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Capital Market Development and Economic Growth in Nigeria

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ABSTRACT

The paper examined the effect of a well developed capital market on economic growth in Nigeria. We developed a model that is able to investigate how capital market development affects business cycle volatilities, and in the long run economic growth through the use of multi-variable regression analysis. Unit root test was conducted and all our estimating variables were stationary at first difference except the Christiano-Fitzgerald filter which shows that our model interpretation would not be spurious and a true representation of the relationships that exists between the explained and explanatory variables. Error Correction Model was introduced in our estimation in order to have a parsimonious model. Insignificant variables such as Net Export were removed from our model. This can be understood from the reasoning that Nigeria remains a mono-cultural economy (oil dependent) and is seen by the export shocks being negative and significant from our earlier regression result. From our result, all our variables (market capitalization, gross fixed capital, and structural activity) all have a positive but fairly insignificant impact on economic growth. The volatility measure on the other hand had a negative but highly significant impact on economic growth which supports the endogenous growth model that developing countries (Nigeria inclusive) are highly susceptible to macroeconomic shocks such as money supply shocks, export supply shocks, productivity shocks, etc). In addition, Engle-Granger co integration test was done and showed the existence of a long run relationship between capital market development and economic growth in Nigeria. We recommend adopting a policy framework that address the weak linkages between net export and the rest of the Nigerian economy by diversification, creating conducive environment that allows domestic investors to invest in the capital market and removing all impediments to local businesses. Finally, government securities should be channelled to more productive sectors to complement those in the private sector.

KEYWORDS: Capital Market, Economic Growth, Engle-Granger, Volatility

Background to the study

The capital market is a network of financial institutions and infrastructure that interact to mobilize and allocate long-term funds in the economy. The market affords business firms and governments the opportunity to sell stocks and bonds, to raise long-term funds from the savings of other economic agents. The capital market is a highly specialized and organized financial market and indeed an essential agent of economic growth because of its ability to facilitate and mobilize saving and investment. It is also pertinent to note that long-term finance through the capital market is essential for self-sustained economic growth (Iyola, 2004). Chinwuba and Amos (2011) note that capital market is one of the major institutions that acts in propelling a prostrate economy for growth and development and a complex institution imbued with inherent mechanism through which long-term funds of the surplus sectors of the economy are mobilized, harnessed and made available to deficit sectors of the economy (Nyong, 1997).

Osaze and Anao (1999), also assert that capital market is the cornerstone of any financial system since it provides the funds needed for financing, not only business and other economic institutions, but also the programs of government as a whole. It is true that the rate of economic growth of any nation is inextricably linked to the sophistication of its financial market and specifically its capital market efficiency. Virile financial markets assist the nations of the world to muster needed financial resources and skills for growth and development. Equity markets in developing countries until the mid-1980s generally suffered from the classical defects of bank dominated economies

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that are shortage of equity capital, lack of liquidity, absence of foreign institutional investors, and lack of investor's confidence in the stock market (Adebiyi, 2005).

The institutional frameworks through which the capital market functions in Nigeria include the Nigerian Securities and Exchange Commission (SEC), the Nigerian Stock Exchange (NSE), stock brokers and investors. The main objective of establishing the Nigerian capital market was to mobilize savings from numerous economic units in the country for economic growth and development; provide adequate liquidity to investors, and to broaden the ownership base of assets as well as the creation of a buoyant private sector. It is important to state here that few works has been done on the relationship that exists between development of the capital market and fluctuations seen through various shocks in the economy and how it generally affects productivity. The study of economic fluctuations is seen in the concepts of business cycles. Mitchell (1927) defined business cycle as a sequence of expansions and contractions particularly emphasizing turning points and phases of the cycle. Lucas (1977) as contained in Kydland and Prescott (1990:2) defined business cycle as the statistical properties of the co-movements of deviations from the trend of various economic aggregates with those of real output. These definitions underscore the recurrence of upturns and downturns around the trend of macroeconomic aggregates.

