0.065675	1	**0.7977**	**ACCEPT**
LTBILLRATE	0.05792	1	**0.8098**	**ACCEPT**
LVOS	0.058306	1	**0.8092**	**ACCEPT**
LASI	0.098114	1	**0.7541**	**ACCEPT**
INFL	1.53863	1	**0.2148**	**ACCEPT**
All	**2.018612**	**5**	**0.8466**	**ACCEPT**
Dependent variable: LMACP				
Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LGDP	1.299219	1	**0.2544**	**ACCEPT**
LTBILLRATE	0.103763	1	**0.7474**	**ACCEPT**
LVOS	0.005583	1	**0.9404**	**ACCEPT**
LASI	1.91E-05	1	**0.9965**	**ACCEPT**
INFL	0.426887	1	**0.5135**	**ACCEPT**
All	**2.46382**	**5**	**0.7819**	**ACCEPT**
Dependent variable: LTBILLRATE				
Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LGDP	6.107154	1	**0.0135**	**REJECT**
LMACP	2.058939	1	**0.1513**	**ACCEPT**
LVOS	2.540331	1	**0.111**	**ACCEPT**
LASI	6.686737	1	**0.0097**	**REJECT**
INFL	0.871805	1	**0.3505**	**ACCEPT**
All	**21.29641**	**5**	**0.0007**	**REJECT**
Dependent variable: LVOS				
Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LGDP	4.259715	1	**0.039**	**REJECT**
LMACP	3.526558	1	**0.0604**	**REJECT**
LTBILLRATE	0.265357	1	**0.6065**	**ACCEPT**
LASI	1.42945	1	**0.2319**	**ACCEPT**
INFL	0.076489	1	**0.7821**	**ACCEPT**
All	**6.128907**	**5**	**0.2939**	**ACCEPT**
Dependent variable: LASI				

Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LGDP	2.947004	1	**0.086**	**ACCEPT**
LMACP	3.139949	1	**0.0764**	**ACCEPT**
LTBILLRATE	0.878341	1	**0.3487**	**ACCEPT**
LVOS	0.080712	1	**0.7763**	**ACCEPT**
INFL	0.001778	1	**0.9664**	**ACCEPT**
All	**4.19995**	**5**	**0.521**	**ACCEPT**
Dependent variable: INFL				
Excluded	Chi-sq	df	**Prob.**	**REMARKS**
LGDP	0.023731	1	**0.8776**	**ACCEPT**
LMACP	0.054024	1	**0.8162**	**ACCEPT**
LTBILLRATE	0.002434	1	**0.9607**	**ACCEPT**
LVOS	0.636064	1	**0.4251**	**ACCEPT**
LASI	0.14215	1	**0.7062**	**ACCEPT**
All	**3.245791**	**5**	**0.6622**	**ACCEPT**

The table 6 above depicts the likely causality in the model. This is important to understand the direction of the relationship existed between stock market indexes and economic growth in Nigeria. To solve this problem, VAR granger causality was considered in this study to find out if stock market indicators considered in this study can predict the level of economic growth. It was shown in the table that market capitalization, all share index, value of shares, treasury bills rate and inflation rate does not significantly related of influenced economic growth and vice versa at 0.05 level of significance. However, GDP and MCAP that granger cause volume of shares, all share index and GDP influence Treasury bill rate.

Table 7. Heteroskedasticity test: breusch-pagan-godfrey

F-statistic	**0.69368**	Prob. F(5,14)	**0.6367**
Obs*R-squared	**3.971056**	Prob. Chi-Square(5)	**0.5536**

TABLE 8. Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.260758	Prob. F(2,12)	0.1468
Obs*Rsquared	5.473487	Prob. Chi-Square(2)	0.0648

The table 7 and 8 revealed the post-estimation test. It was indicated that the model is without the problem of serial autocorrelation and no presence of heteroscedasticity because the chi-square is greater than 5% level of significance.

