An Empirical Analysis of Capital Market as a Tool for Economic Growth in Nigeria

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Abstract
This study investigates the impact of Capital Market on economic growth in Nigeria using a time series data from 1985 to 2017. The ordinary least square (OLS) regression was utilized using data that were collated from the CBN statistical bulletin. The Gross domestic product was used as proxy for economic growth while Market capitalization, Value of transaction and the all shares index were used as proxy for capital market variables. The findings from the study revealed that capital market has significant impact on economic growth. Furthermore, the study provides evidence that market capitalization exert positive impact in explaining and predicting economic growth in Nigeria. Thus, the study concluded that this variable played a significant role in influencing the capital market performance on Nigeria's economic growth. On the other hand, the value of transaction and all shares index do not have significant impact on the growth of the economy. The reasons for this result could be attributed to the quality of quoted stocks, weak form market efficiency and the underdeveloped nature of the Nigerian Capital market. The study therefore recommend that the security and exchange commission (SEC), the Nigerian stock exchange (NSE) and other relevant agencies should ensure that the stock market is fully automated to enable market participants have easy access to the relevant information about the market and its activities. To boost the value of transactions and liquidity in the Nigerian capital market, there is need to introduce more investment instruments such as derivatives and cross-border quotation. Furthermore, SEC should restore confidence in the market by ensuring transparent and fair trading.

Keywords: *Economic growth; Nigerian Capital market; Market capitalization; All shares index; Gross Domestic Product; Market efficiency*

1.0 Introduction

The Capital market through the vehicle of financial intermediation has been identified as an institution that promotes and contributes to the economic growth and development of a country. The capital market provides a platform for raising long term capital for both private and public organizations. This is not unconnected with the fact that it creates a means through which long

term financial securities are traded. As in Adekanye (2010), the capital market is the market from which large companies and public enterprises attract long-term investment funds through a network of financial institutions and stockbrokers licensed to perform capital market functions.

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. (Nwaolisa, Ezu and Egbunike 2013).
Economic growth in a modern economy hinges on an efficient financial sector that pools domestic savings and mobilizes foreign capital for productive investments. The capital market of any nation is believed to be efficient if it has the capability and capacity to mobilize the required resources for economic growth and industrial development. The importance of capital market as an efficient channel of financial intermediation has been well noted by researchers, academicians, and policy makers as a primary determinant of the economic growth of any country. Underdeveloped or poorly functioning capital markets typically are illiquid and expensive which deters foreign investors. Furthermore, illiquid and high transactions costs also hinder the capital raising efforts of larger domestic enterprises and may push them to foreign markets (Oke, 2013).

However, Odetayo and Sujuyigbe (2012) assert that, Capital market is an engine of economic growth and development globally, Nigeria inclusive. Capital market is made up of markets and institutions which facilitate the issuance and secondary trading of long-term financial instrument. Osaze (2000) sees the capital market as the driver of an economy to growth and development because it is essential for the long-term growth of capital formation. It is crucial in the mobilization of savings and channeling of such savings to profitable self-liquidating investment.
The capital market provides a platform for the trading of long term debt and equity securities. The capital market is made up of two interrelated segments namely; Primary and Secondary Market. The primary market provides the mechanism for raising funds through the issuance of fresh or new securities. The secondary market provides facilities for trading in already existing securities, hence creating liquidity in the market. The economy will feel the effect of the stock market activities more positively when the Gross Domestic Product (GDP) is on the increase as a result of the operations of the capital market. However, one expects that the operation of the stock market must have significant impact on economic growth and development which is evidenced by the GDP. The operations are represented by factors such as stock Market Capitalization, value of transactions and all shares index.
Reckoning with this fact, an empirical investigation of the magnitude and direction of relationship between Gross Domestic Product (GDP) and stock Market Capitalization, Value of transaction and the all shares index become necessary. This however, is the foundation upon which the problem of the study is built.

