

Effect of Capital Market Reforms on Economic Growth of Nigeria

John Akintayo OMIMAKINDE and Michael Onome OTITE

National Centre for Technology Management, Obafemi Awolowo University, Ile-Ife, Nigeria

E-mal: jakinomimakinde@yahoo.com

Abstract

The paper examines the impact of capital market reforms on economic growth in Nigeria using Ordinary Least Square technique and results show that three of the market capitalization, interest rate and number of deals have significant influence on Nigeria's GDP while All share index, number of listed companies, value of transaction and inflation rate are found to retard growth. It is therefore recommended that in an attempt to restore confidence in the market, regulatory authorities' activities must portray transparency, fair trading transactions and dealings in the stock exchange. Also, embargo should be placed on an arbitrary rise in number of deals.

Key words: *Capital market, reforms, economic growth, Nigeria.*

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I. Introduction

Economic development is regarded as the major goal of national policy in any economy, while capital accumulation or formation is also seen as a potent factor in the process of economic development. It is regarded as the core process by which all other aspects of growth is made possible and feasible. However, the rate of economic development is always limited by shortage of productive factor and if any scarce factor associated with development should be singled out, it will be finance (i.e. capital). Its positive impacts on the economy by providing financial resources through its intermediation process for the financing of long term projects cannot be over-emphasised. Hence without an efficient capital market, the economy may be starved of the required long -term fund for sustainable growth.

Capital market is a financial institution made up of both the stock (equity) and bond markets. It is the avenue through which long-term funds could be sourced by both governments and private sector institutions. Ewah, Essang and Basse (2019) noted that the main objective of establishing the capital market in Nigeria is to mobilize savings from various economic units for economic growth and development, provide adequate liquidity to investors, widen the ownership base of assets as well the creation of a buoyant private sector and provision of alternative source of funds for governments. Ojo and Adeusi (2019) noted that the Nigerian capital market has not been able to judiciously perform its primary obligation of meeting the long-term needs of the deficit sectors of the economy since according to Emenuga (2018) the capital market is frozen.

The role of capital market in influencing economic activities is indeed germane to an improved mobilization of domestic savings for productive investment and improving the efficiency of capital which tends to increase the public confidence, thus encouraging expansion and modernization of industries which leads to sustainable economic growth. The Nigerian capital market, which is an emerging market in the financial world, has been emulating the world's best practices by introducing series of reforms aimed at enhancing capital market development. These reforms started with the introduction of Structural Adjustment Programme (SAP) in 1986. Some of the reforms put in place by the Nigerian government since 1986 and which are of interest to this study include the Nigeria deposit insurance corporation (NDIC), pension reform, bank consolidation programme and anti-corruption drive.

The development and growth of capital markets in Nigeria have been widespread in recent times. Despite the size and nature of capital market, its continued existence and development could have important implications for economic activity. Thus capital markets can play a role in inducing economic growth in less developed country like Nigeria by channeling investment where it is needed from public. Mobilization of such resources to various sectors certainly helps in economic development and growth. Capital market development has assumed a developmental role in global economics and finance because of their impact they have exerted on corporate finance and economic activity.

Several studies in Nigeria have investigated the role of capital market reforms on economic growth. Most of the studies examined the nexus between capital market and economic growth and among them include the works of Ezeoha, Ogamba and Onyiuke (2019) and Ogunmuyiwa (2020) that found a positive relationship between capital market reform and economic growth as against the studies of Odhiambo (2009) and Ndako (2019) in South Africa. Also, the study by Ake and Ognaligui (2020) posited that Douala Stock Exchange does not affect Cameroonian economic growth.

These and many other studies identified a lot of challenges facing the Nigerian capital market which include pull-out of various foreign investors, lack of infrastructure, high production costs, negative impacts of commercial banks, avalanche of private placements offers and inability of the federal government to plot a bailout option. Others are regulating inconsistencies, pronouncements and pressure from banks can lead to frozen of capital market which may eventually lead to it adverse effect on the interest rate and the inflation rate of the Nigerian economy. Hence a serious measure should be employed to identify the impact of such macroeconomics variables on the capital market.

