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Capital Market Performance and Growth of Nigerian Economy 1990 – 2017

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Abstract

The objective of the study was to examine the effect of the Nigerian capital market performance on growth of Nigerian economy from 1990 to 2017. The study used quasi experimental research design approach. Data for the study are secondary in nature, and were collected from the World Bank Development Indicator and the Central Bank of Nigeria statistical bulletin between 1990 and 2017. The analytical method employed a multiple regression model using market capitalization, value of shock trade, number of listed securities, and interest spread as market performance indicators and growth of real gross domestic product for economic growth. Engle-Granger (1979) Error Correction Model estimation techniques were used for estimating the model parameters. The unit root test results show that all the variables are 1(1) series, while the co-integration test results proved that there is a stable long run relationship between capital market performance indicators and economic growth. Estimates from the ECM proved that all the market performance indices have significant effect on economic growth: market capitalization, value of stock traded, and number of listed securities have positive and significant effect on economic growth, while transaction cost had negative, but significant effect on economic growth. It is, therefore, recommended that the Nigerian authorities expand access to the market and reduce transaction cost to improve the performance of the Nigerian capital market.

Keywords: Access, Liquidity, Performance, Repressed Market, Transaction Cost.

1 INTRODUCTION

The importance of the capital market to economic growth has been recognized by financial experts, researchers and policy maker. Financial and international economists have

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every now and then been drawing the attention of policy makers to the need of having an efficient capital market. The basis of the growing attention to the capital market is the believed that efficient capital market is important for economic growth and overall development. Economic growth and development hinges on investment which in turn , depends critically on capital market for mobilizing domestic and foreign financial resource and efficiently allocating these resources to productive investments. Repressed or underdeveloped market cannot pool enough financial resources for the level of investment which can engender growth and economic development. Allocation of financial resources in a financially depressed economy is inefficient.

The direct consequence of underdeveloped or depressed financial system is scarcity of fund and the attendant high cost of capital. High cost of capital retards investment and economic growth. Underdeveloped capital market is illiquid and has high transaction cost. In addition, underdeveloped capital market is unstable and smaller in size compared to the value of the economy. These poor performance indices are the factors which defer investors, from investing in the economy. The market performances indices are critical factors to economic growth (Nwadiri, 1994).

Over the years, the Nigerian capital market has witnessed a lot of transformation. Market capital approached $1.4 billion before the global meltdown in 2008. The number of listed securities has also increased from less than 91 in 1980 to 213 in 2008, and to over 250 as at 2014 (NSE, 2015). The number of participants in the market equally increased.

In spite of the improvement in the performance indices of the Nigerian capital market, the Nigerian economy did not achieve growth rate commensurate with the growth and development of the capital market. Many studies have been conducted within and outside Nigeria to empirically examine the relationship between capital market performance and growth of Nigerian economy. Examples of such studies include Edame and Uchenna (2013) Donwa and Odia (2010) and Anigbogu and nduka (2014). However, the results are mixed and there is yet, no consensus on the effect of capital market performance on economic growth, especially in developing economies like Nigeria. The objective of this study therefore is to examine the effect of the Nigerian capital market performance on growth of Nigerian economy between the periods 1990 and 2017. The study is significant in Nigeria. The findings of the study will invaluable to economic growth model and policies in Nigeria. The rest of the paper is organized as follows: section two is the literature review, section three explains the method of the study, and section four is used for presentation of empirical results and discussion of findings; while section five is the summary and conclusion from the study.

2 Literature Review

Ekezie (2002) defined capital market as the market for dealings (i.e. lending and borrowing) in longer-term loanable funds it as a forum through which long-term funds are made available by the surplus to the deficit economic units. It must, however, be noted that although all the surplus economic units have access to the capital market, not all the deficit economic units have the same easy access to it. Companies can finance their operations by raising funds through issuing equity (ownership) or debenture/bond borrowed as securities. Equities have

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perpetual life while bond/debenture issues are structured to mature in periods of years varying from the medium to the long-term of usually between five and twenty-five years (Mbat (2001).

Capital market is defined as the market where medium to long-term finance can be raise d(Akingbohungbe, 1996). Theoretical literature on financial development and growth identifies three fundamental channels through which capital markets and economic growth may be linked (Pagano, 1993). First, capital market development increases the proportion of savings that is funnelled to investments. Second, capital market development may change the savings rate and hence, affect investments. Third, capital market development increases the efficiency of capital allocation.

Taiwo, Adebayo and Evawere(2016) studied the impact of capital market performance on economic growth in Nigerian economy from 1981 to 2015. The result of the normalized co-integration analysis reveals that market capitalization rate, total value of listed securities, labor force participation rate, accumulated savings and capital formation are significant determinants factors of economic growth in Nigeria. It was then recommended that, for the capital market to realizes its full potentials, its environment must be enabled to promote and encourage investment opportunities for both local and international investors, since the stock market operates in a macroeconomic environment.