2.0 Literature Review

The theory upon which this study is anchored is the efficient market hypothesis. Fama (1965) developed the efficient market hypothesis which hinges on the work of Bachelier (1900) and Kendall (1953). The efficient market hypothesis postulates that if the market is efficient, stock prices will fully reflect all relevant and available information about the stock such that even those with privilege information will find it difficult to beat the market consistently.

The efficient market hypothesis has three variants namely; the weak form, semi-strong form and strong form market hypothesis. The *weak form market hypothesis* posits that stock prices reflect past price data and volume. As a result, it will be impossible to outperform the market using this information because all investors have the same sets of information. *Semi-strong form market hypothesis* asserts that stock prices reflect all public available information. By so doing, it will be impossible to beat the market using publicly available information since stock prices quickly react to public information. Finally, the *Strong form market hypothesis* states that stock prices reflect all private and public available information. Thus, it will be impossible for even those with privilege information to outperform the market.

If a capital market is efficient, stock market variables like market capitalization, value of transactions and the all shares index are expected to perform well thereby, increasing the stock market size. Meanwhile, in evaluating the market size, the number of securities listed on the Nigerian stock exchange, market capitalization, volume and value of transactions are its major determinants. However, studies have revealed that the Nigerian stock exchange has high volatility of the all shares index as a result of low turnover, and thin trading which are the resultant effects of low market capitalization.

In recent years, there have been growing controversies on the role or effect of capital market on economic growth. For instance, Caporale, Howells and Soliman (2005) examine the hypothesis of endogenous, growth models that financial development caused higher growth through its influence on the level of investment and its productivity. The study revealed that, investment productivity was the channel through which stock market development enhanced the growth rate in the long run. Yartey and Adjasi (2007) argued that stock markets equally provide an avenue for growing companies to raise capital at a lower cost, while positively influencing individual savings in the economy; and that, companies in countries with developed stock market are less dependent on bank financing, which can reduce the risk of a credit crunch. In a study conducted by Idowu and Babatunde (2012), to investigate the effect of financial reforms on capital market development in Nigeria, using Ordinary least square (OLS) technique, the chow-forecast test parameter stability and breaking point technique discovered that financial reforms impacted significantly on the capital market development in Nigeria. The findings revealed that the variables that represented the development of the banking sector, the activities of the Central Bank and other financial institutions interacted negatively with the capital market capitalization, which implies that the activities of those institutions deterred the development of the capital market.

On the other hand, Osinubu and Amaghionyeodiwe (2003), using Nigerian data, provided some dissenting evidence that stock market development statistically had no significant effect on economic growth in Nigeria during the period of 1980 to 2000. They interpreted the result to mean that the Nigerian stock market was unable to make significant contribution to rapid economic growth because of the existence of certain policies that blur the effectiveness of the vehicle or transmission mechanism through which stock market activities influence economic growth.

Okafor and Arowoshegbe (2011) examined the impact of the Nigerian Capital Market performance (proxy by All Share index, Market Capitalization, Value of transactions, Volume of Transactions and Number of listed Companies) on the economic development (proxy by the Gross Domestic Product GDP and Gross Fixed Capital Formation- GFCF) using the data obtained from Central Bank of Nigeria Statistical Bulletin , Nigerian Stock Exchange Fact books, annual reports and Statement of accounts (various years) of quoted companies and other

relevant publications from 1993 to 2007. The results of the data analyzed using Ordinary least square (OLS) and multiple regression shows that market capitalization, all share index, number of listed companies were positively related and capable of influencing Gross Domestic Product; while volume of transaction and Market Capitalization were positively related to Gross fixed Capital Formation. The study concluded that the performance of the capital market impacts positively on the economic development of Nigeria.

Atoyebi, Ishola, Kadiri, Adekunjo and Ogundeji (2013) investigated the impact of capital market on economic growth using annual data from 1981 to 2010. The study employed the Ordinary Least Square and Vector Auto Regression technique in analyzing the hypothesis. The result from the study revealed that a percentage increase in market index and market capitalization was found to bring about an average of 33.7% and 44.8% increase in real GDP respectively.

