Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.5, No.20, 2014

Do Government Expenditure and Debt Affect Stock Market Development in Nigeria? An Empirical Investigation

AIGHEYISI Oziengbe Scott[1*] EDORE Julius Ovuefeyen[2]
1.Department of Economics and Statistics, University of Benin, Benin City, Nigeria
2.Department of Banking and Finance, Delta State Polytechnic, P.MB. 5, Ozoro, Nigeria
*Email of the Corresponding Author: oziengbeaigheyisi@gmail.com

Absract
Each year, stock market players in Nigeria look forward to the passage and implementation of the annual budget to stimulate and boost transactions in the market. However there appears to be a dis-connect between government spending and value of transactions therein. The effect of government debt (domestic and external) on the development of the stock market has also been an issue of concern to stakeholders. This paper employs the methodology of cointegration and error correction mechanism to investigate the effect of government expenditure and government debt on value of transactions on the trading floors of the Nigerian Stock Exchange (proxy for stock market development) using annual time series data sourced from the Central Bank of Nigeria Statistical Bulletin. The empirical evidence indicates *inter alia* that the short-run and long-run effects of federal government recurrent expenditure, domestic debt and external debt on value of transactions on the Nigerian Stock Exchange are statistically insignificant. Government capital expenditure is observed to have had significant negative short-run and long-run effects on value of transactions on the stock market. The implications of the findings and policy options to enhance the value of transactions on Nigeria's stock market are discussed.
Keywords: Government Debt, Government Expenditure, Stock Market Development, Nigerian Stock Exchange.

1. Introduction

The stock market occupies a central place in the capital market which is the market for long term financial instruments and a platform for channeling funds from the surplus unit of the economy to the deficit unit (Oteh, 2010). It is seen as the nucleus of the capital market so much so that studies on the capital market development are incomplete without reference to the stock market. As a matter of fact, stock market development indicators are also used as capital market development indicators in numerous empirical works (Kolapo and Adaramola, 2012; Acquah-Sam and Salami, 2014, etc.). The stock market is described as the market for 'second-hand' securities, and is thus also referred to as the secondary market of the capital market. It provides the facilities needed to induce liquidity in securities (bonds, equity, treasury bills, etc) that had been issued at the primary market of the capital market, through trade in the securities. An illiquid security does not hold much value for investors and is thus unattractive to them. According to Soludo[1] (2005, p.3),

> *"The development of a robust secondary market is a sine quanon for growth and sustainability of the domestic bond markets. This will broaden participation and deepen the market as investor's liquidity risks are mitigated".*

A capital market without a well functioning stock market is like a cell without a nucleus – dead! To put matters straight, in the absence of a well developed and efficient stock market, the capital market becomes unattractive, and its ability to play the developmental role of channeling funds from the surplus unit to the deficit unit is adversely affected, as the surplus unit may seek alternative investment outlets to channel their funds, engendering decline in funds availability therein. This could spell doom for the economy at large, considering that the capital market is a source of long term funds for both government and non-government borrowers which rely on it funds for infrastructural development and business expansion. Poor state of infrastructure reduces the attractiveness of an economy to investors (local and foreign); inadequate funding slows down business growth. These engender decrease in production, employment, consumption, investment and hence, overall decrease in economic growth. Well developed and efficient stock markets enhance the attractiveness of the capital market and aid its development, leading to impressive economic growth rate. In fact numerous empirical research which support the proposition that the stock market favourably impacts the economy abound in the extant literature (Mohtadi and Agarwal, undated; Adenuga, 2012; Kolapo and Adaramola, 2012;Owolabi and Ajayi, 2013, etc.).

Several factors affecting the development of the stock exchange have been identified in the literature. These include financial development, stock market liquidity, income, savings rate, consumer price index, external debt, political risk, bureaucratic quality etc. (Garcia and Liu, 1999; Yartey, 2008; Adrianaivo and Yartey (2009); Khorshidi et al (2010); Kemboi and Tarus, 2012; Aigheyisi and Edore, 2013; El-Nadar and Alraimony, 2013). In this paper, we empirically investigate the effect of government debt (domestic and external) and government

expenditure (capital and recurrent) on the development of the Nigerian Stock Exchange. This study is motivated by several factors. First, apart from the empirical research of Aigheyisi and Edore (2013) which investigated the effect of external debt burden (external debt percentage of GDP), (amongst others), on stock market development in Nigeria and Ghana, to the best of our knowledge, no empirical work yet exists that investigates the effect of domestic debt and government expenditure on the development of the stock market in Nigeria. Second, each year, stock market players/participants look forward to the passage and implementation of the annual budget to stimulate the market and boost activities therein. Do government expenditure and debt affect the value of transactions on (or the development of) Nigeria's stock market? The paper seeks to answer this question.

