Interconnection between Capital Market Indices and Economic Growth: Nigeria's Perspective (1989-2015)

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ABSTRACT

The study investigates the interconnection between capital market indices and economic growth in Nigeria between 1989 and 2015. In spite of the popular credence that capital market enhances investments-captivating environment, the Nigeria's capital market appears not to have achieved the anticipated prospect in terms of its (capital market) influence on economic growth. The research employed time series data. The Multiple Regression technique was harnessed to examine the long-run relationship between economic growth and capital market indices such as market capitalization, value of transactions, all shares index, capital flows and stock turnover ratio in the country. The findings show that while market capitalization, capital flow and stock turnover ratio indicate positive and significant influence on economic growth, the all share index, and value of transactions exhibit negative effects on the economic growth in the country. In addition, the degree of responsiveness of economic growth to market capitalization and all shares index is 25.8% and 23.4% respectively. The study revealed 93% total variations in economic growth was accounted for by the predictors. Similarly, it was discovered that market capitalization and the value of transactions granger cause economic growth in the short run. Hence, the study recommends that government should place greater stress on Nigeria's capital market with a view to refurbishing the cardinal market indices that culminate in long term negativity so as to attain the market enhancement, capital accumulation improvement and national productivity upsurge in the Nigerian economy.

Key words: capital market, economic growth, OLS, Johansen cointegration

INTRODUCTION

Financial resources empower nations to harness economic resources for development. The World Bank (1989) writes that the discrepancy between the rich and poor countries is ascribed to paucity of financial resources to exploit the economic resources of poor countries. Financial deepening or the development of the financial system plays a crucial role in fostering the pace of development and the adaptability of an economy via its impacts on savings and

investment [17]. Consequently, an efficient financial system that is reinforced by a good regulatory system boosts a nation's economic growth and development. The categorization of financial sector is generally into the banking sector, the non-bank financial institutions and the capital market. In few years back, capital market operations have taken a center stage in the financial sector improvement in many emerging or developing economies [30]. This was owing to the ruin of the Soviet Union and the positive effect of the capital market on most developed countries like the United Kingdom (UK) and the United States of America (USA),

In November, 1996, The Exchange introduced its Internet System (CAPNET) as one of the infrastructural provision for tackling the challenges posed by internationalization and attaining a heightened service delivery. The Internet System accelerates communications among local and international partakers in the market, as subscribers to the system include stockbrokers, quoted companies, issuing houses, etc., who now use the facility to receive and send e-mail, globally and locally. But more importantly, they can, via this means, access corporate trading results, key market information-trading statistics, et cetera. The Nigerian Capital Market is a key player in the Nigerian Stock Exchange (NSE) and it is the market for long-term funds. The securities traded in the market are known as capital market instruments. But, the capital market has both non-Securities based segmented (market for long term loans) and securities based segment (the stock exchange). There are three categories of Capital market instruments and these are: ordinary shares, preference shares, and debt instruments. Stockbrokers, Issuing houses, Investment Advisers, Issuing houses, Registrars, Financial Advisers are some of the other key and active market participants in the NSE.

The NSE is the umbrella of the Capital Market in Nigeria. It makes provisions for a mechanism to channelize private and public savings by making the funds accessible for productive purposes. The Nigerian Stock Exchange is an assistant in the mobilization of the country's capital resources among various competitive alternatives. The NSE can also be a tool, which can measure and detect the symptoms of an imminent economic prosperity or downtown long before the projected boom or decline actually happens in as much the market is at efficiency level. The capital market is differentiated from the Stock Exchange in that the former is much encompassing and larger than the latter. The Stock Exchange is a participatory institution in the capital market, albeit it is the principal player in all in the market. The undertakings of the Stock Exchange in the capital market are reflected by the Stock Exchange, which measures the operations in the market.

The main aims of the Nigerian Stock Exchange as pronounced in the Memorandum of Association of the institution is to create an appropriate mechanism for capital formation and efficient mobilization of resources among competing alternatives. It is as well anticipated to make available special financing stratagems for projects with long term conception phases. It also assists in maintaining discipline in the capital market regarding the players and the investors and as such, assists to broaden the share ownership in the market by creating the enabling environment in terms of provision and maintenance fair prices for securities. The overriding objective of any financial system is the provision of a conducive atmosphere for the transfer of funds from the surplus sector of the economy to the deficit sector. The Capital Market, in the process of carrying out its functions is faced with many challenges such as the effect of economic trends, financial restructuring and reforms by government, industry, and technology. Hence, the Capital Market is expected to adjust to the constantly mutable trends in the economy.