Josiah, Samson and Akpeti (2012) looked at the impact of capital market in the development of the Nigerian economy using Ordinary Least Square (OLS) technique to analyze the data collected from the CBN Statistical Bulletin from 1992 to 2007. The findings from the study revealed that capital market has not contributed positively to the development of Nigerian economy.

Ewah, Esang and Bassey (2009) conducted a study to appraise the impact of capital market efficiency on economic growth in Nigeria using time series data on market capitalization, money supply, interest rate, total market transaction and government development stock from 1961 to 2004. The study used the multiple regressions and ordinary least squares estimation techniques to analyze the data. The result shows that all the variables with positive apriori were statistically significant except total market transactions and money supply. This means that capital market in Nigeria has the potential of inducing growth but it has not contributed meaningfully to economic growth of Nigeria. This is due to low market capitalization, low absorptive capitalization, illiquidity, misappropriation of funds among others.

In another study conducted by Acquah-Sam and Salami (2014), using multiple regression and Shapiro-Wilk test, the study established positive significant effects of capital market development (MKT) and FDI on GDP growth. However, GFI, T-Bills, and INF met their expected signs, but they had insignificant effects on GDP growth. They went further to explain that, there is also a bi-directional relationship between GDP growth and capital market development. However, the direction of causality is stronger from capital market development to economic growth. This supports the supply-leading hypothesis view of financial development which states that economic growth and development spring from availability of credit facilities from surplus spending units to deficit spending units in an economy.

Oke (2013) conducted a study to examine the relationship between capital market operations and economic growth in Nigeria using time series data for the period of 1985 to 2011. The Gross domestic product was used as a proxy for economic growth while Market capitalization, Number of dealings and Market index were used as proxy for capital market variables. The findings from the study record a positive relationship between capital market operations and economic performance in the short-run with all the independent variables showing positive relationships with the Gross domestic product. The long run relationship examined by Johansen co-integration test also reveals a long term relationship between the explained and negative impact on the economic growth while the all share index shows a positive impact on the economic growth.

Briggs (2015) conducted a study to examine the impact of capital market on the Nigerian economy from 1981 to 2011. The study utilizes the Johansen co-integration and Granger causality test to evaluate the variables. The Gross Domestic Product (GDP) was used as a proxy for economic growth while Market Capitalization (MCAP), Total New issues (TNI), Value of Transactions (VLT), and Total Listed Equities and Government Stocks (LEGS) were used as proxy for capital market variables. The findings from the study revealed that the Nigerian capital market and economic growth are co-integrated. Thus, evidenced a long run relationship between capital market and the growth of the Nigerian economy.

Araoye, Ajayi and Aruwaji (2018) conducted a study to examine the impact of the Nigerian Stock market development on economic growth from 1985 to 2014. The study uses the Johansson's co-integration test to check if a long term relationship exists between stock market development and economic growth. Market capitalization and turnover ratio were used as proxy for stock market development while GDP was used as proxy for economic growth. Findings from the study revealed that stock market is significant in determining economic growth in Nigeria using the error correction model and therefore concludes that the stock market has insignificantly impacted on economic growth in Nigeria.

3.0 Methodology

The methodology adopted for the study is the multiple regression analysis with ordinary least squares (OLS) econometric techniques and a time series data from 1985 to 2017 were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin. The Gross Domestic Product (GDP) was used as a proxy for the growth of the Nigerian economy which is our dependent variable while Market Capitalization (MCAP), Value of transactions (VT) and All Shares Index (ASI) were used as proxy for Capital market variables which serves as the explanatory variables.