Briggs (2015) examined the impact of the capital market on the Nigerian economy from 1981 to 2011. The economic growth was proxy by Gross Domestic Product (GDP), while the capital market variables considered were:, total new issues , total listed equities, value of transactions , government stocks, and market capitalization. The Johansen co-integration and Granger causality tests were applied. The result shows that the Nigerian capital market and economic growth are co-integrated.

Yadirichukwu and Chigbu(2014) analyzed the impact of capital market on economic growth in Nigeria between 1985 and 2012 using multivariate error correction model. The result revealed that market capitalization and new issues have positive and significant relationship with economic growth ;while value of transaction and total stock listed have negative relationship with economic growth.

Atoyebi, Ishola, Kadiri, Adekunjo and Ogundeji (2013) studied the effect of capital market performance on economic growth in Nigeria using annual data of 1981 to 2010. Their study used the Ordinary Least Square and Vector Auto Regression technique. The results shows that a percentage increase in market index and market capitalization was found to bring about respectively, an average of 33.7% and 44.8% increase in real GDP

Owolabi and Ajayi(2013) examined the impact of capital market development on economic Nigeria from 1970 to 2010 using Ordinary Least Square Techniques. The result indicated that there is a positive relationship between economic growth and all the stock market development variables used

Adaramola (2012) applied Johansen co-integration and Granger causality tests to examined the impact of the Nigerian capital market on its economic growth but from 1990 to 2010. Results show that a long run relationship exists between capital market performance

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(measured by market capitalization, total new issues, value of transactions, and total listed equities and government stocks) and economic growth (proxy by GDP) in Nigeria. The evidences from the study reveal that the activities of the capital market tend to impact positively on economic growth in Nigeria.

Mishra et al. (2010) examine the impact of capital market efficiency on economic growth in India using the time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. The application of multiple regression model shows that the capital market in India has the potential of contributing to the economic growth of the country. Seyyed (2010) presented a systematic investigation of the relationship between stock markets performance and economic growth in Iran using the Vector Autoregressive (VAR) model and deduced that macroeconomic activity was a main cause for the movement of stock prices in the long run and that the stock market plays a role as a leading economic indicator of future economic growth in the short run.

Abu N. (2009), examined whether stock market development raises economic growth in Nigeria, by employing the error correction approach. The econometric results indicate that stock market development (market capitalization GDP ratio) increases economic growth. He however, recommended the removal of impediment to stock market development which include tax, legal and regulatory barriers, development of the nation's infrastructure to create enabling environment where business can strive.

Ewah et al. (2009) appraise the impact of the capital market efficiency on the economic growth of Nigeria using time series data from 1961 to 2004. They found that the capital market in Nigeria has the potential of growth inducing but it has not contributed meaningfully to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization, illiquidity, misappropriation of funds among others. The study concluded that, the capital market remain one of the mainstream in every economy that has the power to influence economic growth, hence the organize private sector is encouraged to invest in it.

Obreja Brasoveanu et al (2008) examined the correlation between capital market development an economic growth in Romania using a regression function and VAR. It was shown that capital market is positively correlated with economic growth, with feedback effect. Moreover, they revealed that the strongest link is from economic growth to capital market.

Khan, Qayyum and Sheikh (2005) examine the relationship between financial development and economic growth for Pakistan over the period 1971-2004 using autoregressive distributed lag (ARDL) technique. The results of the study suggest that in the long run, financial depth and real deposit rate are important factor contributing to economic growth in Pakistan

Levine and Zervos (1998) used pooled cross-country time series regression of 47 countries from 1976 to 1993 to evaluate whether stock market liquidity is related to growth, capital accumulation and that different measures of stock exchange size are strongly correlated to other indicators of activity levels of financial, banking, non-banking institutions as well as to insurance companies and pension funds. They found empirically that the measures of stock

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market liquidity were strongly related to growth, capital accumulation and productivity while stock market size does not seems to correlate to economic growth.
There is no consensus on the relationship between capital market performance and economic growth. Some found positive results, while other found negative or insignificant results. This controversy can be resolved by empirical analysis

3 Method of the Study

This section explains the method employed for the collection and analysis of the study data.