Nigeria, no doubt, has witnessed periods of boom and also recessions. The deep crises that have pervaded the Nigerian economy since early 1970s posed considerable challenges to policy makers and economists. In the 1970s, the economy was expanding due to large inflow of crude oil income and by the period 1981-1985, at the wake of the falling oil revenue; the economy declined precipitating a rapid deterioration of the living standard of Nigerians. Iwayemi (1995:5) point out that the cycle of oil price booms and precipitous decline and the associated transfer problem in terms of the net resource outflow and debt repayments triggered profound changes unparallel in the history of the economy. Macroeconomic indicators at the time point to the grave economic situations. In particular, there were sharp fluctuations in the gross domestic product (GDP), remarkable fluctuations in inflation rates, unemployment rate, growing size and composition of government expenditure and slow growth of the domestic production, chronic fiscal deficit, and decline in traditional agricultural output. These outcomes were traced to multiplicity of exogenous and endogenous factors (shocks) which in the case of Nigeria could have combined to generate business cycles.

Furthermore, it has been argued that most Nigeria business lack long term capital. The business sector in Nigeria has been relying on short term financing such as overdraft to finance even long term capital. Based on the maturity marching concept is such financing becomes risky. All such firms need to raise an appropriate mix of short and long term capital market. (Demirgue-Kunt and Levine 1996). Most recent literature on Nigeria capital market performance in recent times is unable to details out the crucial role of capital market on economic growth empirically. Businesses rise and collapse so easily in the history of Nigeria for many other reasons including non-availability of long term finance. Using short term finances to pursue long term capital projects can cripple any business and or project considering the match maturity concept that most financial institutions operate wherein they ensures that loans given and debts incurred mature at the same time. In the light of this, the gap this study intends to fill is to evaluate the level of development and efficiency of the Nigeria capital market, its impact on business cycle fluctuations and how it can impact economic growth.

Statement of Problem

The financial markets in both developed and the developing economies witnessed dramatic growth over the last decades in both relative and absolute terms, with a number of causes and consequences (Orhangazi, 2007). In Nigeria, the late 70s and early 80s witnessed a rapid increase in trading at the stock exchange, with increased participation of both individuals and institutions with more emphasis made on the market rather than the real sector. When the burst came after the boom, the capital market drove down with market activities witnessing considerable fluctuations just like the burst experienced in the real economy (Ologunla, 2008). This was synonymous with happenings in other African countries during the period. Equity markets in developing countries until the mid-1980s generally suffered from the classical defects of bank dominated economies that are shortage of equity capital, lack of liquidity, absence of foreign institutional investors, and lack of investor's confidence in the stock market (Adebiyi, 2005). The importance of capital market lies in its financial intermediation capacity to link the deficit sector with the surplus sector of the economy. The absence of such capacity robs the economy of investment and production of goods and services for societal advancement. Funds could thereby be idle at one end, while being sought at the other end in pursuit of socio-economic growth and development (Akinbohungbe, 1996). Ariyo et al (2005) contend that,

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the liberalization of capital market contributes to the growth of the Nigeria capital market, yet its impact at the macro-economy is quite negligible. Ewah et al (2009) appraised the impact of capital market efficiency on economic growth in Nigeria, using time series data on capitalization, money supply, interest rate, total transaction and government development stock that ranges between 1961 to 2004. The result of the study shows that the capital market in Nigeria has the potential of growth inducing; but it has not contributed meaningfully to the economic growth of Nigeria. The study attributed the findings to the low market capitalization, low absorptive capitalization, illiquidity, misappropriation of funds among others.

A developed and efficient credit market encourages savings, allocative efficiency of investible funds and promotion of capital accumulation. Countries with deeper credit market like US and UK face less severe business cycle, output contraction and lower chances of an economic downturn which directly or indirectly boost private investment behavior in the economy. However, in Nigeria the objective of improving the level of economic development through the credit market is yet to be achieved (Chiojoke, 2014). So also, theoretical and empirical research have given little emphasis on the nature of financial development and economic growth bearing in mind the recent downturn in the financial market and how it affects the real sector of the economy and this have generated a lot of controversies and further research needs to be carried out on the nature of relationship between the financial sector and economic growth in order to ascertain the link between financial development and economic growth.

Research Questions

In light of this, therefore, the questions to guide this research study include the following:

i. Does capital market development affect business cycle fluctuations in Nigeria?
ii. How vital is market development to the growth of the Nigerian economy?