There have been the increasing concerns and controversies about the role of the capital markets on economic growth and development [7, 12, 18, 20, 22-24, 27-28]. The results of

their findings were mixed: while some are in favor of a positive link, some negative link and others do not discover any empirical evidence to support such conclusion. For instance, [4] found in a cross-country study of capital market and economic growth of 40 countries from 1980 to 1988 that there existed a significant correlation between the average economic growth and market capitalization. [18] investigated whether there was a strong empirical relationship between stock market development and long-run economic growth. They found a strong correlation between overall stock market development and long-run economic growth. [10] carried out a study with the employment of data from 44 nations between 1986 and 1993 and asserted that different mechanisms of stock exchange size are strongly correlated to other pointers of activity levels of financial, non-banking institutions, banking, and also to pension funds and insurance companies. They resolved that nations with well-developed stock markets tend to have well-developed financial intermediaries.

Again, [19] established and re-emphasized the complementary functions of the banks and stock market that they were not competitors or alternative institutions using 30 nations from 1980 to 1991. [19] adopted pooled cross-country time series regression of 47 nations from 1976 to 1993 to assess whether stock market liquidity is related to capital accumulation, productivity and economic growth. They were consistent with [7] by conglomerating measures such as liquidity, stock market size, and integration with international market, into index of stock market development. The rate of Gross Domestic Product (GDP) per capita was regressed on a variety of series intended to manage political instability, initial conditions, investment in human capital and macroeconomic condition, and then, added the conglomerated index of stock market development. They discovered empirically that the measures of stock market liquidity were strongly related to economic growth, capital accumulation and productivity while stock market size does not seem to correlate to economic growth.

Inferring from the extensive studies on the theoretical outlooks on the effect of capital market on economic growth which have formed the modus operandi of normative economics, the capital market is to promote economic growth via the transmission mechanisms of savings mobilization, risk diversification, creation of liquidity, improved dissemination and acquisition of information, non-debt financial capital, provision of long-term, which enable firms to sidestep over-reliance on debt financing, and enhanced motivation for corporate management among others. However, an x-tray on the trajectory of "positive economics" which is related to "what is" instead of "what should be" exposes that the argument in the collected works on the growth impact of capital market has not been adequately determined especially in Nigeria. The inconclusive nature of these theoretical and empirical studies was responsible for the basis for a further empirical research on the influence of capital market on economic growth. Hence, this study was needful.

Furthermore, an important weakness of most studies providing evidence from developing nations is that past regression analyzes being run were devoid of a thorough investigations of the properties of time series data via econometric techniques such as log transformation of data to eliminate or reduce stationarity/unit root implications. Hence, it is not amazing that some of them result in "spurious/specious regressions" demonstrating an excellent fit between unrelated series, especially when levels of the series are exploited in the regression. Generally, when the regression consists non-stationary series, the estimation of coefficients and inference from them becomes unreliable [15]. Besides, recent empirical studies [1, 31, 21] affirmed that major macroeconomic series such as Gross Domestic Product often adopted as proxy for economic growth may be a non-stationary process instead of a trend-stationary process as was commonly assumed. This connotes that the conventional style in regression has not always produced dependable findings. As a consequence, this survey addresses this gap by first

confirming the stationarity or unit root conditions through the exploitation of Augmented Dickey-Fuller (ADF) test and then employing the cointegration technique, ordinary least squares, granger causality tests and residual diagnostic tests to determine the long-run steady state, the variables long-run relationship, short run causal relationship and the validity of regression results so as to show the robustness of the study between capital market and economic growth in Nigeria. This was n

EMPIRICAL REVIEW

[23] developed an aggregate index of capital market development and used it to investigate its relationship with long-run economic growth in Nigeria. The study employed a time series data from 1970 to 1994. Four measures of capital market development-ratio of market capitalization to GDP (in %), ratio of total value of transactions on the main stock exchange to GDP (in %), the value of equities transactions relative to GDP and listed equities were adopted. The four measures were combined into one overall composite index of capital market development using principal component analysis. The financial market depth was added as control variable. It was discovered that the capital market development is negatively and significantly correlated with the long-run economic growth in Nigeria. [10] cited in [14] established a link between economic growth and the stock market operations in the field of secondary market (transmission of security) more than in primary market (funds channeling). [5] showed that a rising stock price increases the prosperity of the economy (wealth effect) by boosting rise in consumers' consumption thereby increasing investment.