3.1 model specification

The study aimed at examining the contribution of capital market performance on economic growth in Nigeria economy. The study adopted the Neoclassical endogenous growth model in which economic growth is a function of investment in human capital, capital, and technology(Romer,1956).investment involves capital which have opportunity cost. Cost of capital is a function of structure and performance of the financial system. Hence, growth of the economy depends to a large extent on the performance of the capital market. Following this theoretical framework, and the empirical literature reviewed, and abstracting from the intervention of other intermediate variables, a simplified model of the relationship between capital market performance and economic growth could be expressed as:

$$Y=\beta0+\beta1MKT+\beta2NLS+\beta3INTP+\beta4VST+\varepsilon$$

Where: Y is economic growth. MKT is market capitalization. NLS is the number of listed securities. INTP is interest spread,

VST is the value of stock traded /GDP ratio, $\beta0$ is constant term

$\beta1, \beta2, \beta3, \beta4$ are model parameter estimators, and ε is the stochastic term

Economic growth has been defined as the increase in the capacity of a country produce and increasingly divers goods and services to it population .it is a sustained increase in per capita income or worker product, most often accompany by an increase in population and sweeping structural changes(Kuznet, 1966; 1955). According to Kinddleberger(1965) economic growth means more output. Economic growth has been measured in many different ways. The most common measurement has been annual rate of change in real domestic product. This is the measurement adopted in this study. Real gross domestic product is defined as the monetary value of

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the final output of goods and service produced in a country during a specific period of time, usually one year, in constant money.

Market capitalization is the aggregate monetary value of the quoted companies shares based on the current share prices and the total number of outstanding shares. It is calculated by multiplying the current market price of each company share and the number of share and summing it up for all the listed companies. The ratio of market capitalization to GDP is a traditional measure of market size. It is adopted here, also, as the measure of the size of the capital market to the economy.

Number of listed companies is the total number of companies registered quoted and trading on the exchange. It is a measure of access to the capital market. The performance of the capital market critically depends on accessibility for investors and firms to access to the market. Value of stock traded to GDP ratio is a measure of the liquidity of the capital market. Value of stock traded to GDP is an indicator of the liquidity of assets traded on the market. This variable is a proxy for efficiency of the capital market. Developed capital markets have good liquidity status. Stability is another important performance measure and indicator of development of the capital market. This study used transaction cost to measure market stability. Transaction cost is proxy here by interest spread which is the difference between the rate deposit money banks are paying on deposit and the lending rate of interest.
All data are secondary in nature and consist of annual time series of the variable from 1990 to 2017. Data for economic growth (real GDP) were collected from Central Bank of Nigeria Statistical bulletin(various issues).Data for market capitalization, Value of stock traded to GDP ratio, Number of quoted companies, and interest spread were sourced from the World Bank's World Development indicator(WDI) . Supplementary materials were collected from the National Bureau of Statistic, and other resources.

3.2 Method of Data Analysis

Ordinary Least Square (OLS) regression analysis techniques using the Engle-Granger Error Correction Mode (Engle-Granger, 1978) approach was employed for the data analysis. The Engle-Granger ECM method has four important steps. The steps are unit root analysis, co-integration test, ECM estimation, and diagnostic test.

3.2.1 Unit Root Test

Since the study is using time series data, it important that the time series properties of the variables data be examined, because time series data always are not stationary (Maddala, 2004).Non-stationarity affect the distribution of the data. Non-stationary data are not normally distributed and so, standard hypothesis testing tools cannot be applied (Gujarati, 2005). Regression results are spurious if regression data are not stationary (Grange-Newbold, 1978).examining the unit root property helps the researcher to determine the order of integration and therefore form the basis of correct model specification.

The unit root test approach adopted for the study is the Augumented Dickey –Fuller (ADF) .the ADF is very simple to implement and very popular. However, the ADF has asymptotic properties and have lower power against alternatives that are very close to unity. That is, the ADF will find it difficult to distinguish a unit root and a root close to 1. For this reason, a

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research who is interested in establishing unit root should perform more than one test before making any decision. Therefore, the ADF unit root test is complemented with the Phillips-Perron test (Phillips-Perron, 1988)

A simple ADF is expressed thus:

$\Delta X_t = \Phi + \Phi_1 t + \text{þ}Xt - 1 + \Phi_2 \sum_{C-1}^{n} \Delta X_{t-1} + \mathcal{E}$
3.2

$\mathcal{E}$ is a white noise error term and þ is the coefficient of the lagged X_{t-1} The coefficient of the lagged is expected to be negative.. The unit root coefficient þ was tested under the null hypothesis:

H_0: þ= 0 (there is unit root) against the alternative,H_1: þ < 0 (There is no unit root).

Determining the optimum lag length is important for a robust unit root results . Akaike lag selection criterion was employed for the optimum lag selection.