Research Objectives

The broad objective of the thesis is to evaluate the effect of capital market development on business cycle and economic growth in Nigeria.
Furthermore, the specific objectives include:

i. If there is a relationship between capital market development and business cycle fluctuations in Nigeria.

ii. Evaluate the effect of capital market on economic growth in Nigeria.

iii. Proffer solutions on how capital market in Nigeria can be developed to enhance growth in the economy.

Statement of Hypothesis

In this study we shall examine the following hypotheses that:

i. $\mathbf{H_0}$: there is no relationship between capital market development and business cycle fluctuations in Nigeria.

$\mathbf{H_1}$: there is a relationship between capital market development and business cycle fluctuations in Nigeria.

ii. $\mathbf{H_0}$: there is no causal relationship between capital market and economic growth in Nigeria.

$\mathbf{H_1}$: there is a causal relationship between capital market and economic growth in Nigeria.

The organization of this paper goes thus: chapter two includes literature review, chapter three research methodologies, chapter four presentations of results and chapter five summary, conclusion and recommendations.

2. Literature Review.

Strong credit market promotes economic growth. Schumpeter (1934) emphasized the role of the banking sector as a financier of productive investments and as an accelerator of economic growth. Financial sector development affects economic growth in form of increases in investment returns, reductions in transaction costs and increased savings (Babantunde, 2007). Duru (2010), Oluitan (2009), Onwioduoki; Babatunde (2007), all constructed theoretical

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models wherein efficient financial markets improved the quality of investments and enhanced economic growth. Also, a number of studies investigated the links between capital market development and growth empirically. Babatunde (2007) noted that capital market development and economic growth in Nigeria and concluded that market indicators are robustly correlated with economic growth.

Levine et al (1997) undertook a comprehensive study on the relationship between capital market development and economic growth. They investigated the compatibility of stock market development with financial intermediaries and economic growth and concluded that stock market development is positively correlated with the development of financial intermediaries and long term economic growth. Levine (1997) also confirms that capital markets can boost economic activity through the creation of liquidity. Conversely, Obstfeld (1995) identified risk diversification through internationally integrated stock markets as another vehicle through which stock markets can raise resources and affect growth.

In France, Vazakidis and Adamopoulos, (2009), employed Co integration, Granger Causality test and Vector Error Correction model, to examine the causal nexus between stock market development and economic growth for period of 1965 to 2007. They found that there exists a significant positive association between economic growth and stock markets development. Mishra, et al (2010) examine the impact of capital market efficiency on economic growth of 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. Their study reveals that there is a linkage between capital market efficiency and economic growth in Indian. In Romania, Brasoveanu et al (2008), studied the correlation between capital market development and economic growth for the period 2000 to 2006. The result indicates that capital market development is positively correlated with economic growth by way of feed-beck effect. In other countries in Africa, Bolbol et al (2005) indicates that capital market development has contributed to the economic growth of Egypt. The report found that stock market development does not merely follow economic development but provides the means to predict future rates of growth in capital, productivity and per capita GDP. Tharavaniji (2007), observes that countries with deeper capital market face less severe business cycle output contraction and lower chances of economic downturn compared to those with less developed capital market. Adamu and Sanni (2005), examine the roles of the stock market on Nigeria's economic growth, using Granger-causality test and regression analysis. They discovered a one-way causality between GDP growth and market turnover. They also observed a positive and significant relationship between GPD growth and market turnover ratios. The authors advised that government should encourage the development of capital market since it has a positive effect on economic growth.

Few studies also have been done to establish the capital market-volatility and growth nexus. Braun and Larrain (2005) hypothesize that if financial conditions play an important role in aggregate cyclical behavior, then one should expect a firm's response to negative shocks to vary with its reliance on financial markets. When investment is primarily financed with internal funds, then worsening conditions should not have as large an impact as in the case when external funds account for the bulk of financing. Since such disparate responses depend on financial market imperfections, the differential impact should be stronger when financing frictions are more prevalent. The authors tested these conjectures with a cross-country panel of yearly production growth rates for several manufacturing industries. They found that industries that are more dependent on external finance are hit harder during recessions. In particular, more dependent industries are more strongly affected in recessions when located in countries with poor financial contractibility, and when their assets are softer, providing less security to financiers. They also found that the financial mechanism is asymmetric over the cycle. The effect is stronger during downturns than in booms and especially strong when recessions are accompanied by credit crunches.

Acemoglu et al. (2002) look at the impact of macro variables and institutions on the severity of output contractions, measured by the largest output drop in the sample period, and find that coefficient on institutions is highly significant, while other macro variables, including real M2 to GDP as a measure of financial intermediation, are not significant after taking into account the influence of institutions. Easterly et al. (2000) performed a probity analysis of an economic downturn, defined as negative GDP per capita growth. They found that financial development, measured by the ratio of credit to GDP, is marginally significant and the sign is positive. This implies that financial depth increases likelihood of a downturn. However, they also found that development of equity market, measured by stock market value traded over GDP, has the negative sign and is highly significant. They reason that stock market provides better risk diversification than do debt markets, and thus make the economy less vulnerable to an economic downturn.

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3. Methodology

This study would make use of secondary data to be obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, Nigerian Stock Exchange (NSE) Fact book, Securities and Exchange Commission (SEC) database and from the relevant literatures (books, journals, previous research papers and electronic sites). The time series data cover the period 1980-2017.

Taking a leaf from Tharavanij (2007) we intend to develop a model that is able to investigate how capital market development affects business cycle volatilities and in the long run economic growth. Capital market development can be measured both in absolute and relative terms.

To measure capital market development in absolute terms we identify a proxy, capitalization ratio defined as the total stock market capitalization over GDP. To measure capital market development in relative terms i.e. the development of the capital market relative to other financial intermediaries particularly the banking sector. To achieve this we intend to proxy the financial structure of the Nigerian economy using the stock market Structural-Activity (SA), which measures the stock market activities relative to the banking sector. Business cycle volatility would be measured using the standard deviations of business cycle components using the Christiano-Fitzgerald (CF) filter that extracts cyclical variations that lasts 2-8 years. Lastly we proxy economic growth with GDP at constant prices.

From the above, our model is specified as thus:
Implicit form :
$Gdpinc = (mktcap, SA, X_{it}, \sigma_{it})$……1.
$\sigma_{it} = (mktcap, SA)$…….2.
Transformed with the aid of logarithm into:

$$\log (Gdpinc) = \alpha_o + \alpha_1 logmktcap + \alpha_2 logSA + X_{it} + \sigma_{it} + U_{it} \text{……..3.}$$

$$\sigma_{it} = \beta_0 + \beta_1 logmktcap_{it} + \beta_2 logSA_{it} + \varepsilon_{it} \text{…….....4.}$$

Where: σ_{it} is the business cycle volatility measure.

$Logmktcap_{it}$ represents log of market capitalization in the capital market.

$LogSA_{it}$ represents log of structural activity in the stock market.

Log (Gdpinc) represents the of log gross domestic product (income) at constant price.

Xit represents the instrumental variables necessary in estimating our model and includes investment (represented by log of gross fixed capital and net export).

β_0 , α_o are the constants in equation 3 and 4.

β_1 , β_2 , α_1, α_2, are the estimating parameters of the model and are non negative.

4. Presentation of Results

4.1 Descriptive Statistics

Mean is the average value of the series, obtained by adding up the series and dividing by the number of observations. Median is the middle value (or average of the two middle values) of the series when the values are ordered from the smallest to the largest. The median is a robust measure of the center of the distribution that is less sensitive to outliers than the mean. Max and Min are the maximum and minimum values of the series in the current

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sample. Std Dev. (standard deviation) is a measure of dispersion or spread in the series. Skewness is a measure of asymmetry of the distribution of the series around its mean. Kurtosis measures the peakedness or flatness of the distribution of the series. If the kurtosis exceeds 3, the distribution is peaked (leptokurtic) relative to the normal; if the kurtosis is less than 3, the distribution is flat (platykurtic) relative to the normal. Jarque-Bera is a test statistic for testing whether the series is normally distributed; a small probability value leads to the rejection of the null hypothesis of a normal distribution (Eviews workbook, 2012).

Table 4.1.

	Log(gdpinc)	Log(gfc)	Log(netexp	Log(vos)/log(bcp)	Log(mktcap	Bpfilter
Mean	5.9926	3.5853	6.3875	0.7544	6.5249	-1.0149
Maximum	6.6010	4.7898	8.4752	0.9032	9.4866	-0.9404
Minimum	5.6384	1.8456	3.7675	0.5518	3.4404	-1.1172
StdDev	0.3438	0.7656	1.6443	0.1160	1.8179	0.0621
Kurtosis	1.7534	3.4586	1.7225	1.8670	2.0184	1.6167
Jarque-Bera	2.3052	2.3561	1.3093	1.3437	0.7275	1.9691
Probability	0.3158	0.3078	0.5196	0.5108	0.6950	0.3736

Author's computation (2017).

As shown in table 4.1, we notice a high maximum value for gross domestic product, gross fixed capital formation, net export and market capitalization which was the period of oil boom and stock market peak before the financial crisis. Conversely the low maximum value for stock market structural activity and our volatility measure show the structure of the capital is still at infantile level and susceptible to shocks. Kurtosis which measures the peak and flatness of the distribution is flat relative to its normal distribution since their kurtosis values are less than 3 for all our estimating variables. Jarque-Bera is a statistical test that determines whether the series is normally distributed. The null hypothesis here is that the series is normally distributed (i.e. skewness=0) so as to be consistent with skewness test. The Jarque-Bera statistics here rejects the null hypothesis for all our market variables (gdpinc, mktcap, netexp, Bpfilter etc) since their probability values are low. We therefore conclude that all our variables are normally distributed during the period 1981-2014.

4.2 Unit Root Tests.

Table 4.2.0 and 4.2.1

Variables.	ADF STATISTICS.	ADF STATISTICS.	Critical Values.	Critical Values.
	Level.	1st Difference.	Level.	1st Difference.
Log(gdpinc)	-1.48884	-4.9946	1% -4.2845 5% -3.5628	-4.2967 -3.5683
Log(mktcap)	-2.3372	-4.2665	1% -4.2627 5% -3.5529	-4.2732 -3.5577
Bpfilter	-3.8739	NA	1% -4.3943	NA

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			5% -3.6122	NA
Log(gfc)	-2.1889	-5.1735	1% -4.2845 5% -3.6122	-4.2967 -3.5687
Log(netexp)	-1.2191	NA	NA NA	1% -4.2845 5% -3.5628
Log(vos)/log(bcp)	-2.2947	-5.4805	1% -4.4678 5% -3.6449	-4.4983 -3.6584

Variable	Decision
Log(gdpinc)	Stationary at 1st difference
Log(mktcap)	Stationary at 1st difference
Bpfilter	Stationary at levels
Log(gfc)	Stationary at 1st difference
Log(netexp)	Stationary at 1st difference
Log(vos)/log(bcp)	Stationary at 1st difference

Author's computations (2016).

4.3 Estimation Results.

4.3.1 Error Correction Model Estimation.

The next process would be the estimation of regression equation using the first level difference and the Over-parameterized error correction model (ECM).

log(gdpinc) c dlog(gdpinc) log(mktcap) dlog(mktcap) log(gfc) dlog(gfc) log(netexp) dlog(netexp) Bpfilter01 d(Bpfilter01) log(vos)/log(bcp) dlog(vos)/dlog(bcp).

Dependent Variable: LOG(GDPINC)
Method: Least Squares
Time: 21:14
Sample (adjusted): 1993 2009
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.874350	0.619732	7.865258	0.0005
D(LOG(GDPINC))	4.377037	0.549924	7.959346	0.0005
LOG(MKTCAP)	0.171015	0.053216	3.213611	0.0236
D(LOG(MKTCAP))	-0.123979	0.044029	-2.815837	0.0373
LOG(GFC)	0.175018	0.028161	6.214931	0.0016
D(LOG(GFC))	-0.013771	0.042824	-0.321571	0.7608
LOG(NETEXP)	-0.011946	0.025946	-0.460400	0.6646

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D(LOG(NETEXP))	-0.007933	0.016490	-0.481110	0.6508
BPFILTER01	-0.333579	0.497701	-0.670240	0.5324
D(BPFILTER01)	-4.237377	0.610712	-6.938421	0.0010
LOG(VOS)/LOG(BCP)	-1.501404	0.497189	-3.019787	0.0294
D(LOG(VOS))/D(LOG(BCP))	0.005089	0.007015	0.725408	0.5007

R-squared	0.997665	Mean dependent var	6.013440
Adjusted R-squared	0.992528	S.D. dependent var	0.342499
S.E. of regression	0.029606	Akaike info criterion	-4.013666
Sum squared resid	0.004383	Schwarz criterion	-3.425516
Log likelihood	46.11617	Hannan-Quinn criter.	-3.955203
F-statistic	194.2050	Durbin-Watson stat	2.280422
Prob(F-statistic)	0.000008		

Log(gdpinc)=4.8743+0.1710log(mktcap)+0.1750log(gfc)-4.2373D(Bpfilter01)-1.5014log(vos/bcp).

In order to have a parsimonious model, the insignificant variables have been removed. Checking through our estimation result, we confirm that the model is a good fit from both the R^2 (0.99) and adjusted R^2(0.99) and all the estimating variables are statistically significant (t-statistics). Our F-statistics (194) shows a combined fit and significance for all the estimating variables while our Durbin-Watson figure of over 2 shows no sign of serial autocorrelation between the estimating variables and the residual term. From our results, we see that market capitalization, gross fixed capital and structural activity of the capital market all have positive but fairly insignificant impact on Nigeria's economic growth between 1981 and 2014. It clearly shows the level of low development of Nigeria's capital market while business volatility measure (Bpfilter) has a negative and highly significant impact on economic growth. This in all shows that the country's capital market is highly susceptible to macroeconomic shocks.

4.4 Co integration Test Results

We intend to know if there exists a long run relationship between all our estimating variables. Since all of our variables bar the volatility measure are all stationary at 1st difference we make use of the Johansen-Juleus test. The Johansen test revealed six (6) co integrating equations among all our estimating variables; 3 co integrating equations using trace statistics and 3 co integrating equations using the max-Eigen statistics all at 5% critical value. Thus, there exist a long run relationship between capital market development (proxied by mktcap, gfc and SA) and economic growth in Nigeria.

4.5 Granger Causality Test

From hypothesis two, we have to test to know the causal relationship that exists between capital market development and economic growth and our result with the help of granger-causality is summarized below:

I. Uni-directional causality between market capitalization log(mktcap) and economic growth when the coefficient of log(mktcap) is statistically significant.
II. Uni-directional causality between gross capital formation log(gfc) and economic growth when the coefficient of log(gfc) is statistically significant.
III. Uni-directional causality between difference of the volatility measure (d(Bpfilter)) and economic growth when the coefficient of d(Bpfilter) is statistically significant.
IV. No causality between structural activity of the capital market and economic growth.

5. Conclusions and Recommendations

5.1 Conclusions

The paper examined the effect of a well developed capital market on economic growth in Nigeria. We developed a model that is able to investigate how capital market development affects business cycle volatilities, and in the long run economic growth through the use of multi-variable regression analysis. We proxy the variables of market development to include; Market Capitalization, Structural Activity of the capital market together with the help of instrumental variables such as Gross Fixed Capital (investment) and Net Export. The business cycle component was represented using the standard deviations of the Christiano-Fitzgerald filter while economic growth represented by Gross Domestic Product (income) at constant prices.

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Unit root test was conducted and all our estimating variables were stationary at first difference except the Christiano-Fitzgerald filter which shows that our model interpretation would not be spurious and a true representation of the relationships that exists between the explained and explanatory variables. Error Correction Model was introduced in our estimation in order to have a parsimonious model. Insignificant variables such as Net Export were removed from our model. This can be understood from the reasoning that Nigeria remains a mono-cultural economy (oil dependent) and is seen by the export shocks being negative and significant from our earlier regression result.