2. Literature Review.

2.1. Government Spending and Stock Market Development

According to the Keynesian total expenditure model, government spending stimulates expansion in business output and provides short term stimulus to help halt a recession or depression. This model is supported by the Ram's (1986) Growth Accounting Model which suggests that government expenditure generally affects economic growth and performance in a favourable manner through a positive externality effect on growth (Wu, cited in Oaikhenan and Aigheyisi, 2014).

Government expenditure affects the development of the stock market through its effect on the decisions and activities of the private sector firms and households (Razin, 1987). All things being equal, the turnover of firms which enjoy high government patronage, may experience a boost, which could translate into enhanced profitability and impressive dividends for the shareholders of the firms (depending on the level of the firm's expenses and its dividend policy). Improved profitability and impressive dividends enhance the attractiveness of firms listed on the stock exchange, and drive up demand for them on the trading floor. This drives up the stock price and the market capitalization of the firms, and hence, the market capitalization of the entire stock exchange, as well as the value of transactions, given that the market is functional and efficient.

A second channel through which government expenditure affects stock market development is its effect on income (wages, salaries, etc.) of government employees. Government employees may invest part of their income in stock market securities, depending on their perception of the market, expectation of returns on investment and the rate of return on alternative investment. Wages and salaries constitute part of government recurrent expenditure. If workers perception of the stock market is favourable, and expectations of superior returns on investment therein are high, *ceteris paribus*, this could elicit their participation in the market, leading to increase in stock market transactions.

The empirical literature on the relationship between government spending and stock market development is very lean. It is hoped that this research will make significant contribution to the literature.

Bekhet and Othman (2012) employed the methodology of vector error correction modeling to examine the role of fiscal policy in the Malaysian stock market using quarterly data covering the period from 1999:Q1 to 2011:Q4. The analysis showed amongst others, that government expenditure had no significant long-run and short-run effect on the growth of the Malaysian stock market in the sample period. Similarly, Gowriah et al (2014) investigates the effect of monetary and fiscal policies on stock prices on the Mauritius Stock Exchange using an ARDL. The results showed no significant short term or long term relationships between budget deficit and stock prices.

2.2. Government Debt and Stock Market Development

Government issues domestic debt instrument such as development bonds to raise funds with which to finance infrastructural development, amongst others. The stock market provides facilities for trading on the instruments to infuse liquidity (which enhances their value) in them. If the coupon rates on the bonds are attractive, this may stimulate increased transactions in the securities, leading to increase in value of stock market transactions, *ceteris paribus*. However, if domestic debt engenders increase in the lending interest rate of lending institutions, this may impact negatively on the development of the stock market as the stock prices of quoted firms may be adversely affected as a result of their inability to obtain business loans at the higher interest rate, and increase in their interest expense arising there from, thus leading to decline in their profit levels, which could have adverse effect on stock prices and transactions on the stock market.

Government external debt could also affect the development of the stock market. Agca and Celasun (2009) have shown that increase in external debt of emerging market governments significantly raises the borrowing cost of

the domestic corporate sector particularly in countries with weak creditor rights attributable to crowding out of foreign credits to the private sector by the higher level of public external debt. Higher borrowing costs, according to Aigheyisi and Edore (2013) discourage investment and reduces corporations' profits. Considering that in an efficient market, the profitability of quoted firms or corporations is positively related to stock market returns and development, increases in public external debt could have depressing effect on the development of the stock market. The literature on the relationship between government debt and stock market development is still quite lean. However, empirical work by Aigheyisi and Edore (2013) supports the proposition that external debt adversely affect stock market development measured as market capitalization percentage of GDP.

3. Methodology

The paper employs the methodology of cointegration and error correction mechanism (ECM) to investigate the effect of government expenditure and debt on the development of the Nigerian stock market. The choice of this methodology is informed by the need to examine the short-run and the long-run effects of these variables on the development of the stock market. This methodology involves three steps: testing the variables for stationarity (i.e. unit root test); cointegration test; and then estimation of the error correction model if the variables are found to be cointegrated, as cointegration is a necessary condition for ECM.