[12] studied the effect of the capital market efficiency on the economic growth of Nigeria with time series data from 1961 to 2004. They stressed that the capital market in Nigeria has the potential of growth motivating but it has not contributed significantly to the economic growth of Nigeria as a result of low absorptive capitalization, illiquidity, low market capitalization, misappropriation of funds to mention but a few. [13] did not discover significant evidence that stock market undertakings affect economic growth level. [2] contends that capital market is a web of specialized financial institutions with series of processes, mechanism, and infrastructures that enhance the integrating of surplus and deficit units of medium to long term capital for investment and development projects for economic growth.

According to [3], Financial Market is simply the markets where stocks, commodities, bonds, foreign exchange and derivatives are traded to source cash for businesses, or government, increasing investors' wealth and reducing companies' risks. The financial market is the boulevard through which funds are created, allocated and utilized productively from the surplus units (all-savers camps) to deficit units (the users of funds). These operations comprise the back-and-forth of institutions, individuals, and instruments. Financial instruments held by individuals in various establishments is to provide the needed funding for the procurement of indispensable goods and services to foster economic growth. Moreover, [29] argued that nations with higher capital market experiences less stringent contraction, business cycle output, and lower chances of an economic conundrum related to those with underdeveloped capital market. It does not indicate that the enlargement of capital market assures economic growth, but it employs the resources to predict into the future progress trends for Capital, productivity, per capita income, and the gross domestic product (GDP).

METHODOLOGY
Design
Our survey consists of both explanatory and quantitative analysis. Explanatory analysis institutes causal linkage between variables. The weight centers on studying a situation or a conundrum with a view to elucidating the nexus between the variables included in the study.

And quantitative analysis encompasses collecting statistical data, so as to investigate the data in an unbiased possible manner [9].

Data Type and Source
The research adopts annual secondary data spanning from 1989 to 2015. The data were acquired from Central Bank of Nigeria Statistical Bulletin, 2015, Nigeria Stock Exchange (NSE) and global economy data, 2016

Model Specification
The research is premised on the Neoclassical Growth Model (otherwise known as the Growth Accounting Framework) which explains the sources of growth in an economy as:

$$g = f(T, K, L) \qquad (i)$$

Where 'g' represents economic growth which is a function of technical progress (T), capital (K) and labour (L). This model has been enhanced to incorporate other economic and financial variables such as financial sector development (proxied by capital market index); public policy (proxied by public investment); state of political instability; trade (openness or liberalization); debt overhang; and country/policy dummies [6-8, 26]. The multivariate linear regression model for our survey is:

$$GDPPC_t = {}_0 + {}_1 MKTCAP_t + {}_2 CAPFLO_t \; {}_3 ASHI_t + {}_4 TURORA_t + {}_5 VATRA_t + u_t \qquad (ii)$$

The log transformation of the equation (ii) is as follows:

$$\ln GDPPC_t = {}_0 + {}_1 \ln MKTCAP_t + {}_2 \ln CAPFLO_t \; {}_3 \ln ASHI_t + {}_4 \ln TURORA_t + {}_5 \ln VATRA_t + u_t$$
$$(iii)$$

Where:
π_0 = Intercept
L represents log
GDP_PC stands for dependent variable (proxied for economic growth).

The predictors are:
MKTCAP is defined as market capitalization at time t;
CAPFLO is described as capital flow (proxied for foreign direct investment) at time t;
ASHI represents all shares index at time t;
TURORA stands for stock turnover ratio at time t;
VATRA describes the value of traded transactions on capital market at time t

Variables Description
Economic Growth (GDP_PC): It is represented by GDP per capital. According to demand-driven hypothesis, new demand for financial services is created by the expansion of an economy. Such increase in demand will engender pressure to incorporate larger and more sophisticated financial institutions to satisfy the new demand for their services.

