THE MACROECONOMIC DETERMINANTS OF CAPITAL MARKET DEVELOPMENT IN NIGERIA (1986-2016)

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(Received 19st December 2020; accepted 17th January 2021)

Abstract. There is limited availability of equity and long term capital for business, governments and private sectors which was caused by saving-investment gap. This study therefore examined the macroeconomic determinants of capital market development in Nigeria. The study made use of annual data sourced from various statistical bulletins of Central Bank of Nigeria and National Bureau of statistics spanning from 1986 to 2016. The underpinning theory for this study is Calderson –Rossell Theory (1991). The study employed ARDL Cointegration analysis and Error Correction Model to explore the macroeconomic determinants of capital market development in Nigeria. The findings from the study revealed that there is existence of cointegration between the macroeconomic variables and the stock market capitalization (SMC) which was used as proxy for capital market development. The ARDL Error Correction Model Long run results showed that virtually all variables have insignificant positive relationship with stock market capitalization though the coefficients of macroeconomic variables are small which were all below 25% compare to the value of stock trade (VST) that represents stock market liquidity which was very high about 92%. The adjusted R-square value showed that the determinant variables employed in this study can jointly explain about 44% of the systematic variation in stock market capitalization. Therefore, this study concludes based on the above results that stock market liquidity significantly contributed to the growth of capital market development rather than macroeconomic variables. In line with the findings of this study, it was recommended that the government of Nigeria should improve on the macroeconomic variables through effective resetting of macroeconomic policies.
Keywords: *macroeconomic variables, capital market development, Nigerian economy, ARDL cointegration analysis*

Introduction

Capital markets would be the biggest supply of financial in numerous economies, which includes the United States as well as United Kingdom in which the current market capitalization-to-GDP ratio is great more than 100%. They also provide expenditure opportunities for pension finances, among various other investors. In Africa, particularly Nigeria, nonetheless, the capital sector continues to be mainly below developed, stricken by minimal liquidity, inadequate infrastructure, plus virtually no latest listings in a few years.

Capital current market is a community of economic institution not to mention infrastructure which usually connect to mobilize along with set aside long-run resources in the overall economy. Capital market offers a chance to access long lasting financial making use of debt capital as well as equity capital for instance inventory, bonds, futures and options. Capital current market has been found to be divide into two sections described as primary and secondary market segments. A capital current market can be a mix of the stock market as well as bond market. Stock current market would be the stage where shares tend to be released as well as traded involving investors, offering systems for business enterprises to acquire capital with regard to their growth and expansion. Stock current market is furthermore recognized like the equity industry while bond market troubles debt securities including debentures and bonds along with stocks. Capital market works with the platform and long-run resources with the type of debt, debentures and equity. It comments various other economic intermediations including banking segment along with funds market.

In the view of importance of financial institutions, capital market development has become the focus of government, policy makers, market regulators and operators for the mobilization of long term capital for businesses and government profitable investments to improve the pro-poor economic growth of the developing nations. Fundamentally, on this note, there is now a consensus that capital market development play a vital role in facilitating economic growth capital market is also described as economic actor in driving country's growth.

Across developing countries including Nigeria, businessmen have identified access to finance as the largest barrier to their success. They attest that this problem outweighs other challenges such as corruption, access to electricity, political instability and tax rates. Consequently, it was suggested that capital market development merit greater attention among policy makers.

Among the considerable aspects of underdevelopment within fiscal managing in establishing nations is home-based capital industry issues. Inside the evolved nations, the home-based capital current market is recognized as a very important supply of financial support next to the condition plus it's significantly greater positive aspects throughout the usage of overseas resources of debt credit whereby developed regions naturally and simultaneously across the listing grown equally primary and secondary sections which often rapid interpreted to market development. Working with amazing secondary capital industry ratio, while not obtaining brand new problems of securities couldn't spur economical progress that is the knowledge on the growing economies. Far more so, the small amount of interest made available to the heart of capital market, why and how capital market influences progress has impeded the enhancement of principal capital industry in producing nations such as Nigeria.

Macroeconomic factors have strong link with capital market development. Capital markets globally, are highly exposed to macroeconomic influence majorly the international companies that are listed in stock exchange. The macroeconomic variables that determine the development of capital markets are banking sector development, interest rate, inflation, exchange rate and growth rate of gross domestic products just to mention a few. In this regard, Azeez and Obalade (2018) exposed that the capital market place operation in Nigeria is generally acted by macroeconomic forces over time in Nigeria.