Though some studies adopt market capitalization percentage of GDP as measure of stock market development, in this study we adopt value of transaction percentage of GDP. The rationale behind this is that the stocks of some firms traded on the Nigerian Stock exchange are inactive, particular those in the second-tier of the market. Considering that market capitalization is calculated as the product of the market price of active and inactive securities and the outstanding issues, this study deviates from the use of market capitalization percentage of GDP as proxy for stock market development and adopts value traded percentage of GDP since this captures only the active securities which actually determine the volume of activities and value of transactions on the floor of the market.

The augmented Dickey Fuller (ADF) test shall be employed to test for unit root in each of the data series while the Johansen approach to cointegration shall be used for the cointegration test. If the variables are observed to be of mixed order of integration, the ARDL approach shall be employed for the cointegration analysis. From the estimated ARDL model, we shall obtain the ECM. All estimation shall be done with Microfit 4.1 interactive computer program.

The model to be estimated is of the basic functional form:

$$VT/GDP = f(DEBT/GDP, EXP/GDP) \quad \ldots\ldots(1)$$

Where VT/GDP = Value traded percentage of GDP, government debt percentage of GDP, EXP/GDP = Government expenditure percentage of GDP.

We disaggregate government debt into domestic debt (DDT) and external debt (EXDT; and disaggregate government expenditure into recurrent expenditure (REC) and capital expenditure (CAP). Thus the model is modified as:

$$VT/GDP = f(DDT/GDP, EXD/GDP, REC/GDP, CAP/GDP) \quad \ldots\ldots(2)$$

To make the model more robust, and to avoid the problem of omitted variables, we incorporate some other variables identified in the literature as determinants of stock market development. The variables incorporated are lending interest rate, exchange rate and trade openness. Thus our functional model is further modified as:

$$VT/GDP = f[(DDT/GDP)^{\pm}, (EXD/GDP)^{-}, (REC/GDP)^{+}, (CAP/GDP)^{+}, LINTR^{-}, LEXRT^{+}, LTOPN^{+}] \quad \ldots\ldots(3)$$

The *a priori* signs are superscripted on the variables. Domestic debt could have negative or positive effect on value traded of securities. The effect could be positive if the debt is incurred through the sale of bonds and other government debt instruments which are then traded on the stock market. If the debt instrument carries an attractive coupon rate, this could trigger increased transactions in them and boost stock market transactions. Moreover, considering that government domestic debt instrument could be used as instrument of inflation control, the reduction in inflation rates resulting from this could be beneficial (directly and indirectly) to the development of the stock market. However, if government borrowing results in hike in the interest rate making it difficult for firms listed on the stock market to borrow (though listed public firms hardly borrow from commercial banks), this could adversely affect the development of the stock market. Government recurrent and capital expenditures are both expected to boost activities in the stock market and enhance its development. Higher lending interest rate as hinted earlier, could adversely affect the development of the stock market. Increase in the exchange rate of the national currency could positively affect the development of the stock market if it helps in controlling demand for import and boosting patronage of home-made goods produced by local firms, some of which are listed on the stock market. Finally, theoretically, trade openness holds a lot of benefit for the various economic units – government, household and firms. Public firms listed on the stock

exchange could take advantage of the benefits globalization offers to boost their profitability and make their shares/stocks investors' toast. The overall effect will be an appreciable development of the stock market.
The dynamic (short-run) ECM to be estimated based on the functional specification is empirically specified (in natural logarithm) as:

$$\Delta\log(VT/GDP)_t = \alpha_0 + \alpha_1\Delta\log(\frac{VT}{GDP})_{t-1} + \sum_{i=0}^{m}(\theta_i\,\Delta\log(DDT/GDP)_{t-i}\;) + \sum_{j=0}^{n}\left(\chi_j\,\Delta\log(\frac{LEXD}{GDP})_{t-j}\;\right)$$
$$+ \sum_{l=0}^{q}\left(\phi_l\,\Delta\log(\frac{LREC}{GDP})_{t-l}\;\right) + \sum_{w=0}^{s}\left(\pi_w\,\Delta\log(\frac{CAP}{GDP})_{t-w}\;\right) + \sum_{x=0}^{y}(\pi_x\,\Delta\log LINTR_{t-x}\;)$$
$$+ \sum_{k=0}^{p}(\partial_k\,\Delta\log EXRT_{t-k}\;) + \sum_{v=0}^{r}(\pi_v\,\Delta\log TOPN_{t-v}\;) + \Omega ECT_{t-1} + \xi_t$$