The study intends to empirically analyze the impacts as well as the trend of the capital market reform on economic growth in Nigeria over the period (1985-2020). This is to consolidate existing literature on the issues surrounding the relationship between capital market reform and economic growth as an economic developmental process in Nigeria. Studies have established that a lot of countries are able to attain a sustainable economic growth and development through capital market reform. The study is therefore relevant as it seeks to examine the efficiency or otherwise of policy formulation on capital market in Nigeria.

II. Literature Review

There has been growing concern on the role of capital markets on the growth of any nation's economy (Oyejide 2014; Levine and Zervos, 2016; Demirguc-kunt and Levine, 2016; Nyong 2018; Sule and Momoh, 2019; Ewah et al., 2019). Varied results emanated from the studies some are in support of positive relationship, some negative relationship and others do not find any empirical evidence to support such conclusion. Ezeoha et al. (2019) investigates the relationship that exists between capital market development and the private investment growth in Nigeria. It was discovered that capital market development promotes growth of domestic private investment but discourages the flow of foreign private investment into Nigeria.

Ahmed (2019) in his study found out that the capital market has the capacity to create wealth and provide long term capital needed for development of Nigeria economy. Contrary to the result of the study above is the work of Ujunwa and Salami (2020) which equally found out that capital market size and turn-over ratios are positive in explaining economic growth while capital market liquidity coefficient was negative in explaining long-run growth in Nigeria.

Aremu et al. (2021) investigate the impact of Nigerian capital market operations on the local investment in Nigeria and the result of the study reveals a strong empirical relationship between Nigerian capital market operations and the local investors in the market. Similarly, Kolapo and Adaramola (2012) investigate the impact of the Nigerian capital market on economic growth and the result shows that there is relative positive relationship between Nigerian capital market and the economic growth of the country.

Barlett (2000) demonstrates that a rising capital price increases the wealth of the economy by encouraging increase in consumers' consumption and increase in investment. Ewah et al; (2009) appraise the impact of the capital market efficiency on economic growth of Nigeria and found that the capital market has the potential of inducing growth but it has not contributed meaningfully to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization and misappropriation of funds among others.

From the review of the literature above, it is obvious that there is no consensus amongst researchers on the nexus between capital market reforms and economic growth. It is certain however that reforms of capital market impact significantly on the economy. This is indeed a spectacular of the reason why special attention is given to capital market in any country of the world. Besides, researchers question the efficiency and effectiveness of capital market reforms, and its contribution to economic growth. This is the objective this research work seeks to address and also to add knowledge by bringing various means of indicators of capital market (within the stated scope) and evaluate its impact on economic growth.

III. Methodology

The paper adopted Harrod-Domar growth model developed by Harrod (1939) and Domar (1947) which focuses on Incremental Capital-Output ratio (ICOR) that is critical for estimating the level of investment that would sustain growth. One of the assumptions of the model is that investment, I , is defined as the change in capital stock, K , such that:

$$I = \Delta K \qquad 1$$

Total capital stock, K , bears a direct relationship with total national output (or income), Y , as expressed by the capital-output ratio, k , (new investment as a percentage of GDP) then:

$$K = kY \quad 2$$

Dividing through by Y

$$\frac{K}{Y} = k \quad 3$$

Similarly

$$\frac{\Delta K}{\Delta Y} = k \quad 4$$

Then,

$$\Delta K = k(\Delta Y) \quad 5$$

Since total national saving, S, equals total investment, I, then:

$$S = I \quad 6$$

Also,

$$S = s(Y) \quad 7$$

Then equation 5 becomes

$$\Delta K = k(\Delta Y) \quad 8$$

Therefore:

$$s(Y) = k(\Delta Y) \quad 10$$

Now, divide both sides of the equation above first by Y and then by k, we obtain the following equation:

$$\frac{s}{k} = \frac{\Delta Y}{Y} \quad 10$$

Note that $\Delta Y/Y$ is equal to the rate of growth of GDP (The percentage change in GDP)

Equation 6 above is the Harrod-Domar Equation of the economic development which states that “the rate of growth of GDP ($\Delta Y/Y$) is determined jointly by the national saving ratio s , and the national capital-output ratio k .”