Through the literature, several empirical results along with historical developments have discovered which will far too effective banking market generates unstable economic plus financial system. In Nigeria specifically, the primary way to obtain funding has become traditional approaches and bank credit of immediate public expenditure with assistance offered by donors that appears to be inadequate to source money for businesses for development and growth. Hence there's restricted option of long term capital and equity for entrepreneurs, governments as well as private sectors that have developed a saving-investment gap. Yet again, it's nonetheless extremely hard to attract investors in Nigeria as a result of history problems of inadequate macroeconomic management and financial discipline along with weak institutions and persistent corruption. All of this is actually an excellent barrier to the improvement of more potent capital market accessibility. Based upon this specific record, this particular analysis intends to explore the macroeconomic determinants of capital market enhancement as an approach of closing the saving- investment gap in Nigerian capital market.

The broad aim of this specific research is examining the macroeconomic determinants of capital market improvement in Nigeria. The majority on the paper is structured as follows: section two is on literature review. This is followed by the study techniques as well as discussion of effects in section three and four respectively. Section five concludes the paper.

Literature Review

Brief empirical review

Pramod and Puja (2012) utilized Johansen's co-integration examination together with vector error modification version to examine the connection involving the Indian stock market list as well as macroeconomic variables. The research thus, disclosed which the macroeconomic variables particularly manufacturing production index, wholesale cost list, income resource, exchange rate plus Treasury bill rates have long run connection with inventory market list. The research likewise demonstrated that short term and exchange rate interest rate are seen to be substantial in deciding stock cost. The research likewise showed beneficial connection among stock industrial manufacturing list, stock market index and money supply. Islam et al. (2017) evaluated the institutional and macroeconomic determinants of capital marketplace efficiency inside Bangladesh. The study developed utilization of information which will spanning from 1995 to 2015. The research utilized simultaneously inferential and descriptive data to examine the relationship among the macroeconomic variables as well as capital market performance. The research disclosed that equally macroeconomic and institutional variables greatly effect the capital market development.

Kabeer et al. (2016) investigated the influences of macroeconomic component on capital marketplace overall performance in Pakistan. Effect of 3 leading financial variables for instance international investment, international exchange rate along with inflation on the capital market performance is observed by the study. The study applied Ordinary Least Square (OLS) to calculate the elements influencing the capital market place in Nigeria. The results revealed that there's considerable unfavorable connection between inflation, exchange fee as well as capital market place efficiency while financial support also displayed considerable negative influence between international direct investment as well as stock market (capital market place efficiency). Bugalama (2013) analyzed aspects impacting on capital market place growth adaptation in Tanzania. The research utilized survey study appearance as an investigation method. Use of thirty five respondents as sampling size was made by the study. The analysis disclosed that 80% of respondents verified which the elements that impact capital market place growth adaptation integrated threat of illiquidity and market imperfections and they're improperly identified. The discovering likewise demonstrated that 82 % of respondents reported which investors foundation continue to be really small plus additionally, it influences capital market development.

Azeez and Obalade (2018) utilized ARDL bound evaluation to analyze macroeconomic determinants of stock marketplace enhancement in Nigeria (1981-

2017). The analysis disclosed which will there's both quick perform together with long run connection between stock market progress as well as macroeconomic variables. The research likewise demonstrated that financial savings rates don't considerably explain stock marketplace growth.

Kabeer et al. (2016) evaluated what would be the determinants of stock market enhancement in rising markets? The analysis employed pooled ordinary least square (OLS), restored and random consequences utilizing information spanning from 1994 to 2014. The outcome showed that there's relationship which is strong involving the determinants of economic growth and stock market.

Brasoveanu et al. (2008) implemented vector Error Correction to examine the correlation involving capital market growth as well as economic development towards the period 2000 to 2006 in Romania. The outcome exposes that capital market expansion is favorably associated with financial development by way of feed-back effect. Ifionu and Omojefe (2013) inspected the capital market plus operation on the Nigerian economy with a time set data encompassing a number of 26 years (1985-2010). The analysis developed using econometric instrument of co-integration assessment to capture the reported targets. The research empirically created a solid link involving a compelling capital market place and economic development. The outcome of the project exposes a solid correlation between economic development as well as the independent variables. The long term connection proved that merely market capitalization influence substantially over the GDP. Bugalama (2013) assessed the effect of capital market place along the progress of the Nigerian overall economy underneath a democratic law. The analysis is based promptly sequence data, multivariate regression process was employed to assess the details. The outcome suggests that while complete market capitalization as well as most share indexes put in beneficial effect on the GDP growth rate, the entire worth of stock has an adverse impact on the GDP growth rate, and not any is significant.