3.2.2 Co-integration Test

Co-integration is a necessary condition for integrated variables to have stationarity. Testing for co-integration is important to evaluate if any meaningful relationship can be empirically modelled and estimated using the integrated variables. There are many co-integration analysis techniques. The study, however, adopted the Johansen- Juselius(JJ) co-integration analysis approach(Johansen-Juselius,1990). The simple of the JJ co-integration models expressed as follow:

$\Delta Y = \Upsilon o + \Phi A + \sum_{t=1}^{n} \Gamma \Delta Y t - 1 + \sum_{t=1}^{n} \Pi Y t - 1 + +\varepsilon$ 3.5

Where Π and are matrixes of variables Γ . The rank of the matrix Π is the number of the co-integrating equation in the model and the rank of the matrix is given by the number of the significant eigenvalues in the Π .Johansen derived two test statistics as maximum Eigenvalue and the Trace Statistics. The two statistics were applied for the test of co-integration. Where there is disagreement between the two values, decision would be based on the Trace statistic (Chung& Lai, 2003)

3.2.3Error Correction Model

Engle-Granger representation theorem says if two or more variables are co-integrated, then the relationship between them can be expressed as error correction model provided the basis for specification and estimation of equation 3.1 as error correction model.

The error correction model of globalization-growth nexus is presented as

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$$\Delta RGDPc = \sum_{t=1}^{n} \delta_1 \Delta RGDP_{t-1} + \sum_{t=1}^{n} \delta_2 \Delta MKT_{t-1} + \sum_{t=1}^{n} \delta_3 \Delta NLS_{t-1} + \sum_{t=1}^{n} \delta_4 \Delta VST_{t-1} + \sum_{t=1}^{n} \delta_4 \Delta INTP_{t-1} + \delta_5 ECMt - 1 + V \quad 3.2$$

The UVECM model was estimated using the Engle-Granger One Step method. Insignificant lags were eliminated using backward elimination method to arrive at the parsimonious error correction model.

3.2.4 Model Diagnostic Test

It is very important, in every empirical study, to evaluate the empirical model and the parameter estimates whether they actually have the desirable statistical properties and to justify that they meet the basic assumption of the OLS. the import of this is to build confidence in the parameter estimates, and the empirical method. The following diagnostic tests were performed on the model and the parameters estimate.

The Ramsey RESET test was employed for examining if the empirical model employed for the analysis was adequately specified. The test was conducted under the null hypothesis of no specification bias. Correlation matrix test approach to multicolliearity was employed in this study for test of multicollinerity among the variable. It examines the pairwise correlation coefficients among the variables. If the correlation coefficient between any two variable is higher than .99 , then the variable should be removed from the model.

For normality assumption, the Jacque-Bera (JB) test was used to test if the assumption of normal distribution of the residuals was met. The test null hypothesis is that the estimated residuals from the model have normal distribution. To test the model for autocorrelation the, Breusch -Godfrey (BG) test was applied on the residuals. The BJ test is more popular and robust than most other test of autocorrelation. The test is conducted under the null hypothesis of no autocorrelation**.** The assumption of homoskedasticity was tested using Autoregressive conditional heteroskedasticity(ARCH) -test approach to homoskedasticity testing.

4 Empirical results and Discussion

This section presents and discuses the empirical results from the data analysis. The results are presented as follows

4.1 Descriptive Statistics

In empirical studies, descriptive statistics are used to describe the basic features of the data of the study .descriptive statistics provides the researcher with the simple summary of the data statistical properties. This gives the researcher insight into the behavior of the data. The descriptive statistics of the data employed for this study is presented in Table 4.1 below.

Table 4.1: Descriptive Statistic of Variables used

	RGDPC	MKC	NLS	INTP	VST

Mean	1784.329	17.71937	191.2232	7.462506	1.565641
Median	1643.483	13.95236	188.5000	7.435407	0.893561
Maximum	2563.092	51.00267	215.0000	11.06417	10.42941
Minimum	1242.738	4.015673	174.0000	3.509000	0.191272
Std. Dev.	518.6815	10.48849	13.00594	1.703839	2.290754
Skewness	0.270316	1.482216	0.602804	0.075002	2.972620
Kurtosis	1.341246	4.965219	2.247498	3.186766	11.09354
Jarque-Bera	3.551039	14.75827	2.356375	0.066947	117.6598
Probability	0.169395	0.000624	0.307836	0.967081	0.000000
Sum	49961.21	496.1423	5354.250	208.9502	43.83794
Sum Sq. Dev.	7263825.	2970.229	4567.167	78.38285	141.6840
Observations	28	28	28	28	28

Source: E-view computer print

There are twenty-eight (28) observations in the sample. The mean of Real Gross domestic Product from 1990 to 2017 is $1,784.32, while the median is 1643.48. The mean and the median are almost similar. This implies that there is no outlier in the data, that is , extreme values in the values of RGDP from 1990 to 2017. The same trend is observed in the mean of market capitalization, number of stock trade, value of stock traded, and interest spread: their mean values are not much different from their median.