……(4)

The parameters of the model are short-run parameters indicating short-run effects of the explanatory variables on the dependent variable. The variables are as previously defined. Each of the variables except LINTR, EXRT and TOPN is to be weighted by the GDP in the estimations. ξ is residual error term. The coefficient of the error correction term Ω is expected to be negatively signed and statistically significant to play the role of error correction in the model, i.e. reconciling short-run dynamics with long run equilibrium. Δ is the first difference operator.
The associated long run model is specified in its empirical form as:

$$\log VTGDPt = \beta_0 + \beta_1\log DDT/GDP_t + \beta_2\log EXD/GDP_t + \beta_3\log REC/GDP_t + \beta_4\log CAP/GDP_t + \beta_5\log EXRT_t + \beta_6\log TOPN_t + \beta_7\log TOPN_t + \varepsilon_t \quad \ldots\ldots(5)$$

The variables are as previously defined. ε is the stochastic error term.
The models shall be estimated with the aid of Microfit 4.1 Interactive Econometric Computer Program. Data used for the estimations are annual times series data covering the period 1981-2012, obtained from the Central Bank of Nigeria Statistical Bulletin, 2012.

4. Results and Discussions

Unit Root Test Results

The results of the ADF unit root tests for the variables are presented in Table 1

Table 1: Unit Root Test Results for Variables

Variables	Level			First Difference			Order of integration
	ADF test stat.	95% Critical value	Inference	ADF test stat.	95% Critical value	Inference	
Log (VT/GDP)	-0.7528	-2.9627	Non-stationary	-3.6898	-2.9665	Stationary	1
Log(DDT/GDP)	-3.1133	-2.9627	Stationary	-5.3684	-2.9665	Stationary	0
Log(EXD/GDP)	-1.2265	-2.9627	Non-stationary	-3.0692	-2.9665	Stationary	1
Log(REC/GDP)	-2.3910	-2.9627	Non-stationary	-4.0385	-2.9665	Stationary	1
Log(CAP/GDP)	-2.2890	-2.9627	Non-stationary	-5.3962	-2.9665	Stationary	1
LogEXRT	-1.9423	-2.9627	Non-stationary	-3.5043	-2.9665	Stationary	1
LogLINTR	-2.3313	-2.9627	Non-stationary	-5.5543	-2.9665	Stationary	1
LogTOPN	-1.0423	-2.9627	Non-stationary	-4.9735	-2.9665	Stationary	1

Source: Authors' estimations using Microfit 4.1.

The unit root test results indicate that with the exception of log(DDT/GDP), other series are integrated of first order, I(1), that is though they are non-stationary in levels, they are however stationary in their first differences. Although most of the variables are non-stationary in levels, there is the possibility for a linear combination of the variables to be stationary. This is to say, there is the tendency for the variables to move closely together over time. The implication is that the variables are cointegrated, i.e. long run relationship(s) exist(s) among them. To determine the existence or otherwise of cointegration relationship(s) amongst the variables, we conduct the cointegartion test using the Johansen Procedure.

Cointegration Test

The results of the Johansen tests (Maximum Eigenvalue and Trace) for cointegration are presented in Table 2.

Table 2. Johansen Cointegration Test Results

Cointegration with unrestricted intercepts and no trends in the VAR
Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

****

30 observations from 1983 to 2012. Order of VAR = 2.
List of variables included in the cointegrating vector:
LVTGDP LDDTGDP LEXDGDP LRECGDP LCAPGDP
LEXRT LTOPN LLINTR
List of eigenvalues in descending order:
.91741 .86567 .61965 .49872 .38960 .35639 .14934
.13190

****

Null	Alternative	Statistic	95% Critical Value	90% Critical Valu
r = 0	r = 1	74.8164	51.1500	48.2300
r<= 1	r = 2	60.2238	45.6300	42.7000
r<= 2	r = 3	28.9996	39.8300	36.8400
r<= 3	r = 4	20.7179	33.6400	31.0200
r<= 4	r = 5	14.8092	27.4200	24.9900
r<= 5	r = 6	13.2201	21.1200	19.0200
r<= 6	r = 7	4.8522	14.8800	12.9800
r<= 7	r = 8	4.2436	8.0700	6.5000

****

Use the above table to determine r (the number of cointegrating vectors).