Materials and Methods

Theoretical framework

Calderson-Rossell and Jorge (1991) developed a model or perhaps theory that investigated the primary determinants of capital market development. To date, this particular model represents likely the most critical effort to establish the foundations of economic theory of capital market development. In this particular model, stock market liquidity as well as economic development are believed as primary indicators. Bugalama (2008) tailored the calderson-Rossell model to include different macroeconomic components which may affect the capital market development. The determinants are classified into two sets recognized as institutional and macroeconomic factors, macroeconomics factors as well as financial savings, income levels, the banking sector development, personal capital flows, investment, stock market liquidity and macroeconomic stability. This study is only limited into macroeconomic variables enumerated above.

Model specification

This study adopt model of Yartey (2008) which took it from Calderson-Rossell theory of (1991) with modifications. Therefore the model for this study is specified as follows:

$$MC = f(GDP_{gr,}\ INT, INF, EXR, FDI, VTR) \quad \text{(Eq 1)}$$

This model can be re-stated explicitly as follows:

$$MC = \alpha_0 + \alpha_1 GDP_{gr} + \alpha_2 RINT + \alpha_3 INF + \alpha_4 REER + \alpha_5 FDI + \alpha_6 VST + U_t \quad \text{(Eq 2)}$$

where; GDP_{gr} =Growth Rate of Gross Domestic Product; RINT= Real Interest Rate; INF = Inflation Rate; RER= Real Exchange Rate; FDI= Foreign Direct Investment; VST= Value Stock Trade (% GDP); SMC = Stock Market Capitalization; α_0 = constant term, $\alpha_1 - \alpha_6 = coefficients$; and U_t= Error term or random disturbance.

A prior expectation

The α_0 is constant while $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ and α_6 are the coefficients. The expected relationships are $\alpha_1, \alpha_4, \alpha_5, and\ \alpha_6 > 0\ while\ \alpha_2\ and\ \alpha_3 < 0$.

Estimation techniques

This research implemented ARDL co-integration assessment as well as error correlation design to examine the macro-economic determinants of capital market place in Nigeria. In order to avoid spurious regression, unit root examination is initially viewed as within identifying the stationarity within the equilibrium connection involving variables which are time period set in nature. ARDL Cointegration analysis was used to set up both long and short perform relationship between the two variables while ARDL error modification design was utilised to unify the long and short run dynamics.

Sources of data

The yearly time frame sequence information happened to be used at this particular research that is secondary as part of nature which spans from 1986 to 2016, sourced from statistical bulletins of Central Bank of Nigeria as well as National Bureau of statistics. Data like growth rate of GDP, Foreign Direct Investment, and importance of inventory traded plus market capitalization had been sourced from Central Bank of Nigeria while real interest rate and inflation ended up being sourced from National Bureau of Statistics.

Results and Discussion

Unit root test

In *Table 1*, the result shows that all the variables are stationary at levels excerpt Value stock traded that are stationary at first difference. Since these variables are stationary at different orders of zero and one, this prompts the study to proceed to Autoregressive Distribution Lag(ARDL) cointegration analysis.

***Table 1**. Augmented Dickey Fuller (ADF) Unit Root Test Result.*

Variables	At level		At first difference		Integration
	ADF test	5% CV	ADF test	5% CV	
MC	-3.1494	-2.9639	N/A	N/A	I(0)
FDI	-3.4936	-2.9639	N/A	N/A	I(0)
GDPgr	-4.3928	-2.9639	N/A	N/A	I(0)
INF	-4.1697	-2.9981	N/A	N/A	I(0)
REER	-3.8673	-2.9639	N/A	N/A	I(0)
RINT	-4.1679	-2.6387	N/A	N/A	I(0)
VST	-2.8059	-2.9639	-5.5374	-2.9677	I(1)

The Wald/Bound test

In the *Table 2*, the result of Wald Test/ARDL Bound Test reveals that the calculated bound test F – statistics which is (6.6577) is greater than the tabulated value of upper bound which is (3.61). Consequently, it implies that there is co – existence of cointegration i.e there is long run relationship among the determinants of capital market developments in Nigeria.