3.1 Model Specification

The model is specified in the general form as;

$GDP = f(MCAP, VT, ASI)$ ..... (1)

Where;

GDP=Gross Domestic Product
MCAP=Market Capitalization
VT=Value of Transactions
ASI=All Shares Index

The functional form upon which our model is based is given as;

$Y=F(X_1, X_2, X_3)$ ..... (2)

Where;

Y is economic growth or GDP = dependent variable
X_1 to X_3 are independent variables
F represents the functional notation

The OLS linear regression equation based on the above functional relation is;

$Y = a_0 + \beta_1 x_1 + + \beta_2 x_2 + + \beta_3 x_3 + U_t$ .....(3)

$GDP=a_0 + \beta_1 MCAP + \beta_2 VT + \beta_3 ASI + U_t$ ..... (4)

GDP, VT, and ASI are stated above while;

a=Regression Constant
β_1, β_2 and β_3 = Regression coefficient.
U_t =Stochastic Error Term

4.0 Results and Interpretation

The result from the model summary shows a multiple correlation (R) of .955 which represent the combined correlation (MCAP, VT and ASI). The adjusted R^2 revealed that 90.3% of the variation in Gross Domestic Product can be explained by variations in the three independent variables taken together. This leaves 8.8% explained. The ANOVA summary sub-table indicates that the overall model of the three independent variable's F value of 100.088 is statistically significant with a P > .001. Thus, the probability of obtaining these results if the null hypothesis is true is less than 1 in every 1000. This indicates a highly significant multiple regression.

The results from the coefficients sub-table reveals that MCAP = .001 (significant) while VT = .340 and ASI =.221 (not significant). This indicates that MCAP make significant contribution to the prediction while VT and ASI do not significantly contribute to the model. The relevant part correlation squared (sr^2) showed the magnitude of the unique contribution. The variance inflation factor (VIF) result indicates the absence of collinearity as the values are within the acceptance criterion. Using the standardized beta weight to compare the relative contributions of each independent variable we have a constant of 22636790.09 +2398.070 (MCAP) + (-3.637) (VT) + 158.291 (ASI). No outliers were detected by SPSS as no case diagnostics table was produced. On the other hand, the histogram and scatter graph of residuals showed very acceptable distribution given on 33 cases.

The standard multiple regression was conducted to determine how the predictors (MCAP, VT and ASI) impact on the dependent variable (GDP). The adjusted R^2 was significantly different from zero (F = 100.088, P > .001) and 90.3% of the variation in GDP was explained by MCAP, VT and ASI. Amongst the predictors MCAP uniquely and significantly contribute to the prediction of the GDP while the VT and ASI were found not to contribute to the prediction of the GDP. That is MCAP (sr^2 .17, t = 7.563, P = .001). The data adopted for the study satisfied the assumptions of multicollinearity, normality of residuals and homoscedasticity while no outliers were identified.

5.0 Conclusion

The study provides evidence that market capitalization exert positive impact in explaining and predicting economic growth in Nigeria. The study concluded that this variable played a significant role in influencing the capital market performance on Nigeria's economic growth. Hence, market capitalization is an important factor in determining the magnitude of trading in the capital market and it goes a long way in improving the performance of the market and as well increases the efficiency of the market which invariably improves the economic growth in Nigeria.

Finally, we could deduce that the reason for negative relationship between the value of transaction and all shares index and economic growth may lie on data and computation error. The reason for this insignificant relationship could also be attributed to the quality of quoted stocks, weak efficiency and underdeveloped nature of the Nigeria Capital market.

6.0 Recommendation

Based on our findings, the following recommendations are made:

- **(a)** The security and exchange commission (SEC), the Nigerian stock exchange (NSE) and other relevant agencies should ensure that the stock market is fully automated to enable market participants have easy access to the relevant information about the market and its activities.
- **(b)** To boost the value of transactions and liquidity in the Nigerian capital market, there is need to introduce more investment instruments such as derivatives and cross-border quotation.

(c) Government should set up a capital research fund. By so doing, it will motivate researcher to investigate the capital market with an intension to discover the relevant aspect of its activities that require attention.

(d) The government at all levels should invest more in the development of the nation's infrastructure in order to create an enabling environment for businesses activities.

(e) The listing requirement for companies should be less stringent in order for more corporations to be quoted on the Nigerian Stock Exchange. This will enable an increase in the volume of transactions and all shares index.