Cointegration with unrestricted intercepts and no trends in the VAR
Cointegration LR Test Based on Trace of the Stochastic Matrix

****

30 observations from 1983 to 2012. Order of VAR = 2.
List of variables included in the cointegrating vector:
LVTGDP LDDTGDP LEXDGDP LRECGDP LCAPGDP
LEXRT LTOPN LLINTR
List of eigenvalues in descending order:
.91741 .86567 .61965 .49872 .38960 .35639 .14934
.13190

****

Null	Alternative	Statistic	95% Critical Value	90% Critical Valu
r = 0	r>= 1	221.8827	157.8000	152.0100
r<= 1	r>= 2	147.0663	124.6200	119.6800
r<= 2	r>= 3	86.8425	95.8700	91.4000
r<= 3	r>= 4	57.8429	70.4900	66.2300
r<= 4	r>= 5	37.1250	48.8800	45.7000
r<= 5	r>= 6	22.3158	31.5400	28.7800
r<= 6	r>= 7	9.0958	17.8600	15.7500
r<= 7	r = 8	4.2436	8.0700	6.5000

****

Use the above table to determine r (the number of cointegrating vectors).

Source: Authors' estimation using Microfit 4.1.

Both tests (Maximum Eigenvalue and Trace) indicate that at least 2 cointegrating vectors exist among the variables. We therefore infer that there are indeed cointegrating relationships among the variables. Thus, the

dynamic short-run relationship between the variables can be represented with an error correction model. The error correction model estimated for the relationship is derived from an estimated ARDL model selected based on Schwarz Bayesian Criterion. The estimated ARDL model is presented in Table 3

Table 3. Autoregressive Distributed Lag Estimates

ARDL(1,0,0,1,0,0,1,0) selected based on Schwarz Bayesian Criterion

Dependent variable is LVTGDP			
31 observations used for estimation from 1982 to 2012			
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LVTGDP(-1)	.52499	.14907	3.5217[.002]
LDDTGDP	-.28866	.41555	-.69465[.495]
LEXDGDP	.0088818	.12648	.070224[.945]
LRECGDP	.57678	.40002	1.4419[.165]
LRECGDP(-1)	-1.0498	.31849	-3.2963[.004]
LCAPGDP	-.67240	.24033	-2.7979[.011]
LEXRT	.49912	.13816	3.6127[.002]
LTOPN	-.91985	.37164	-2.4751[.022]
LTOPN(-1)	.74408	.32517	2.2883[.033]
LLINTR	-2.0985	.42277	-4.9638[.000]
C	7.6813	2.3539	3.2632[.004]

R-Squared	.96870	R-Bar-Squared	.95305
S.E. of Regression	.31470	F-stat. F(10, 20)	61.8993[.000]
Mean of Dependent Variable	-.82445	S.D. of Dependent Variable	1.4524
Residual Sum of Squares	1.9807	Equation Log-likelihood	-1.3538
Akaike Info. Criterion	-12.3538	Schwarz Bayesian Criterion	-20.2407
DW-statistic	2.0500	Durbin's h-statistic	-.24932[.803]

Diagnostic Tests

* Test Statistics *	LM Version	* F Version
* A:Serial Correlation*	CHSQ(1)= .24538[.620]*	F(1, 19)= .15159[.701]
* B:Functional Form *	CHSQ(1)= 1.6879[.194]*	F(1, 19)= 1.0941[.309]
* C:Normality *	CHSQ(2)= 1.8413[.398]*	Not applicable
* D:Heteroscedasticity*	CHSQ(1)= .011640[.914]*	F(1, 29)= .010893[.918]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Apart from TOPN, EXTR and LINT, the other variables are expressed as percentages of the GDP

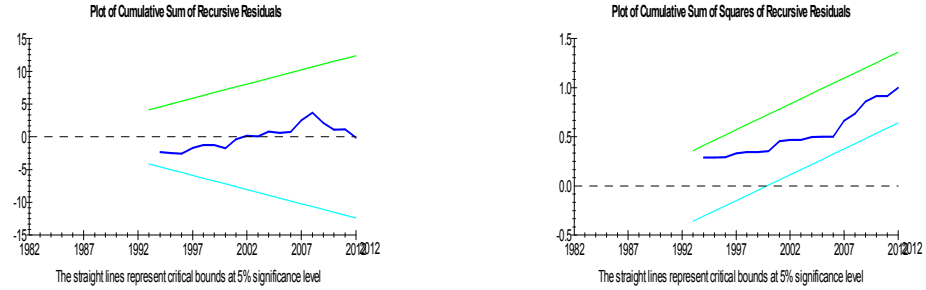
Source: Aurhors extimation using Microfit 4. 1.