So, before an economy can achieve growth, certain portion of the GDP needs to be saved for investment. But the role of financial institutions is critical for economic development as they engage in facilitating reliable payments system, mobilizing savings, allocating credit and risks (Haley and Schel, 1973). Capital market institutions in particular are in position to encourage investment, as investors are able to borrow funds and invest more than they would have done without such institutions.

Model Specification

Following the theoretical perspective, the model implies that economic growth (GDP) depends on capital market reform. Economic growth is thus expressed as a functional relationship between dependent variable (GDP) and the independent variables. Therefore, a multivariate regression model is employed to study the effect of the independent variables on dependent variable (economic growth). For the purpose of empirical analysis and in line with the work of Nyong (2018) and Sule and Momoh, (2019), a functional relationship showing the effect of capital market reform on economic growth is formulated as follows:

$$GDP = f(MCAP, VOT, NOD, ALSI, NLS, INFR, INTR) \quad 11$$

Therefore, it can be explicitly expressed as:

$$GDP_t = \beta_0 + \beta_1 MCA_t + \beta_2 VOT_t + \beta_3 NOD_t + \beta_4 ASI_t + \beta_5 INF_t + \beta_6 NLS_t + \beta_7 INT_t + \varepsilon_t \quad 12$$

Where,

GDP is Gross domestic product, MCA is Market capitalization, ASI is All share index, VOT is Value of transaction, NLS is Number of listed companies, NOD is Number of deals, INF is Inflation rate and INT is Interest rate. Also, β_0 is intercept, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 are coefficients of the independent variables that explain the extent to which each of independent variables affects the dependent variable. ε_t is error term and t is the time subscript.

Thus, some of the variables are transformed into natural logarithmic form to ensure conformity in line with linearity assumption of Ordinary Least square and as well as to correct for serial autocorrelation among the residuals.

Therefore, the logarithmic form of the variables is captured in the model below:

$$\ln GDP_t = \beta_0 + \beta_1 \ln MCA_t + \beta_2 \ln VOT_t + \beta_3 \ln NOD_t + \beta_4 ASI_t + \beta_5 INF_t + \beta_6 NLS_t + \beta_7 INT_t + \varepsilon_t \quad 13$$

The error or stochastic term u_t is included so as to account for the omitted independent variables that could also affect the dependent variable (GDP).

Gross Domestic Product is taken as the dependent variable, while MCA, VOT, NOD INF, ASI, NLS and INT are the independent variables. The *a priori* expectation is that all the explanatory variables except inflation rate and interest rate will have a direct relationship with the dependent variable. That is, a unit increase in any of these variables will lead to an increase in the dependable variable. But an increase in INF and INT will enhance GDP decrease. This can be expressed mathematical as:

$$\beta_1, \beta_2, \beta_3, \beta_4, \beta_6 > 0 \text{ while } \beta_5, \beta_7 < 0 \quad 14$$

Measurement of variables and sources of data

Variables	Definition	Data Sources
Economic growth	Measured as the growth rate of output over time	WDI
Market capitalization	The total market value of the equity in the publicly traded entity. It also refers to the value of all listed securities base on their market prices;	CBN statistical bulletin
Interest rate	Measured in percentage and is taken as proxy for nominal interest as it measures the condition of credit in the economy.	WDI
Inflation rate	The rate at which the price levels increases. The variable is also measured in percentage.	WDI
Number of deals	The total transaction that took place in the Capital Market at given period;	CBN statistical bulletin
Value of transaction	The price of each transaction divided by the total value of shares traded over a particular time.	CBN statistical bulletin
Foreign direct investment	The total transaction that took place in the Capital Market at a given period;	WDI
Number of listed companies	The total listing on the Nigerian capital market exchange	CBN statistical bulletin

TECHNIQUES OF DATA ANALYSIS

The study made use of descriptive analysis such as tables and graphs that would present the data clearly and enhance comparison of the variables in the study. Also a classical econometric analysis known as the Ordinary Least Square (OLS) is employed to analyse the data. The estimated result generated from this analysis is subjected to statistical test so as to ensure that the model conforms to standard measures. Augmented Dickey-Fuller Unit Root Test analysis is used to determine the stationarity properties of the series so as to avoid spurious result. Other statistical tests employed include student *t*-statistic, F-statistic, Coefficient of Determination (R^2), Adjusted Coefficient of Determination (R^2), Correlation coefficient statistic, Durbin-Watson test.