The standard deviation of RGDPc is 318.68 while the standard deviation of market capitalization (MKC) ,Number of listed stocks; Interest Spread (INTP) and value of stock traded (VST) are 10.481, 13.00, 1.70 and 2.29 respectively. This implies that RGDPC data is more spread out than the data for volume of stock traded, market capitalization, interest spread and value of stock traded. The Skewness of RGDPc, NLS and INTP are not much different from that of the normal distribution. Their values are not much different from zero. However, NLS and VST have distributions that are quite different from zero. Their values are not normally distributed. The Jacque-Bera statistics confirms that RGDPc, NLS, and INTP have normally distributed; while VST and MKT do not have normal distribution. The Kurtosis statistic values also show that VST, MKC, and INT have excess Kurtosis. They are Leptokurtic: more of the value are cluster around the mean. RGDP and NLS are Platykurtic. They have distribution which more divers and flatter than the normal distribution with have fat tails.

4.2 Test Correlation Matrix

It is always very important to examine variables data going into multiple regression models for multicollinearity. Multicollinearity will bias the results of the empirical analysis and make it impossible to have unique estimates of the model parameters or isolate the marginal effects of the variables. To examine the multicollinearity status, correlation matrix approach to test of multicolinearity was employed for the analysis. The result is presented in Table 4.2 below.

Table 4.2 : Correlation Matrix of Variables in the model

	RGDPC	MKC	NLS	INTP	VST
RGDPC	1	-0.35154	0.41564	0.06886	0.26473

MKC	-0.35154	1	-0.09377	-0.12472	-0.15921
NLS	0.41564	-0.09377	1	-0.082470	0.60600
INTP	0.06886	-0.124725	-0.082470	1	-0.32891
VST	0.26473	-0.159317	0.60600	-0.328917	1

Source : E-view Computer printout

The results show that there is no evidence of high collinearity which many lead to perfect or near perfect multicollinerity problem in the model. All the pair wise correlation coefficient are less than 0.9 (Gujarati, 2004). Hence, the variables may be combined in a multiple regression model without suspicion of multicollinearity problem.

4.3 Unit Root Test

Table 4.3 presents the unit root test results of variables in the model

Table 4.3: Unit Root Test Results

	Augumented Dickey-Fuller (ADR)			Phillips-Perron (PP)		
Variable	**Level**	**1st Difference**	**Order**	**Level**	**1st Difference**	**Order of integration**
RGDPc	**-1.9952**	**-3.6441**	**1(1)**	**-2.0965**	**-3.6441**	**1(1)**
MKC	**-3.3536**	**-6.1120**	**1(1)**	**-3.3562**	**-61870**	**1(1)**
NLS	**-1.68319**	**-5.2129**	**1(1)**	**-1.01629**	**-5.3298**	**1(1)**
INTP	**-3.4945**	**-5.7002**	**1(1)**	**-3.2838**	**-10.9655**	**1(1)**
VST	**-2.4046**	**-4.6461**	**1(0)**	**-2.4827**	**5.7841**	**1(1)**
Test Critical Values:	**1% = 4.3560**					
	5% = 3.5950					
	10 = 3.2334					

Source : E-view Computer printout

Table 4.3 shows the results of unit root test of the variables in the model. The results revealed that all the variables have unit root at level and are therefore not stationary at level. After 1st differencing, all the variables became stationary. They are, therefore, 1st difference stationary, 1(1) series, or stationary at order 1. Having determined the order of integration of the variables, the study proceeded to examining if there is a common trend among the integrated variables such that the relationship can be meaningfully modelled and estimated. Co-integration is the condition which enables integrated variables to be expressed as a model. Thus, the analysis proceeded to co-integration analysis.

Table 4.4: Co-Integration Rank Test – Result Trace Statistics

Hypothesise No. of CE(s)	**r = 0**	**r ≤1**	**r ≤2**	**r ≤3**	**r ≤4**
Trace Statistic	**165.5421**	**79.6232**	**41.0056**	**17.3019**	**3.5082**
5% critical value	**69.8188***	**47.8561***	**29.7970***	**15.4947**	**3.8414**

Table 4.5: Co-integration Rank Test – maximum Eigen Value Statistics

Hypothesise No. of CE(s)	r = 0	r ≤1	r ≤2	r≤3	r ≤ 4
Maximum Eigen Value	85.9189	38.6175	23.7036	13.7937	3.508
5% critical value	33.8768*	27.5843*	21.1316*	14.2646*	3.8414

The co-integration Rank Tests show the variables are co-integrated. The Trace Statistics shows at least 4 co-integrating equation, while the maximum Eigen value statistics shows 3 co-integrating rank equations. The Trace statistics is a better test of co-integration than maximum Eigen value. The Trace statistics is more robust to skewness and excess kurtosis and can be adjusted for degree of freedom which is important in finite sample as this one. (Cheung & Lai, 1993; Sjoo, 2008). Hence the choice of number co-integration rank equations was based on Trace statistics: There are at least four (4) co-integrating rank equations in the model.