The coefficient of determination (R-Squared) of the ARDL model indicates that the goodness of fit (or explanatory ability) of the model is very high, as almost 97% of the systematic variation in te dependent variable is explained by the regressors. The F-statistic which tests the joint significance of the regressors is highly significant and confirms the high explainatory ability of the model. The serial correlation test indicates that there is no serial correlation problem in the model. The test for appropriateness of the functional form of the model indicates that the functional form of the model is appropriate. Furthermore the residuals of the model are normality distributed as the model passes the normality test. Finally, the test for heteroscedasticity shows that there is absence of the problem of heteroscedasticity in the model. Thus the ARDL is absolutely reliable.

Testing the Structural Stability of the ARDL Model

The plots of CUSUM and CUSUMSQ were employed employed to test the structural stability of the model. The results (plots) are shown below.

Figure 1. Plots of Cumulative sum of recursive residuals (CUSUM) and cumulative sum of Squares of Recursive Residuals (CUSUMSQ)



Both plots lie between the 5% critical bounds. This is an indication that the model is structurally stable over time and can be relied upon for policy.

Long Run Estimates

The estimated long-run model (Equation 5) using the ARDL approach is presented in Table 4.

Table 4 Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0,0,1,0,0,1,0) selected based on Schwarz Bayesian Criterion

****

Dependent variable is LVTGDP

31 observations used for estimation from 1982 to 2012

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LDDTGDP	-.60769	.75028	-.80995[.428]
LEXDGDP	.018698	.27089	.069024[.946]
LRECGDP	-.99588	1.1194	-.88962[.384]
LCAPGDP	-1.4155	.64057	-2.2098[.039]
LEXRT	1.0508	.28115	3.7373[.001]
LTOPN	-.37003	.98237	-.37667[.710]
LLINTR	-4.4179	1.3451	-3.2844[.004]
C	16.1707	3.8061	4.2486[.000]

****

Source: Author's extimation using Microfit 4.1. Interactive Computer Program

L = Natural logarithm.

The results in Table 4 show the long run impacts of the explanatory variables on the dependent variable. The long-run effects of domestic debt, external debt and recurrent expenditure on stock market development (value traded of securities percentage of GDP) are statistically insignificant. Trade openness also has insignificant long-run effect on the development of the stock market. Government capital expenditure exerts significant negative long-run impact on stock market development. The impact is significant at the 2% level. A 1% permanent rise in capital expenditure percentage of GDP is associated with 1.4% decline in value trade percentage of GDP. The impact of exchange rate on value traded of securities ispositive and highly significant at the 1% level. A 1% permanent rise in the exchange rate (i.e. currency depreciation) is associated with 1.05% increase in value traded percentage of GDP. The long run impact of lending interest rate of commercial banks on value of transactions percentage of GDP is negative and highly significant even at the 1% level. A 1% permanent rise in the lending interest rate is associated with 4.4% decrease in value traded percentage of GDP.

Error Correction Representation

Having established the existence of long-run cointegrating relationships among the variables, we proceed to derive the dynamic (short-run) ECM (Equation 4) from the estimated ARDL. The result is presented in Table 5

Table 5. Error Correction Representation for the Selected ARDL Model

ARDL(1,0,0,1,0,0,1,0) selected based on Schwarz Bayesian Criterion

****

Dependent variable is dLVTGDP

31 observations used for estimation from 1982 to 2012

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLDDTGDP	-.28866	.41555	-.69465[.495]
dLEXDGDP	.0088818	.12648	.070224[.945]
dLRECGDP	.57678	.40002	1.4419[.163]
dLCAPGDP	-.67240	.24033	-2.7979[.010]
dLEXRT	.49912	.13816	3.6127[.002]
dLTOPN	-.91985	.37164	-2.4751[.022]
dLLINTR	-2.0985	.42277	-4.9638[.000]
dC	7.6813	2.3539	3.2632[.004]
ecm(-1)	-.47501	.14907	-3.1865[.004]

****

R-Squared .73424 R-Bar-Squared .60137

S.E. of Regression .31470 F-stat. F(8, 22) 6.9072[.000]

Mean of Dependent Variable .058726 S.D. of Dependent Variable .49843

Residual Sum of Squares 1.9807 Equation Log-likelihood -1.3538

Akaike Info. Criterion -12.3538 Schwarz Bayesian Criterion -20.2407

DW-statistic 2.0500

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLVTGDP and in cases where the error correction model is highly restricted, these measures could become negative.