GDP

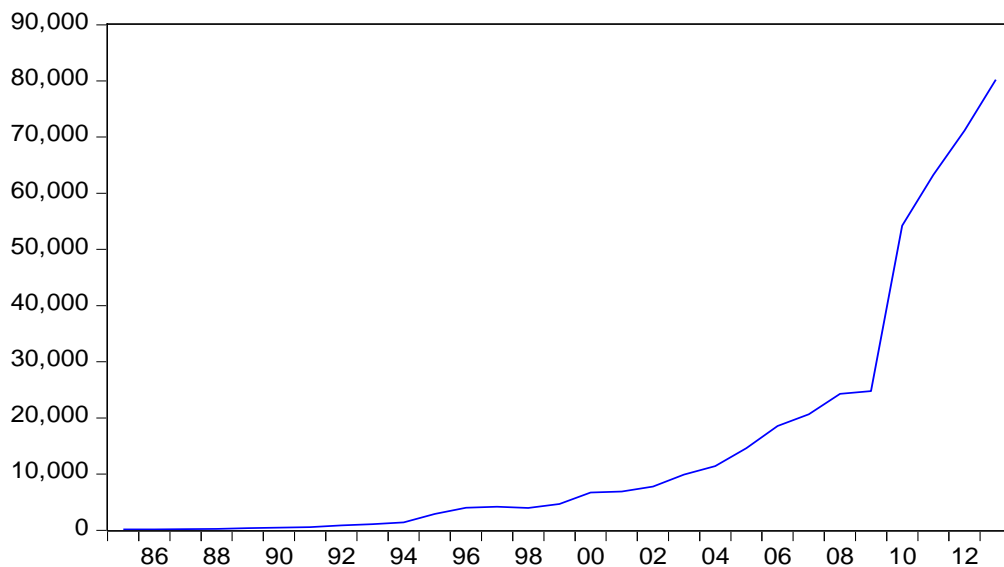


Figure 1: The trend of the gross domestic product (basic current prices in billions)

Source- Author (2015)

The above graph depicts an increase in GDP over the sample period. From 1985 to 1990 the GDP was increasing at a slow pace, but from the year 1995 to 2013 the country experienced a gradual rise in GDP

compared to what was obtainable in previous years. The rise became rapid between 2010 to 2013 but with a slight fluctuation in 2011.

Unit root test result

This is carried out using the Augmented Dickey-Fuller (ADF) unit root test. The decision rule is that the ADF test statistic value must be greater than the Mackinnon critical value at 5% and at absolute value.

Table 1: Unit root test

Variables	ADF-statistics	Critical values	Order of Integration
GDP	4.802239 (1.0000)	1% = -3.724070 5% = -2.986225 10% = -2.6232604	Stationary at level difference
MCA	-4.524212 (0.0014)	1% = -3.699871 5% = -2.976263 10% = -2.627420	Stationary at first difference
VOT	5.065812 (1.0000)	1% = -3.769597 5% = -3.004861 10% = -2.642242	Stationary at level difference
NLS	-5.109495 (0.0003)	1% = -3.699871 5% = -2.976263 10% = -2.627420	Not Stationary at First difference
NOD	-3.388972 (1.0000)	1% = -3.788030 5% = -3.012363 10% = -2.646119	Stationary at first difference
ALSI	-4.216270 (0.0037)	1% = -3.769597 5% = -3.004861 10% = -2.642242	Stationary at Second difference
INF	-4.529912 (0.0013)	1% = -3.699871 5% = -2.976263 10% = -2.627420	Stationary at first difference
INT	-5.952222 (0.0000)	1% = -3.711457 5% = -2.981038 10% = -2.629906	Stationary at first difference

Source: Authors' computation

The result of the stationarity (Unit Root) test shows that MCA, INF, INT, NOD and NLS are Stationary at first difference, while, GDP and VOT are stationary at level difference. Also, ALSI were stationary at second difference. Based on this, study rejects the null hypothesis and concludes that there is no unit root in the variables.