(f) SEC should restore confidence in the market by ensuring transparent and fair trading.

References

Acquah-Sam & Salami, K. (2014). Effect of capital market development on economic growth in Nigeria. *European Scientific Journal 10*(7), 511-534, March.

Atoyebi, K., Ishola, S. A., Kadiri, K. I., Adekunjo, F. O., & Ogundeji, M. O. (2013). Capital market and economic growth in Nigeria. An empirical analysis. *Journal of Humanities and Social Sciences*, *6*(6), 60-68.

Adekanye, F. (2010). The element of banking in Nigeria. Offa, FazBurn

Araoye, F.B & Ajayi, A.M. (2018). The impact of stock market development on economic growth in Nigeria. *Journal of Business and African Economy* 4(1), 1-15.

Bachelier, L. (1990). Theorie de la Speculation. Paris; Gauthier –Villar. Reprinted English in Cootner, P (1964). The Random Character of stock Market Prices.(ed) Cambridge: M.I.T. Publishers.

Briggs, A.P (2015). Capital market and economic growth of Nigeria. *Research Journal of Finance and Accounting*, *6*(9), 82-93.

Caporale, G. M., Howells, P., & Soliman. A. M. (2005). Endogenous growth models and stock market development: evidence from four countries. Review of Development, *Journal of Economic Development.*

Ewah, S.O.E, Esang, A.E., & Bassey, J.U (2009). Appraisal off capital market effiency on economic growth in Nigeria. *International Journal of Business Management*, 4(12), 219-221.

Fama, E.F. (1965). The behaviour of stock-market prices. *Journal of Business*, *38*(1), 34-105, January.

Idowu, A., & Babatunde, M.A. (2012). Effect of financial reforms on capital market development in Nigeria. *Asian Journal of Business and Management Sciences*, 1(8), 44-52.

Josiah, M., Samson, A.A., & Akpeti, O.E. (2012). Capital market as a veritable source of development in Nigerian economy. *Journal of Accounting and Taxation*, 4(1), 7-18.

Kendall, M.G. (1953). The analysis of economic time-series, Part 1: Price: *Journal of Royal Statistical Society*, *96*, 11-25.

Nwaolisa, E.F., Ezu, G.K., & Egbunike, C.F. (2013). The impact of capital market on the growth of the Nigeria economy under democratic rule, Arabian *Journal of Business and Management Review (OMAN Chapter)* 3(2), 53-62.

Odetayo, T.A & Sujuyigbe, A.S. (2012). Impact of Nigerian capital market on economic growth and development. *International Journal of Arts and Commerce.* 1(5), 1-. October

Okafor, C., & Arowoshegbe, A.O. (2011). Stimulating economic development through the capital market: The Nigerian experience. *JORIND, 9*(2), 1-16.

Oke, M.O. (2013). Capital market operations and economic growth in Nigeria (1985-2011). *International Journal of Business and Social Science*, 4(7), 166-172. July

Osaze, B.E. (2000). The Nigeria capital market in the African and global financial system. Benin City: Bofic Consults Group Limited.

Osinubi, T. S., & Amaghionyeodiwe, L.A. (2003). Stock market development and long-run growth in Nigeria. *Journal of African Business, 4* (3), 103-129.

Yartey, C. A., & Adjasi, C. K. (2007). Stock market development in sub-saharan Africa: Critical issues and challenges. IMF Working Paper, WP/07/209.