Capital Flows (CAPFLO): [11] claimed that foreign capital inflows impact more expansively on the economy than the rewards from initial flows in the long term. Foreign investment is linked with adequate disclosure, regulatory and institutional reform, and fair trading practices and listing preconditions. The surge in operational and information-oriented efficiency is to enthuse greater buoyancy in local markets. This promotes the participation and investor's base

which leads to more capital flows into the stock market. Capital flows is measured by means of foreign direct investment as a percentage of GDP.

All-share Index (ASHI): This evaluates the daily trends of stock prices, it also signifies investor's self-reliance in the economy by their buy and sell dealings. The greater the dealings in the stock market emanating from large volumes of stock changing hands in the buy and sell undertakings, the more positive the condition of the economy.

Stock Turnover Ratio (TURORA): This is division of the total value of all shares traded during the period by the average market capitalization for the period. Average market capitalization is obtained as the average of the end-period wealth for the current period and the previous period. It is used as an index of comparison for level of transaction costs and market liquidity rating. Liquidity is the easiness and rapidity with which economic representatives can buy and sell securities on the capital market. With a liquid market, the initial stockholders do not lose right to use their savings for the extent of the investment project because they can quickly, easily, and cheaply, sell their claims in the firm. Thus, more liquid markets could facilitate potentially more profitable projects, investment in long term, thereby fostering the mobilization of capital and enhancing projections for long term development.

Value of Transactions: This is pecuniary worth of all bonds, equities, and other commodities transacted on the capital market. It demonstrates the market liquidity on an economy at large.

DATA PRESENTATIONS AND INTERPRETATIONS

Descriptive Statistics

Table 4.1 displayed the standard deviation, mean, maximum, minimum, kurtosis and skewness values of the dependent and independent variables adopted in the survey.

Table 4.1 Descriptive Statistics Observation: 27

VARIABLES	ASHI	CAPFLO	GDP_PC	MKTCAP	TURORA	VATRA
Mean	4.995760	0.378747	3.215454	2.948424	0.641497	4.637663
Std. Dev.	0.657567	0.366193	0.122668	1.047451	0.558324	1.338552
Skewness	-0.822420	0.155325	0.394782	-0.274912	-0.492225	-0.379749
Kurtosis	2.556397	1.663029	1.398342	1.772145	1.881664	1.716041
Jarque-Bera (JB)	3.265064	2.119495	3.587310	2.036176	2.497294	2.503561
JB Probability	0.195434	0.346543	0.166351	0.361285	0.286893	0.285995

Sources: Computed by Authors 2016

Table 4.1 shows that the mean of all shares index, capital flow, gross domestic product per capital, market capitalization, stock turnover ratio and value of traded transaction are approximately 4.996, 0.379, 3.215, 2.948, 0.641 and 4.638 respectively. Market capitalization reflects the lowest standard deviation of 0.123 denoting its high influence to the functioning of the capital market in Nigeria. Value of traded transactions demonstrates the highest standard deviation of 1.339 which means that its contribution to economic growth in Nigeria is the lowest. The Jarque-Bera statistics of all variables show that the residuals are normally distributed as their corresponding probabilities are greater 5% significant level.

Unit Root Test Results

Prior to investigating co-integration, investigators effected unit root test on the series under study to examine the stationarity properties of our data. Augmented Dickey-Fuller tests were adopted on each of the time series variables. The results for the tests are demonstrated in Table 4.2 below:

Table 4.2: Augmented Dickey-Fuller (ADF) Test

Variables	t-statistic	5% TCV	10% TCV	P-Values	Status
Panel A: ADF at Level					
LGDP-PC	0.249331	-2.981038	-2.629906	0.9706	*Non-Stationary*
LCAPFLO	-1.189364	-2.981038	-2.629906	0.3517	*Non-Stationary*
LMKTCAP	-1.657833	-2.981038	-2.629906	0.4400	*Non-Stationary*
LTURORA	-2.150889	-2.981038	-2.629906	0.2278	*Non-Stationary*
LASHI	-3.006603	-2.981038	-2.629906	0.0474	*I(0)*
LVATRA	-0.971618	-2.981038	-2.629906	0.7479	*Non-Stationary*
Panel B: ADF at First Difference					
LGDP-PC	-4.225672	-2.986225	-2.632604	0.0031	*I(1)*
LCAPFLO	-6.586100	-2.986225	-2.632604	0.0000	*I(1)*
LMKTCAP	-3.887754	-2.986225	-2.632604	0.0069	*I(1)*
LTURORA	-7.295338	-2.986225	-2.632604	0.0000	*I(1)*
LASHI	-3.651493	-2.991878	-2.635542	0.0121	*I(1)*
LVATRA	-4.809607	-2.986225	-2.632604	0.0008	*I(1)*