4.4 Parsimonious Error Correction Model

Table 4.6: Error correction model results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDPC(-1))	1.046084	0.157554	6.639512	0.0000
D(MKC(-1))	9.704049	1.877	5.170316	0.0003
D(MKC(-3))	8.009324	2.794462	2.866141	0.0153
D(NLS)	3.461804	2.999947	1.153955	0.2730
D(NLS(-2))	15.79204	3.600447	4.386134	0.0011
D(NLS(-3))	7.987026	3.118391	2.561265	0.0265
D(INTP)	-66.79034	13.32579	-5.012111	0.0004
D(INTP(-1))	-14.80905	11.59231	-1.277490	0.2277
D(INTP(-2))	-27.27284	9.509239	-2.868036	0.0153
D(INTP(-3))	-38.06919	10.66630	-3.569111	0.0044
D(VST)	33.58306	13.60836	-2.467825	0.0312
D(VST(-1))	51.97735	11.23372	-4.626904	0.0007
ECM(-1)	-0.116255	0.039675	-2.930192	0.0137

R-squared	0.823085	Mean dependent var	46.41538
Adjusted R-squared	0.630086	S.D. dependent var	98.23598
S.E. of regression	59.74764	Akaike info criterion	11.32131
Sum squared resid	39267.59	Schwarz criterion	11.95942
Log likelihood	-122.8557	Hannan-Quinn criter.	11.49060
Durbin-Watson stat	2.643942		

Source: Eview computer printout

Dependent Variable: D(RGDPC)

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IIncluded observations: 24 after adjustments

The parsimonious error correction model presented above was derived from the error correction model after eliminating the highly insignificant lags through backward elimination method.

The result shows that the relationship between market capitalization and economic growth is positive and statistically significant. This implies that increase in market capitalization will head to increase in economic growth. The result is in line with the findings of Edeme and Okoro (2013) which found positive and significant effect of market capitalization on economic growth in Nigeria. However, Yadiricbukwu and Chigbu (2014) found negative relationship between market capitalization and economic growth in Nigeria. The result contradicts the result of Donwa and Odia (2010) which found positive but insignificant effect of market capitalization on economic growth in Nigeria. Method of analysis and time frame could be responsible for the divergent results.

The impact of number of Stock Listed (NLS) on economic growth is positive and statistical significant. This means change in number of domestic stock listed will lead to change in economic growth in the same direction after 2 periods lags. Emeh and Chigbu (2014) found negative and significant effect of number of stock listed and economic growth in Nigeria. However, Sule and Momoh (2009), also, found positive and significant relationship between number of listed companies and economic growth in Nigeria.

Interest spread and economic growth have negative, but significant relationship. This implies increase in interest spread will lead to decrease in economic growth. The sign of the co-ethical of this variable is in line with the a *prior* expectation for this variable and in line with economic theory. The sign of the coefficient conforms to Nwaogwu (2015) result who found negative and significant relationship between interest rate spread and economic growth in Nigeria. However, the result contradicts the result of Ahmed and Musakhi (2013) who found positive and significant of relationship between interest spread and economic growth in six West African countries.

Value of stock traded has positive and significant relationship with economic growth. The sign of the variable coefficient conforms to our *a priori* expectation for the variable. The sign also conforms to the findings of Adedemo and Abraham (2008) who found positive and significant relationship between value of stock traded and GDP growth rate in Nigeria. Bayar, Kaya and Yiidrim (2014) also found unidirectional causality from volume of stock traded/GDP ratio to economic growth in Kenya. However, the finding contradicts the result of Alajekwu and Achugbu (2012) who reported that market capitalization and value traded GDP ratios have negatively weak and insignificant effect on economic growth in Nigeria.

In a nutshell, capital market performance in terms of market capitalization, number of listed quoted scarcities, interest spread and value of stock trade have significant effect on the growth of Nigerian economy market capitalization, number of listed campus and value of stock traded have positive effect on economic growth, while interest spread have negative effect on economic growth.

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4.4 Model Diagnostic Results

Ramsey RESET Test

Equation: EQ01
Specification: D(RGDPC) D(RGDPC(-1)) D(MKC(-1)) D(MKC(-3)) D(NLS) D(NLS(-2)) D(NLS(-3)) D(INTP) D(INTP(-1)) D(INTP(-2)) D(INTP(-3)) D(VST) D(VST(-1)) ECM(-1)
Omitted Variables: Powers of fitted values from 2 to 3