Interpretation of the Regression results

Table 2: Regression results

Method: OLS				
De. Var: GDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.918121	21430.33	2.294935	0.0321
MCA	4.019194	0.818509	4.910385	0.0001
VOT	-16.27953	13.13961	-1.238966	0.229
NLS	-217.2638	89.94053	-2.415638	0.0249
NOD	0.011232	0.010144	1.107286	0.2807
ASI	-0.412373	0.426785	-0.966231	0.3449
INF	-1.468372	81.28839	-0.182526	0.8569
INT	1.819212	527.1178	3.451244	0.0024

R-squared 0.938135 Adjusted R-squared 0.917513

Prob (F-statistic) 0 Durbin-Watson stat 1.970879

Source: Authors' computation

The regression result above shows that three of the treated variables in the model i.e market capitalization, interest rate and number of deals were positive and had significant influence on the GDP while remaining four variables i.e all share index, number of listed companies, value of transaction and inflation rate were negative and had significant influence on the GDP. The regression coefficient of market capitalization is found to be 4.019194 and found to be statistically significant at 4.910385. In other words a unit increase in market capitalization as a measure value of the traded share will impact positively on economic growth and the impact is found to be significant, all other things being equal.

Also, the regression coefficient of interest rate is found to be 4.918121 and found to be statistically significant with at 5% and however it is positive on economic growth and hence, against the theoretical expectations that interest rate is negatively related to GDP. This can be attributed to growth in foreign investment and what Keynes called “Animal Spirit” Also, the regression coefficient of number of deals is found to be 0.011232 and found to be statistically significant 1.107286. In other words a unit increase in number of deals as a measure value of the traded share which impact positively on economic growth and therefore, it goes with saying that huge increase in NOD was as a result of investors’ perception after the market crashed in 2008.

Again, the regression coefficient of all share index, number of listed companies and value of transaction are found to be -0.412373, -217.2638 and -16.27953 respectively and are found to be statistically significant with -0.966231, -2.415638 and -1.238966 respectively and were negatively related to GDP. The inflation rate of coefficient -1.468372 which has a negative relationship with the nation's GDP and highly statistically significant with 0.182526; this implies that unit change in inflation rate will actually reduce output level. By implication, persistence rise in price and money wage over the year had negatively affected the gross domestic product. In the long is negative and not statistically significant. The Durbin-Watson value of 1.970879 shows that there is no autocorrelation in the residual and the value of F-statistic also shows that the overall variable is significant

The implication of the findings reveals that there is a linkage between capital market reforms and economic growth vis-à-vis market capitalization, value of transaction, number of deals, all share index, number of listed companies, interest rate and inflation rate. The findings are in line with the work of Ezeoha, Ogamba and Onyiuke (2019) which shows that capital market reforms lead to economic growth. It can also be observed that market capitalization, value of transaction, total new issue, number of deals are influenced by external policies from the government in attempt to achieve economics goals such as resources redistribution, increase in per capital income and reduction in unemployment, among others. The findings also support the works of Ogunmuyiwa, (2020); Odhiambo, (2019) and Ndako, (2019) that market capitalization significantly influence government policies to achieve economic growth.

IV. Conclusion

The study empirically investigates the impacts of capital market reforms on economic growth in Nigeria using Ordinary Least Square technique. Evidences from the analysis shows that market capitalization, interest rate and number of deals are positive and have significant influence on the GDP while All share index, number of listed companies, value of transaction and inflation rate appear negative and have significant influence as well on the GDP. It is therefore recommended that in an attempt to restore confidence in the market, regulatory authorities’ activities must portray transparency, fair trading transactions and dealings in the stock exchange. It also necessary to prevent the increase in number of deals and decrease in the market capitalization after the boom recorded in the previous year. Also, stimulating the value of transactions in the Nigerian capital market requires availability of more investments instruments such as derivatives, convertibles, swaps and option in the market.

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