Sources: Computed by Authors 2016

TCV = Test Critical Value
I(0) = Stationary a Level
I(1) = Stationary at 1st Difference

Table 4.2 shows results of the unit root tests, in 'panel A', our variables are non-stationary at both 5% and 10% critical values. This is concluded upon based on the fact that the computed absolute values of the tau statistics (t-statistic) do not exceed the ADF (or MacKinnon) critical tau values, implying that we cannot to reject the null hypothesis that there was unit root or the time series were non-stationary. But all shares index (LASHI) rejects the null hypothesis since its t-statistic is in excess of the associated test critical values However, in 'panel B', all our variables are stationary that is, they (variables) are all integrated of the same order 1 written symbolically as *I(1)* meaning that the time series data assumed a difference stationary process (DSP).

Johansen Cointegration Long-run Equilibrium Results
The Cointegration tests are executed on the premise of the [16] maximum likelihood framework. The justification is to inaugurate whether long-run relationships exist among our variables of interest. This result are:

Table 4.3 Cointegration Results
Series: LASHI LCAPINV LGDP_PC LMCAP LTURORA LVATRA
Lags interval (in first differences): 1 to 1

Trace Rank Test				
Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**5% CV**	**P-Values**
None*	0.909374	145.8713	95.75366	0.0000
At most 1*	0.762879	85.84610	69.81889	0.0016
At most 2*	0.627251	49.86648	47.85613	0.0320
At most 3	0.418796	25.19521	29.79707	0.1546
At most 4	0.254875	11.62887	15.49471	0.1756
At most 5*	0.157138	4.273793	3.841466	0.0387
Maximum Eigenvalue Rank Test				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**5% CV**	**P-Values**
None*	0.909374	60.02524	40.07757	0.0001
At most 1*	0.762879	35.97962	33.87687	0.0277
At most 2	0.627251	24.67127	27.58434	0.1129
At most 3	0.418796	13.56634	21.13162	0.4016
At most 4	0.254875	7.355077	14.26460	0.4480
At most 5*	0.157138	4.273793	3.841466	0.0387

Sources: Computed by Authors 2016

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
CE = Cointegrating Equation
CV = Critical Value

Long-run Impact Analysis

Prognosis of the log-log results provide very thought-provoking results to the request about responsiveness of economic growth to capital market in Nigeria. To evaluate the elasticity coefficient influence of capital market on economic growth in Nigeria, the survey employed the regression method as depicted below:

Table 4.5: Long-run Result
Regressand: LGDP_PC Observation: 27

Regressors	Coefficients	Standard Error	t-Statistic	P-Values
LCAPFLO	0.050538	0.042493	1.189322	0.2476
LMKTCAP	0.258501	0.052472	4.926455	0.0001
LTURORA	0.001107	0.027893	0.039704	0.9687
LASHI	-0.234372	0.054281	-4.317774	0.0003
LVATRA	-0.022488	0.037740	-0.595865	0.5576
Intercept	3.709239	0.179300	20.68738	0.0000
R² = 0.930241	**F-statistic = 56.00713**		**Durbin-Watson Stat = 1.392270**	
Adjusted R² = 0.913631	**Prob(F-statistic) = 0.000000**			

Sources: Computed by Authors 2016

The regression results in Table 4.5 reveals that capital flow, market capitalization and stock turnover ratio contribute positively to economic growth in Nigeria. As it could be observed in the table, capital flow's 1% rise, causes 5% increase in economic growth of Nigeria. This variable is elastic in that a one percent change in capital flow, occasions a higher percent in Nigeria's economic growth and it (capital flow) is insignificant as its associated p-value is higher than 5% level. With 1% surge in market capitalization, economic growth was raised by

25.8%. Market capitalization as a variable in our model is significant because its corresponding p-value (0.0001) falls short of 5% level of significance. This suggests that as market capitalization rises, a significant effect on economic growth is recorded simply because of the reality that as investment furthers, the level of foreign direct investment also increases. This is true because investment level in the country's capital market is expected to surge and the number of investors will as well be high by the same quantity. Ultimately, the capital market activities will improve thereby fostering Nigeria's economic growth in turn.