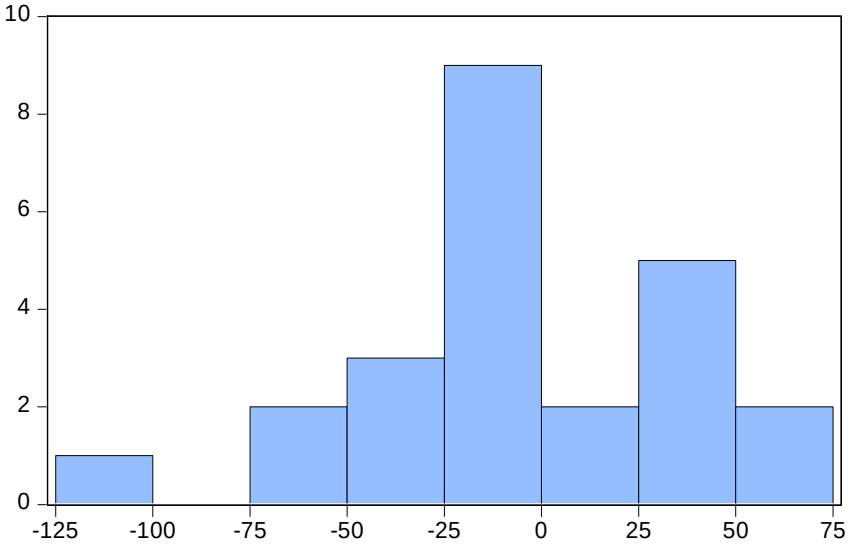
Table 4.7: Ramsey RESET Test Result

	Value	df	Probability
F-statistic	2.610447	(2, 9)	0.1276
Likelihood ratio	1.979700	2	0.0641

Source: E-view computer printout

The result of the Ramsey RESET shows that the employed for the empirical analysis was correctly specified**.** The Ramsey F-statistic probability is greater than 0.05. Hence the null hypothesis is maintained at 0.05 levels of significance

Normality Test



The Jacque-Bera test of residual normality shows that the estimated residuals have normal distribution. The probability of the JB statistics is 0.3450 which is far greater than the 0.005 critical probability value. The null hypothesis is maintained at 0.05 levels

Auto-Correlation Test

Table 4. 8 :Breusch-Godfrey Auto correlation LM Test:

F-statistic	1.310808	Prob. F(2,9)	0.3165
Obs*R-squared	5.256383	Prob. Chi-Square(2)	0.0722

Source:E-view computer printout

The Breusch –Godfrey test of autocorrelation result is presented above. The LM statistic value is 5. 2563 . the probability value of 0.0722 is greater than the0.05 critical value. The null hypothesis that there is no autocorrelation in the error term is maintained at 0.05 level.

Heteroskedasticity Test:

Table 4.9: Heteroskedasticity Test: ARCH

F-statistic	0.237260	Prob. F(1,21)	0.6312
Obs*R-squared	0.256953	Prob. Chi-Square(1)	0.6122

Source:E-view computer printout

The result of the Autoregressive Conditional Heteroskedasticity(ARCH) test is presented in table 4.9 above. The results proved that there is no issue of heteroskedasticity. The model ARCH test statistic (n*R squared) is 0.2569 and with p-value of 0.612.the null hypothesis is therefore maintained at 0.05 levels. This implies that error terms are homoskedastic

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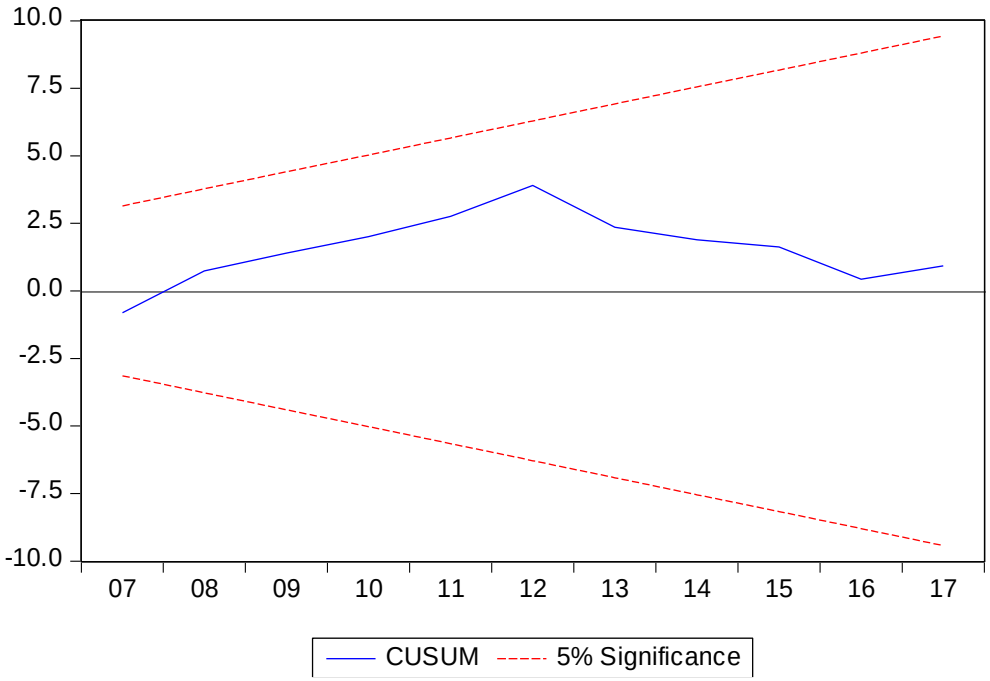
Model Stability Tests