Source: Authors' estimations using Microfit 4.1 Interactive Computer Program

It can be observed that the signs on recurrent expenditure percentage of GDP, exchange rate and lending interest rate conform to *a priori* expectations. There is no theoretical consensus on the specific sign on domestic-debt GDP ratio. The signs on other variables do not conform to *a priori* expectations. It is also observed that the short-run effect of domestic debt, external debt and recurrent expenditure on the value of transactions on the stock market is statistically insignificant. This implies that there is a dis-connect between domestic debt, external debt, government recurrent expenditure and stock market development in both short- and long-run. Capital expenditure is observed to have significant negative short-run effect on stock market development. This indicates that increase in government capital expenditure adversely affects the value of transactions on the stock market. Depreciation of the national currency (increase in the exchange rate) is observed to have a positive short-run effect on the development of the stock market. This may be attributed to the fact that currency depreciation engenders increase in the prices of imported goods which, depending on demand elasticities, may trigger increase in the demand for locally made goods produced by home-based firms some of which are listed on the stock exchange. The increase in demand for home-made goods in the face of favourable prices, engenders improved profitability of the firms, and enhanced dividend payment (depending on the firms' dividend policies), thus leading to increased transaction in the shares of the firms or corporations, appreciation in their share prices (assuming there is no oversupply of the shares), and overall improvement in the level of development.of the stock market. Trade openness is observed to adversely affect the development of the stock market in the short-run. This is not unexpected for Nigeria's economy considering that the nation's industrial base (particularly manufacturing sub-sector) is quite weak, and unguarded exposure to external competition engenders decreases in turnover and profitability, business closedowns and decrease in the value of transactions on the floor of the stock market. Higher lending interest rate adversely affects stock market development in the short-run through its effect on firm's borrowing cost. It implies higher cost of business capital, which in turn implies increased expense levels, reduction in profit levels, which adversely affect value of stock market transactions.

The error correction term is as expected, negatively signed and highly statistically significant. Its coefficient indicates that 47.5% of the disequilibrium in the system is offset by short-run adjustment annually to maintain long-run equilibrium. The negative sign conforms with the necessary condition for existence of co-integrating relationships among the variables of the model..

The coefficient of determination (R-Squared) indicates that the model has very high goodness of fit as over 73%

of the systematic variation in the dependent variable is explained by the regressors. The highly significant F-Statistics indicates that the regressors are jointly significant in explaining variations in the dependent variable. The DW-statistic points to absence of autocorrelation in the model. Therefore, the model can be relied upon for policy.

5. Conclusion and Recommendation for Policy

This paper employed econometric tools of cointegration and error correction mechanism to investigate the effect of government expenditure and debt on the development (proxied by value of transactions percentage of GDP) of the Nigerian stock exchange. The empirical analysis indicated that the value of transaction on the floor of Nigeria's stock market is unaffected by domestic debt, external debt and government recurrent expenditure in both the short-run and the long-run. It also found that government capital expenditure adversely affects value of transactions on the floor of the stock market in the long- and short-run. Depreciation of the national currency (increase in the exchange rate) positively affects value of transaction on the stock exchange in the long and short run. The effect of trade openness on value of transaction on Nigeria's stock exchange is significantly negative in the short run, but insignificant in the long-run. Increase in commercial banks lending interest rate was observed to adversely affect value of stock market transaction in the long- and short-run. Based on the empirical evidence, to enhance the value of transactions on the floor of the stock exchange (and hence, its development) we proffer (as policy options) that government takes step to avoid over valuation of the national currency; impose some restrictions on cross border trade (in other words, lower the degree of openness of the economy to international trade); lower the lending interest rate of the commercial bank. This could be achieve by the use of monetary policy instrument such as lowering the minimum rediscount or monetary policy rate and; ensure that capital expenditure is made more productive to enhance its contribution to economic growth which could impact favourably on stock market transactions considering the possibility of two-way causal relationship between economic growth and stock market development.