From our result, all our variables (market capitalization, gross fixed capital, and structural activity) all have a positive but fairly insignificant impact on economic growth. The volatility measure on the other hand had a negative but highly significant impact on economic growth which supports the endogenous growth model that developing countries (Nigeria inclusive) are highly susceptible to macroeconomic shocks such as money supply shocks, export supply shocks, productivity shocks, etc). In addition, Engle-Granger co integration test was done and showed the existence of a long run relationship between capital market development and economic growth in Nigeria.
Finally, there exists Uni-directional causality between capital market proxy variables to economic growth except for the proxy for structural activity of the capital market. In addition there is Uni-directional causality between difference of the volatility measure (d(Bpfilter)) and economic growth when the coefficient of d(Bpfilter) is statistically significant.

5.2 Recommendations

We highlight few policy recommendations that can be made to develop Nigeria's capital market and include among others:

i. Government should adopt a policy framework to address the weak linkages between net export and the rest of the Nigerian economy by diversification.
ii. Creating conducive environment that allows domestic investors to invest in the capital market and removing all impediments to local businesses.
iii. Government securities should be channeled to more productive sectors to complement those in the private sector.

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Appendices

Table 4.4

Pairwise Granger Causality Tests
Date: 01/21/16 Time: 09:59
Sample: 1981 2014
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(MKTCAP) does not Granger Cause LOG(GDPINC)	30	2.69212	0.0873
LOG(GDPINC) does not Granger Cause LOG(MKTCAP)		0.04151	0.9594
LOG(GFC) does not Granger Cause LOG(GDPINC)	30	5.74648	0.0088
LOG(GDPINC) does not Granger Cause LOG(GFC)		2.44093	0.1076
LOG(VOS)/LOG(BCP) does not Granger Cause LOG(GDPINC)	19	1.52241	0.2522
LOG(GDPINC) does not Granger Cause LOG(VOS)/LOG(BCP)		0.01173	0.9883
D(BPFILTER01) does not Granger Cause LOG(GDPINC)	23	10.8524	0.0008
LOG(GDPINC) does not Granger Cause D(BPFILTER01)		2.11319	0.1498
LOG(GFC) does not Granger Cause LOG(MKTCAP)	30	1.15102	0.3325
LOG(MKTCAP) does not Granger Cause LOG(GFC)		1.35635	0.2759
LOG(VOS)/LOG(BCP) does not Granger Cause LOG(MKTCAP)	20	0.03050	0.9700
LOG(MKTCAP) does not Granger Cause LOG(VOS)/LOG(BCP)		1.87467	0.1876
D(BPFILTER01) does not Granger Cause LOG(MKTCAP)	23	0.11484	0.8922
LOG(MKTCAP) does not Granger Cause D(BPFILTER01)		0.41894	0.6640
LOG(VOS)/LOG(BCP) does not Granger Cause LOG(GFC)	19	0.95706	0.4078
LOG(GFC) does not Granger Cause LOG(VOS)/LOG(BCP)		3.16967	0.0732
D(BPFILTER01) does not Granger Cause LOG(GFC)	23	0.60335	0.5577
LOG(GFC) does not Granger Cause D(BPFILTER01)		0.95742	0.4026
D(BPFILTER01) does not Granger Cause LOG(VOS)/LOG(BCP)	16	0.39275	0.6843
LOG(VOS)/LOG(BCP) does not Granger Cause D(BPFILTER01)		0.17002	0.8458

Table 4.5

Date: 01/21/16 Time: 10:10
Sample (adjusted): 1994 2009
Included observations: 16 after adjustments
Trend assumption: Linear deterministic trend
Series: LOG(GDPINC) LOG(MKTCAP) LOG(GFC) LOG(VOS)/LOG(BCP) D(BPFILTER01)
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

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Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.999772	228.9478	69.81889	0.0000
At most 1 *	0.972980	94.76414	47.85613	0.0000
At most 2 *	0.769671	36.98553	29.79707	0.0063
At most 3	0.399729	13.49357	15.49471	0.0979
At most 4 *	0.283212	5.327597	3.841466	0.0210

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4.6

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.999772	134.1837	33.87687	0.0000
At most 1 *	0.972980	57.77861	27.58434	0.0000
At most 2 *	0.769671	23.49196	21.13162	0.0228
At most 3	0.399729	8.165976	14.26460	0.3621
At most 4 *	0.283212	5.327597	3.841466	0.0210

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

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