Furthermore, a 1% upsurge in stock turnover ratio encouraged economic growth by 0.1% during the period under study but it discovered that the variable is non-significant. This is evidenced in its p-value which is less than 5% level.

However, both all shares index and value of traded transactions diminished economic growth in Nigeria. A 1% rise in all shares index reduced economic growth by 23.4%. Similarly, a 1% increase in the value of traded transactions during the period under study increased level of economic growth by 2.2%. All shares index is significant because its associated p-value is 0.003 which is less than 5% level whereas LVATRA is non-significant since its p-value (55.8% approximately) is greater than 5% level of significance. This result implies that as volume of traded transaction demonstrates that a rising stock price decreases the wealth of the economy by discouraging increase in demand for securities and in the long run investment. Furthermore, the volume of traded transaction as well reduces which in the end has a considerable influence on Nigeria's economic growth.

On the aggregate, the independent variables accounted for 93% variations in the regressand as shown in Table 4.5 and the remaining 7%% is included in the stochastic error terms of our model. In the long-run, this connotes that the operations of the capital market is related with the Nigeria's economy. It further denotes that the more the functioning of the Nigeria's capital market, the greater the growth realistic in the economy of Nigeria. The adjusted R^2 value depicts 91.4%. The inference from this is that, the model of our study is tightly fit and that our regressors are fittingly chosen. Lastly, the F statistic of 56.00713 is significant at 1%, 5% and 10% level of significance which signifies that capital market workings have strongly and significantly influenced economic growth of Nigeria. The Durbin-Watson (DW) of 1.392270 implies autocorrelation of residuals poses no problem to the robustness of statistical deductions of our survey.

Pairwise Granger Causality Tests
In this segment, Pairwise Granger Causality Tests are employed to explore the causality between economic growth and capital market in Nigeria. This involves the comparison of F-statistic with probability value to determine the causality. If F-statistic is greater than 2 and prob. value is less than 5% level, then there is causal relationship between the variables against which the prob. is displayed. Otherwise, there is no causality. The causality results are shown as follows:

Table 4.6: Results of Granger Causality Tests

Null Hypothesis:	Obs.	F-Statistic	Prob.
LMKTCAP does not Granger Cause LASHI	25	12.5510	0.0003
LASHI does not Granger Cause LMKTCAP		3.34953	0.0556
LGDP_PC does not Granger Cause LCAPFLO	25	4.60315	0.0227
LCAPFLO does not Granger Cause LGDP_PC		1.99588	0.1621
LMKTCAP does not Granger Cause LGDP_PC	25	4.03153	0.0338
LGDP_PC does not Granger Cause LMKTCAP		0.00943	0.9906
LVATRA does not Granger Cause LGDP_PC	25	3.93413	0.0362
LGDP_PC does not Granger Cause LVATRA		0.54732	0.5869
LVATRA does not Granger Cause LMKTCAP	25	1.72985	0.2028
LMKTCAP does not Granger Cause LVATRA		6.14087	0.0083

Obs. = Observation after having considered lags

The results of table 4.6 exposed that there is unidirectional linkage between market capitalization and Nigeria's economic growth. This means that in the short run, market capitalization does Granger cause Nigeria's economic growth as shown by the low probability of 0.0003. The results also displayed that economic growth in Nigeria does Granger Cause capital flows. The causal nexus is also unidirectional and it is accepted at probability level of 0.0227 with the confirmation confirmed by the F-statistics value of 4.60315. Value of traded transactions as well granger causes Nigeria's economic growth as shown in the table where F-statistic is 3.93413 and consolidated by probability value of 0.0362. This connotes the existence of one-way causation flowing from value of traded transactions to economic growth in the country.