Appendix

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955[a]	.912	.903	5611269.44374

a. Predictors: (Constant), ASI, VT, MCAP
b. Dependent Variable: GDP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9454244275336358.000	3	3151414758445452.000	100.088	.000[b]
	Residual	913103998338035.600	29	31486344770277.090		
	Total	10367348273674390.000	32			

a. Dependent Variable: GDP
b. Predictors: (Constant), ASI, VT, MCAP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolera-nce	VIF
1	(Constant)	22636790.086	1454049.023		15.568	.000					
	MCAP	2398.070	317.064	.945	7.563	.000	.952	.815	.417	.194	5.143
	VT	-3.637	3.749	-.120	-.970	.340	.820	-.177	-.053	.200	5.007
	ASI	158.291	126.638	.134	1.250	.221	.823	.226	.069	.264	3.783

a. Dependent Variable: GDP

Collinearity Diagnostics[a]

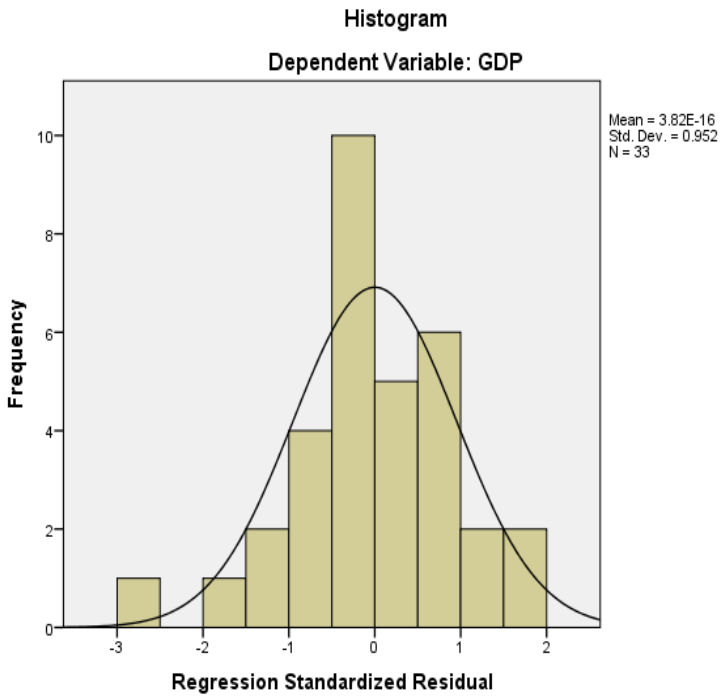
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	MCAP	VT	ASI
1	1	3.316	1.000	.02	.01	.01	.01
	2	.513	2.543	.66	.03	.04	.00
	3	.091	6.033	.31	.05	.30	.95
	4	.080	6.426	.00	.91	.65	.04

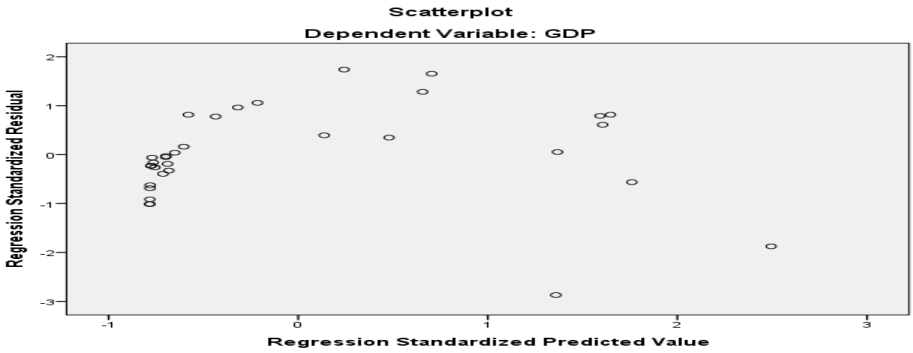
a. Dependent Variable: GDP

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	22671566.0000	79020432.0000	36136173.0764	17188517.49292	33
Residual	-16108860.00000	9749737.00000	.00000	5341769.36493	33
Std. Predicted Value	-.783	2.495	.000	1.000	33
Std. Residual	-2.871	1.738	.000	.952	33

a. Dependent Variable: GDP


Histogram
Dependent Variable: GDP
Mean = 3.82E-16
Std. Dev. = 0.952
N = 33
Frequency
Regression Standardized Residual


Scatterplot
Dependent Variable: GDP
Regression Standardized Residual
Regression Standardized Predicted Value