***Table 2**. ARDL Bound test result.*

Test statistics	Value	Significance	I(0)	I(1)
F-statistics	6.6577	10%	2.12	3.23
K (df)	6	5%	2.45	3.61
Sample size	31	1%	3.15	4.43

ARDL Long – run Error Correction Model Estimates

In the *Table 3*, the result of long run ARDL estimates revealed that there is insignificant positive relationship between Foreign Direct Investment (FDI), growth rate of Gross Domestic Product (GDPgr), Real Exchange Rate(REER), Real Interest Rate((RINT) and Inflation(INF) in Nigeria except Value Added Stock Traded(VST) that has significant positive relationship with stock market capitalization(SMC) at 10% level of significance. The adjusted R-square value showed that the determinant variables employed in this study can jointly explain about 44% of the systematic variation in stock market capitalization.

***Table 3**. ARDL long – run Error Correction Model Estimates.*

Variables	Coefficients	Std Error	t-statistics	Probability
C	1.11011	4.20855	0.26387	0.7964
FDI	0.04305	0.43027	0.10111	0.9211
GDPgr	0.02990	0.10855	1.19669	0.2545
INF	0.06119	0.07902	2.03987	0.5725
REER	0.02272	0.01818	1.24945	0.2353
RINT	0.05229	0.07132	0.73310	0.4776
VST	0.92459	1.37000	0.67488	0.0644

Notes: R-Squared: 0.4694; Adjusted R-Squared: 0.4385; F-Statistics: 23.75; Prob.(F-Statistics: 0.0001); Durbin Watson: 2.1029.

ARDL Short – run Error Correction Model Estimates

The results of the ARDL short run Error Correction Model also confirms the positive relationship between all the variables involved and the stock market capitalization (*Table 4*). However, not all the variables are insignificant as indicated in the ARDL Long run error correction estimates. Some macroeconomic variables like inflation, real exchange rate and interest rate are significant in the short run. The study also revealed that there is significant positive relationship between value stock traded and stock market capitalization at 1% level of significance.

Table 4*. ARDL short – run Error Correction Model Estimates.*

Variables	Coefficients	Std Error	t-statistics	Probability
C	0.80371	0.122163	6.57891	0.0000
D(FDI)	0.00545	0.489241	0.01113	0.9917
D(GDPgr)	0.06855	0.119457	0.57380	0.5759
D(INF)	0.06545	0.072109	3.67891	0.0028
D(REER)	0.04144	0.018308	2.28371	0.0413
D(RINT)	0.15525	0.061338	2.53118	0.0000
D(VST)	3.85307	0.37654	10.2328	0.0000
ECM(-1)	-0.3438	0.1338	-0.5683	0.0034

Conclusion

The study examined the macroeconomic determinants of capital market development in Nigeria. The result revealed that almost all the variables are stationary at levels except Value stock traded that are stationary at first difference. The results of long run ARDL estimates exerted that there is insignificant positive relationship between Foreign Direct Investment (FDI), growth rate of Gross Domestic Product (GDPgr), Real Exchange Rate (REER), Real Interest Rate ((RINT) and Inflation (INF) in Nigeria except Value Added Stock Traded(VST) that has significant positive relationship with stock market capitalization (SMC) at 10% level of significance. The results of the ARDL short run Error Correction Model also confirms the positive relationship between all the variables involved and the stock market capitalization. However, not virtually all the variables are insignificant as indicated in the ARDL Long run error correction estimates. Some macroeconomic variables like inflation, real exchange rate and interest rate are significant in the short run. The study also revealed that there is significant positive relationship between value stock traded and stock market capitalization at 1% level of significance. Therefore, the study concludes that based on the results that stock market liquidity significantly contributed to the growth of capital market development rather than macroeconomic variables. Based on the findings of this study, government should create a friendly environment through favourable policies that promote development of capital market. Moreover, government of Nigeria should improve on the macroeconomic variables through effective resetting of macroeconomic policies.

Acknowledgement

This research study is self-funded.

Conflict of interest

The author declare no conflict of interest with any parties involve with this research study.

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