Similarly, there is unidirectional relationship between the value of traded transactions and market capitalization. This is so because p-value (0.0083) is less than 5% and F-statistic (6.14087) is above 2. Finally, the complete Pairwise Granger Causality Tests results shown in appendix demonstrates that the short-term interaction between economic growth (LGDP_PC) and stock turnover rate (LTURORA), as well as that of all share index (LASHI) is independent. This means that stock turnover rate, and all share indexes do not granger cause Nigeria's economic growth and vice versa.

Residuals Diagnostic Test
Residual regression diagnostic is one of a set of procedures available for regression analysis that evaluate the validity of a model in a number of ways. A regression diagnostic may take the form of informal quantitative results, a graphical result, or a formal statistical hypothesis test, (Dodge, 2003) each of which guarantees guidance for further phases of a regression analysis. The residual diagnostic tests are essential to validate our model because the bottom line is that unpredictability and randomness are crucial components of any regression model. The results of these diagnostic tests are shown below in table 4.7:

Table 4.7: Results Observation: 27

Histogram Test Results	
Jarque-Bera (JB) Statistic	**JB P-Value**
2.182095	0.335865

Breusch-Godfrey Serial Correlation Langrage Multiplier (LM) Test Results			
F-Statistic	**Prob. F-Statistic**	**Obs*R-Squared**	**Prob. Chi-Square**
1.277209	0.3017	3.199776	0.2019

Heteroskedasticity Test: Arch Results			
F-Statistic	**Prob. F-Statistic**	**Obs*R-Squared**	**Prob. Chi-Square**
0.006616	0.9358	0.007165	0.9325

Sources: Computed by Authors 2016

It is expected that the regression residuals should be normally distributed. It is a good idea to check if the residuals are normally distributed, this is not essential for forecasting, but it does make the calculation of prediction intervals much easier. Hence, a critical look at histogram test results section in table 4.7, the Jarque-Bera statistics indicates the normal distribution of the residuals because of the JB p-value (0.335865) which is greater 5% level.

In the same vein, Breusch-Godfrey serial LM test is used to measure the validity of some of the modelling assumptions intrinsic in applying regression-like models to observe data series. It is used, in particular, to investigate the presence of autocorrelation that has not been incorporated in a proposed model framework and which, if existent would mean that incorrect deductions would be extracted from other tests, or that sub-optimal estimates of model parameters are obtained if it is not taken into account. The Durbin-Watson value (1.392270) in table 4.5 show that there is some autocorrelation remaining in the residuals. The forecasts from the current model are still unbiased, but will have larger prediction intervals than they need to. This necessitates the test for higher order autocorrelations via the Breusch-Godfrey test results as depicted in LM section of table 4.7, the results confirm the existence of no serial correlation in the residuals because observed R-squared (3.199776) has its corresponding prob. chi-square to be higher than 5% level.

A third possible test is the heteroscedasticity ARCH test. The existence of heteroscedasticity is a major concern in the analysis of variance (ANOVA), including the presentation of regression analysis, as it can invalidate statistical tests of significance that postulates that the modelling errors are uniform and uncorrelated, hence their variances are time invariant with the modeled effects. For instance, while the ordinary least squares estimator remains unbiased with the presence of heteroscedasticity, it is ineffective because the covariance and true variance are underestimated. Therefore, the last section of table 4.7 reveals that the observed R-square's probability chi-square (0.9325) is above 5% significant level meaning there is no heteroscedasticity in our modeled regression thereby affirming our regression results efficient and reliable. In view of the facts from foregoing expositions that the residuals of our regression are homoscedastic and normally distributed with no serial correlations, our model in conclusion is valid.

CONCLUSION AND RECOMMENDATIONS

The study was carried out in an attempt to examine the relationship between capital market and economic growth in Nigeria over a period of 1989 to 2015. It was discovered that the relationship between economic growth and capital flow, market capitalization and stock turnover ratio is positive. Economic growth is highly responsive to significant market capitalization in Nigeria as shown in our study that as MKTCAP increases by one percent, there

is over 25 percent in rise in economic growth. On the other hand, all shares index and value of transactions on the Nigeria's capital market demonstrated negative relationship with economic growth in the country. The degree of responsiveness of all shares index is significantly much high as this revealed over 23 percent decline in growth with one percent increase in its (ASHI's) value. On the aggregate, the R^2 displayed 93% total variations in the economic growth during the period under study. These variations were brought about by our selected explanatory variables. It was found out that the long-run equilibrium exist among our variable as exposed by trace and max-Eigen Cointegration equations. It was as well established that market capitalization and value of transactions granger cause economic growth in the short-term. This means that any changes in these (MKTCAP and VATRA) variables, would have immediate impact on the Nigeria's economic growth.