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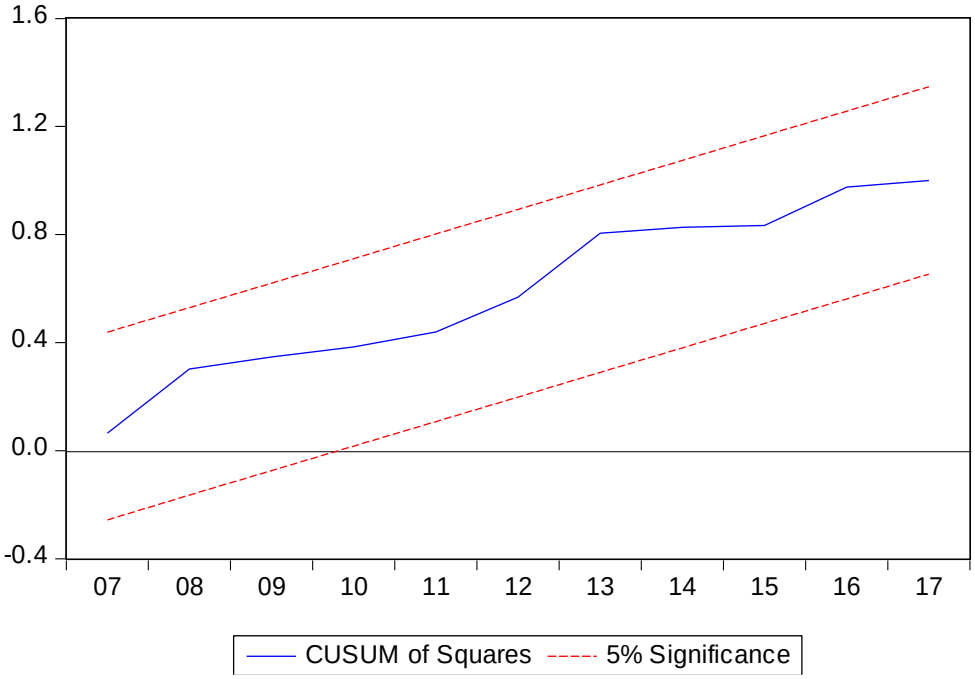

The CUSUM and CUSUMSQ test of model stability is presented in figures 4.1 and 4.2 above. Both the CUSUM and the CUSUMSQ of the model was stable throughout the period of the study. The two plot remained within the 5% critical bound throughout the period 1990 to 2017.

5. Summary and conclusion

The aim of the study was to examine how capital market performance effects economic growth in Nigerian economic from 1990 to 2017.Capital market performance was represented by market capitalization, value of stock trade/GDD ratio, Number of listed companies, and interest spread, while economic growth was proxy by annual rate of change of real gross domestic product.

Secondary data collected from the World Bank development indicator and the Central Bank of Nigeria statistical bulletin were used in the analysis. The Engle-Granger error correction model analysis technique was employed as the method of analysis. The unit root test result revealed that all the variables are integrated of order 1 , 1(l), and the co-integration test shows that there is a long run relationship among the variables in the model. The estimates of the error correction model proved that market capital has a positive and significant relationship to economic growth. Number of listed companies also has positive relationship to economic growth. The relationship between interest spread and economic growth was found to be negative, while the relationship of volume of share trade / IGDP ratio was found to be positive. In all, capital market performance accounted for about 82%

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variation in economic growth during the period 1990 to 2017.The model has a valid error correction mechanism with adjustment coefficient of about 0.1162.

The implication of the findings from the study is that capital market performance has significant influence on the growth of Nigerian economy. Improvement in the performance of the Nigerian capital market will bring significant effect on the performance of Nigerian economy. The capital market performance rises and falls with Nigeria's macroeconomic indices. Comparatively, the Nigerian capital market is undeveloped when compared to her size and to the Liquidity and number of listed companies in countries like India, South African, Egypt and morocco. Coincidently, the performance of Nigeria's economy in terms of economic growth is behind the growth rates of these countries.

The positive effect of capital market development on economic growth has been proven in both developed and developing countries. Capital market is necessary for mobilization and allocation of founds for production activities in an economy. Size and liquidity of the capital market are critical for capital mobilization and investment in the economy. A country like Nigeria which is in need of strong and sustainable economic growth needs a developed and efficient capital market. Developing an efficient capital market entails having more firms on the floor of the exchange, low transaction lost, and accessibility. The Nigerian authorities should through appropriate policies reduce transaction cost and establish more branches of the Nigeria stock exchange in all state capital in order to improve the performance of the Nigerian capital market .

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