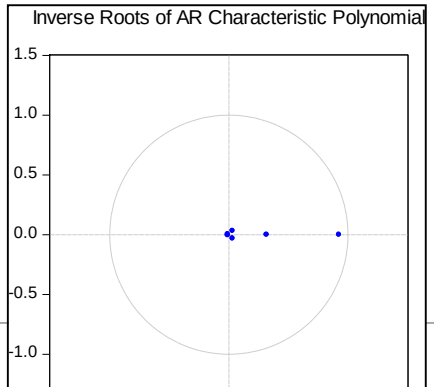

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Figure 2. Inverse Roots

NOTE: The inverse root is best considered in ARDL model; however, it is useful to explain the associated characteristics of an equation. The figure 1 above predicts the equation better as the roots are all inside the unit circle.

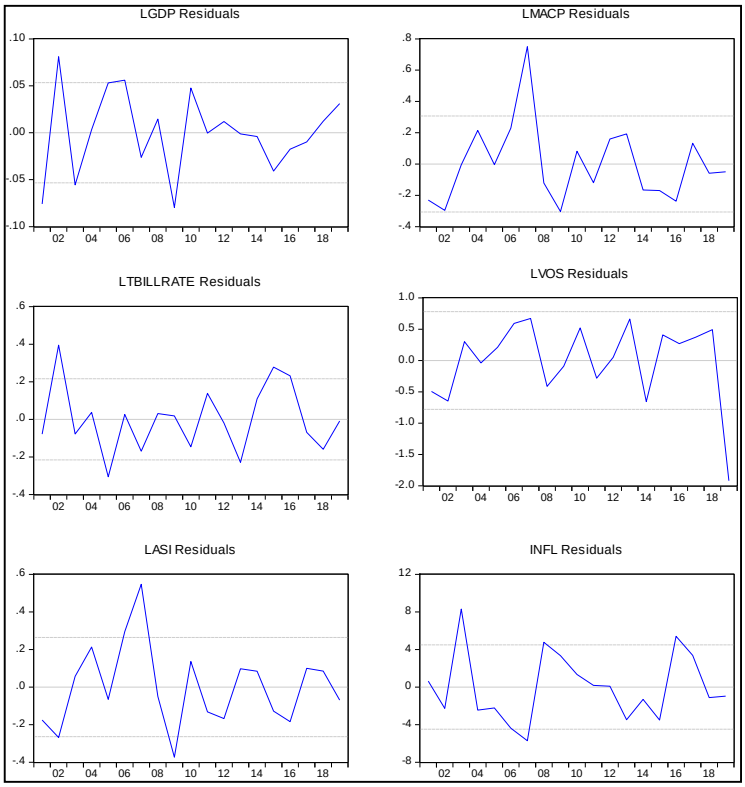

Figure 3. Trends Analsysis Of All The Variables In The Model

The figure 3 revealed the trends of variables employed in the study. It shows the individual behavior of data and indicates the directions of the trend over the period of time.

CONCLUSION

In this study, we empirically examined the impact of stock market on economic growth in Nigeria covering the period of 20 years ranging from 2000 to 2019. It was revealed in the study that market capitalization have a positive relationship and pose a positive relationship. However, Treasury bill rate and inflation have appositive relationship but have no significant impact on economic growth. All share index and volume of shares have negative relationship and were not statistically significant to explain the economic growth**.** The result corroborate with Latunda(2012) where it was discovered that all share index have a negative relationship with economic growth. Base on the findings, the study concludes that stock market have a significant impact on economic growth if all the influential variables are manage moderately.

Deduced from the findings, the recommends that government reviews upward the Treasury bill rate to attract domestic and foreign investors to have sufficient stock traded on the stock market and help firms to acquire capital goods require for improve productivity. Also, monetary authorities should have proper policy that can contain inflation and increase the savings ability of households and increase investment opportunity in the country by providing a friendly environment for foreign investment. There should be more awareness by financial institutions in on the instruments traded in the capital market, review the interest rate and the fund raised through the instrument should be monitored by the Central Bank of Nigeria (CBN) to ensure that they are properly channeled for investment purposes.

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