POLICY IMPLICATIONS OF FINDINGS AND RECOMMENDATIONS

Given the empirical results reported above, the following policy implications are drawn. Firstly, since capital market is proxied by market capitalization, capital flows and stock turnover ratio and has statistical positive impact on economic growth, it implies that market capitalization increases the ability of firms to raise capital. Thus, firms will be able to increase investment and expand production of goods and services which translates to higher growth rate. We could therefore postulate that once the real sector is buoyant in terms of financing its elements. It should be expected that the sector's expansion and productivity will be encouraged to rise thereby reducing the cost of production and increasing the GDP as well as favouring other economic indices such as favourable balance of payment, decline in inflation, higher purchasing power of currency. However, the negative relationship of all shares index and value of transaction poses threat to Nigeria's economic growth as this translates into discouragement of the interested investors in the equities on the capital market which consequently affects the growth in the country. Therefore, more efforts needs to be done by the Nigerian government in order to improve and refurbish the confidence of investors to the market.

In view of the findings and implications, the study hereby recommend the followings:

i. Government should place greater stress on financial sector's improvement with special concentration on capital market promotion to ensure the attainment of the desired economic growth in the country.

ii. Government should take concrete steps towards removing all bottlenecks that led to long term negativity in the capital market like delay in dividend payments, resolve the nagging issues of unpaid and unclaimed dividends, and transfer of stocks. This is necessary to motivate the citizenry into participating in the capital market. This way, undertakings in the market will be enhanced, capital accumulation improved and national productivity will surge.

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APPENDIX

Pairwise Granger Causality Tests
Date: 08/04/16   Time: 10:56
Sample: 1989 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LCAFLO does not Granger Cause LASHI	25	0.19080	0.8278
LASHI does not Granger Cause LCAFLO		1.83492	0.1855
LGDP_PC does not Granger Cause LASHI	25	0.02946	0.9710
LASHI does not Granger Cause LGDP_PC		3.03149	0.0708
LMCAP does not Granger Cause LASHI	25	12.5510	0.0003
LASHI does not Granger Cause LMCAP		3.34953	0.0556
LTURORA does not Granger Cause LASHI	25	0.34221	0.7143
LASHI does not Granger Cause LTURORA		2.15571	0.1420
LVATRA does not Granger Cause LASHI	25	0.41672	0.6648
LASHI does not Granger Cause LVATRA		0.68981	0.5132
LGDP_PC does not Granger Cause LCAFLO	25	4.60315	0.0227
LCAFLO does not Granger Cause LGDP_PC		1.99588	0.1621
LMCAP does not Granger Cause LCAFLO	25	3.04212	0.0702
LCAFLO does not Granger Cause LMCAP		0.88633	0.4277
LTURORA does not Granger Cause LCAFLO	25	1.58881	0.2289
LCAFLO does not Granger Cause LTURORA		0.17499	0.8407
LVATRA does not Granger Cause LCAFLO	25	1.72422	0.2038
LCAFLO does not Granger Cause LVATRA		0.15031	0.8614
LMCAP does not Granger Cause LGDP_PC	25	4.03153	0.0338
LGDP_PC does not Granger Cause LMCAP		0.00943	0.9906
LTURORA does not Granger Cause LGDP_PC	25	3.03321	0.0707
LGDP_PC does not Granger Cause LTURORA		0.12318	0.8848
LVATRA does not Granger Cause LGDP_PC	25	3.93413	0.0362
LGDP_PC does not Granger Cause LVATRA		0.54732	0.5869
LTURORA does not Granger Cause LMCAP	25	0.65034	0.5326
LMCAP does not Granger Cause LTURORA		1.04291	0.3708
LVATRA does not Granger Cause LMCAP	25	1.72985	0.2028
LMCAP does not Granger Cause LVATRA		6.14087	0.0083
LVATRA does not Granger Cause LTURORA	25	1.75335	0.1988
LTURORA does not Granger Cause LVATRA		0.53885	0.5917