6. Future Research Direction

Future research may investigate the effect of government expenditure and debt on other stock market development indicators such as market capitalization percentage of GDP, all share index, turnover ratio, etc. using alternative methodologies.

Notes

1.Special Remarks by the then Governor of Central Bank of Nigeria, Professor Charlse Soludo at the 2005 Nigerian Bond Market Technical Round Table Held at the Le Meridien Hotel, Abuja on Tuesday June, 200

References

Adenuga, A. O. (2012). Stock Market Development Indicators in Nigeria and Economic Growth (1990-2009): Empirical Investigations. *Central Bank of Nigeria Economic and Financial Review, 48*(1), March, 33-70

Acquah-Sam, E. and Salami, K. (2014). Effect of Capital Market Development on Economic Growth in Ghana. *European Scientific Journal, 10*(7), pp. 511-534

Adrianaivo, M. and Yartey, C. A. (2009). Understanding the Growth of African Financial Markets. *IMF Working Paper, No. WP/09/182.*

Aigheyisi, S. O. and Edore, J. O. (2013). Foreign Financial Resources Inflows and Stock Market Development. *Research Journal of Finance and Accounting, 4*(9), 43-49.

Bekhet, H. A. and Othman, N. S. (2012). Examining the Role of Fiscal Policy in Malaysian Stock Market. *International Business Research 5*(12), 59-67.

Central Bank of Nigeria (2012). *Statistical Bulletin*, Abuja: CBN.

El-Nadar, H. N. and Alraimony, A. D. (2013). The Macroeconomic Determinants of Stock Market Development in Jordan. *International Journal of Economics and Finance, 5*(6), 91-103.

Garcia, V. F. and Liu, L. (1999). Macroeconomic Determinants of Stock Market Development. *Journal of Applied Economics 2*(1), 29-59.

Gowriah, S., Seetanah, B., John, L. M., and Keshav, S. (2014). The Effects of Monetary and Fiscal Policies on the Stock Exchange: Evidence from an Island Economy. *The Business and Management Review, 4*(4), 321-332.

Kemboi, J. K. and Tarus, D. K. (2012). Macroeconomic Determinants of Stock Market Development in Emerging Markets: Evidence from Kenya. *Research Journal of Finance and Accounting, 3*(5), 57-68

Khorshidi, H. A., Rafiei, F. M., and Hoseini, S. M. (2010). Macroeconomic Determinants of Stock Market Development, Evidence from Iran. *International Journal of Decision Sciences, 1*(2), 135-144.

Kolapo, F. T. and Adaramola, A. O. (2012). The Impact of the Nigerian Capital Market on Economic Growth.

International Journal of Developing Studies, 1(1), 11-19.

Mohtadi, H. and Agarwal, S. (n.d.). *Stock Market Development and Economic Growth: Evidence from Developing Countries*. New York: Oxford University Press.

Oaikhenan, H. E. and Aigheyisi, O. S. (2014). *Investment, Government Expenditures and Unemployment in Nigeria*. Paper prepared for the 55th Annual Conference of the Nigerian Economic Society scheduled for 10-13 November, 2014.

Oteh, A. (2010). *Capital Market as a Long Term Option for Financing Infrastructure Development*. A paer delivered at the "Central bank of Nigeria Infrastructure Finance Conference" Held at the Sheraton Hotel and Towers, Abuja from December 6-7, 2010.

Owolabi, A. and Ajayi, N. O. (2013). Econometric Analysis of the Impact of Capital Market on Economic Growth in Nigeria (1971-2010). *Asian Economic and Finanacial Review, 3*(1), 99-110.

Ram, R. (1986). Government Size and Economic Growth: A New Framework and Some Evidence from Cross Section and Time Series Data. *The American Economic Review, 76,* 191-203.

Razin, A. (1987). Fiscal Policies and the Stock Market: International Dimensions. *NBER Woeking Paper Series, No. 2389, September*.

Wu, X. (n.d). *Government Expenditure and Economic Growth. Evidence from China 1952 to 2000*. PhD Thesis Submitted to Economics Department, Social of Social Sciences, University of Machester, United Kingdom.

Yartey, C. A. (2008). The Determinant of Stock Market Development in Emerging Economies: Is South Africa Different? *IMF Working Paper, No. WP/08/32*.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar