Saudi Journal of Business and Management Studies (SJBMS) **ISSN 2415-6663 (Print)**
Scholars Middle East Publishers **ISSN 2415-6671 (Online)**
Dubai, United Arab Emirates
Website: http://scholarsmepub.com/

The Effect of the Nigeria Stock Market on Infrastructure Development in Nigeria

Ebere Chukwuma Christopher[1*], Thankgod Obutor[2]
[1]Deportment of accounting university of Porthurcourt, Rivers State, Westend, Old Port Harcourt Township, Port Harcourt, Nigeria
[2]Department of accounting faculty of management science, Rivers State unverisity, Westend, Old Port Harcourt Township, Port Harcourt, Nigeria

***Corresponding author**
Ebere Chukwuma Christopher

Article History
Received: 13.08.2018
Accepted: 25.08.2018
Published: 30.09.2018

DOI:
10.21276/sjbms.2018.3.9.2

Abstract: This paper investigated the influence of stock market activities in on the provision of infrastructure in Nigeria. In order to achieve the objectives of the study, data bordering on the activities of the stock market viz all share index, market capitalization and value of transactions and infrastructure development viz; gross fixed capital formation were collected from the CBN statistical bulletin and analysed using multiple regression analyses. The findings of the research showed that; there is a negative but significant relationship between all share index and gross fixed capital formation. There is positive and significant relationship between market capitalization and gross fixed capital formation. Finally, there is a negative non-significant relationship between value of transaction and gross fixed capital formation. Based on the findings, we conclude that the contribution of the Nigeria Stock market in infrastructure development is below expectation. It is therefore recommended that more development oriented securities be introduced into the Nigeria Stock market to help boost investment in infrastructure. More funds from institutional investors should be channeled into investment in long-term government securities to provide funding for infrastructure investments. Finally, we recommend that the activities in the Nigeria Stock market be deepened in order to foster stability in trading activities.
Keywords: Effect, Nigeria stock market, Infrastructure development.

INTRODUCTION

The role of stock market within the economy has always been recognized as a route towards building a vibrant economy. This is predicated on its role in global economies following the observable and quantifiable impacts the market has exerted in corporate financial and economic activity. Thus the stock market has been the focus of economic development research and policies because of the perceived benefits it provides for the economy. Consequently, Institutionalizing and sustaining efficient capital market performance has become a requisite condition for economies wanting to experience accelerated growth and development and this is because the capital market provides the leverage for stock market activities and it is often cited as a barometer of business direction [1].

Thus, an active stock market may be relied on to measure changes in economic activities. From prior studies on theoretical expectations on the role of the stock markets on economic development, it is expected to contribute to economic development through the transmission mechanisms of savings mobilization, creation of liquidity, risk diversification and reduction, improved dissemination and acquisition of information, provision of long-term, non-debt financial capital which enables companies to avoid over-reliance on debt and enhanced incentive for corporate control amongst others.

Furthermore, the stock market provides an avenue for both the government and corporate entities to raise needed capital for infrastructure/fixed capital development. In addition to equity, the stock markets also facilitate the creation and trading in long-term debt instruments both commercial/industrial (debentures) and public (sovereign bonds). These long term debt instruments to a large extent provide the much needed funding for infrastructural developments in countries with vibrant stock markets.

According to Oteh [2], infrastructure whether social or economical in nature may be viewed as physical assets and services which are critical for growth and development of any economy. The availability of infrastructural facilities is very important for the economic and social development of any country. In acknowledgement of this fact, governments around the globe would seek to develop infrastructure such as road and rail transport infrastructure, housing,

power and energy, health and education and telecommunication etc. Infrastructure is specifically important for improving living standards of citizens, promoting private/commercial sector development.

However, government revenues sources like taxes and grants are never sufficient to fund these infrastructural needs. Increase in taxes is a disincentive which places more burdens on the citizens and can cripple an economy. Therefore rather than relying strictly on internally generated revenue, governments can generate needed funds through the capital market by issuing bonds at intervals for specific developmental projects. Thus, government have the opportunity to finance infrastructural projects through the issuance of bond instrument.

Previous studies on the stock market have tended to focus on its effect on the economy generally [3-7] with very little attention paid to the much critical area of infrastructure development. This apparent gap in literature form the basis of this research paper which is aimed at investigating the extent to which the Nigeria Stock Exchange (NSE) have contributed to infrastructural development in Nigeria.

For the purpose of achieving the research objectives as stated above, the following research hypotheses are proposed:

- The market capitalization of the NSE does not significantly affect the Gross Fixed Capital Formation in Nigeria.
- The All Share Index of the NSE does not significantly affect the Gross Fixed Capital Formation in Nigeria.
- The value of transactions of the NSE does not Gross Fixed Capital Formation in Nigeria

Theoretical Framework

The stock market is a part of the financial system and hence, the appropriate theory for this study would be one that recognizes the role of the stock market as a financial intermediation platform for deficit and surplus economic units to interact for their pecuniary interests and consequently drive economic growth. To this end, Bencivenga and Smith [8] and Levine [4] proposed endogenous growth models to identifying channels through which financial intermediaries affect the economy through their activities. They emphasized that financial markets help diversify agents' liquidity and investment risk, attract more savings into productive investment and prevent the premature withdrawal of capital invested in the long-term projects. Accordingly, the presence of financial markets means that more capital can be locked into in gainful investments, which consequently raises the rate of economic growth.

In literature, many theories have been modelled relative to the positive effect of stock market development on economic growth. This study cautiously selected the Mckinnon-Shaw [9] hypothesis which states that financial liberalization and stock market development would promote economic growth. We explored this hypothesis to apprehend its mechanism and implication on economic growth by way of saving mobilization, efficient allocation of resources and investment patterns of individuals. They posit that financial liberalization through the mechanism of the stock market will boost economic growth through their effects on savings and investment. They further argue argued that the tightly controlled financial markets will discourage savings, reduce efficient allocation of financial resources, increase segmentation of financial markets, constrains investment and thus lowers the economic growth rate.

Thus, many developing countries including have implemented financial liberalization policies with the aim of removing growth retarding control measures. The financial liberalization policies. In the McKinnon-Shaw hypothesis, the success of financial liberalization process depend to a large extent on the following: the effective deepening of the financial sector, a positive correlation between the saving and the real interest rate, and a perfect complementarily between the money demand and investment [10].

Conceptual Framework

The Nigeria Stock Exchange

The stock market is the market for securities where listed companies and governments and its agencies can raise long-term funds. The main function of the capital market is to channel investments from surplus economic units to deficit economic units. The different types of financial instruments traded in the stock market are equity, debt, hybrid, insurance and derivative instruments. The market consists of the primary market, where new issues are distributed to investors, and the secondary market, where existing securities are traded. Usually, the stock market provides relatively cheaper risk lower risk priced source of fund for investors [2].

According to Obamiro [11] in Osuala [12], the stock market mechanism allows not only for an efficient allocation of the financial resources available, but also permits it to allocate funds according to the return and risk characteristics – from the investor's point of view. The stock market also provides equity capital and infrastructure development capital that has strong socio-economic benefits through development of roads, water and sewer systems, housing, energy, telecommunications, public transport, etc. These projects are ideal for financing through the stock market via long-term development bonds and asset backed securities. Infrastructure development is a necessary

condition for long-term sustainable growth and development.

The performance or activities in the stock market are usually measured using several metrics. Which include: Market Capitalization (Market Cap), the All Share Index (ASI) and Volume of Transactions. Market capitalization refers to the total market value of a company's outstanding shares. Commonly referred to as "market cap," it is calculated by multiplying a company's outstanding shares by the current market price of one share. It can also refer to the value of all shares traded on a stock exchange at a particular point in time. In addition to reflecting the total market value traded in a stock exchange, market capitalization indicates the level of activity in the stock market.

Thus, large movements in the value of the market cap may be viewed as evidence of high level of liquidity in the traded securities. The investment community uses the market cap figure to determine a company's or markets' size and level of activity. The All Share Index is the principal stock indices of the Nigeria Stock Exchange. It measures the movement of share prices of all listed companies. It is based on market capitalization. Weighting of shares is conducted in proportion to the issued ordinary capital of the listed companies, valued at current market price. According to the Nigeria Stock Exchange Website, the All-Share Index (ASI) tracks the general market movement of all listed equities on the Exchange, including those listed on the Alternative Securities Market (ASeM), regardless of capitalization.

Infrastructure (Fixed Capital) Development

Rutherford [13] in Regan [10] describes infrastructure as the networks, assets and services that facilitate economic and social activity in the economy. Furthermore, infrastructure refers to fixed and durable assets such as plant, equipment, buildings and civil works that provide the productive framework of an economy. Economic and social infrastructure is a major asset class in most countries and possesses a number of unique investment and financing characteristics:

- Assets are long lived, capital-intensive, site and use specific
- Assets form part of complex supply chains and in the power/energy, transport and telecommunications sectors, attract high levels of private sector interest due to their economic viability characteristics.
- Revenue is generally stable because demand is generally characterized by low elasticity
- Private investment is highly leveraged with long-term, limited-recourse loans or bonds securities.
- Projects are usually subject to very little competition but its pricing is regulated, Regan [10].

Economic and social infrastructure normally generates a number of positive externalities that increase a country's productive capacity, output and growth. It accounts for a significant proportion of the nation's capital accumulation. Infrastructure development and pricing is an input for most other sectors of the economy which has impacts on the cost structure of other sectors and the efficiency of cross-sector supply chains.

As an asset class, infrastructure returns show a low correlation with other asset classes and leading economic variables such as interest rates, investment, employment, economic growth and exchange rate indicators, Weber and Alfen [14] in Regan [10], and offers an opportunity for diversification in mixed asset portfolios. Infrastructure improves connectivity, lowers transaction costs and fosters the development of production networks and cross-border supply chains.

Review of Empirical Literature

Infrastructure has been shown in several research works to impact a country's economic performance in several ways. Levine and Zervos [4], examined if there was a strong empirical relationship between stock market development and long-term economic growth. The study which used pooled cross-country data of forty–one countries from 1976 to 1993 was analysed using multiple regression analyses. From the findings of the study, it was shown that there is a long term statistically significant relationship between stock market activities and economic grow and development.

Regan [10] examined the relationship between infrastructure investment activity, capital market development, the role of public institutions and economic development in the Asia Pacific. The research adopted the review approach drawing on empirical evidence over recent decades. The findings show that infrastructure is an important asset class playing a central role in a nation's output, growth, productivity and microeconomic performance. The findings further show that capital market development is also necessary to raise long-term local currency finance needed for infrastructure development.

Obubu, Konwe, Nwabenu, Omokri, & Chijioke [15] evaluated the contribution of Nigerian Stock Market on Economic Growth. In order to achieve the objectives of the study, multiple regression analysis and ordinary least square technique was employed to test the research data. The results indicated that a a positive relationship between economic growth, all share index and market capitalization implying that economic growth in Nigeria is adequately explained by the developed model. The result of the study also established positive links between the capital market and economic growth and hence suggested that policies

geared towards rapid development of the capital market should be initiated.

UNESCAP [16] studied the possibility of using capital markets to channel more resources for infrastructure development while mobilizing assets managed by institutional investors. The paper which employed a medley of advanced methods indicated that capital markets can serve as an important source of funding for infrastructural development provided the right policies are developed and comprehensively implemented. Fourth, the research finally proposed a series of policy actions that governments could implement to further tap this source of financing.

Adigwe, Nwanna and Ananwude [17] examined the effect of stock market development on Nigeria's economic growth. Secondary data collected for the study covered the period 1985 to 2014 and analyzed using Ordinary Least Square (OLS) econometric technique. The findings revealed that stock market has the potentials of inducing growth but has not contributed meaningfully to Nigerian economic growth, considering that only 26.5% of variations in economic growth was explained by the stock market development variables. The study thus suggested for an encouragement of more investors in the market, improvement in the settlement system and ensuring investors' confidence in the market.

Olweny and Kimani [18] investigated the causal relationship between stock market performance and economic growth in Kenya for the period 2001-2010, using quarterly secondary data. Methods of analyses utilized for the study included the Granger Causality Test, the Vector Auto-regressive (VAR) Model and the Augmented Dickey Fuller (ADF) unit root test. The findings imply that the causality between economic growth and stock market runs unilaterally or entirely in one direction from the NSE 20-share index to the GDP. From the results, it was inferred that the movement of stock prices in the Nairobi stock exchange reflect the macroeconomic condition of the country and can therefore be used to predict the future path of economic growth.

METHODOLOGY

For the purpose of the study, the OLS regression analysis method was adopted to analyze the data. Data for the study was sourced from the CBN Statistical Bulletin, 2017 edition and NSE Annual Reports, 2017 edition. We relied mainly on the data platforms incorporated into the websites of these institutions for the necessary data.

The study utilized the *All Share Index (ASI), Market Capitalization (MktCap) and Value of Transaction (VTrans)* as measures of the stock market while *Gross Fixed Capital Formation (GFCF)* was used to measure infrastructure development. The period of the study covered is 1985 to 2017. From the information above, we state that:

Infrastructure Development = f (Stock Market Activities) . . . . . (1)

Where Stock Market Activities are represented as *All Share Index (ASI), Market Capitalization (MktCap) and Value of Transaction (VTrans)* and *Gross Fixed Capital Formation (GFCF). From the foregoing*, we restate the above equation in its implicit form as:

$$GFCF = f(ASI, MKTCAP, VTRANS) \quad \ldots (2)$$

$$GFCF = B_0 + B_1ASI + B_2MKTCAP + B_3VTRANS + ei \quad \ldots (3)$$

Where,
GFCF = Gross Fixed Capital Formation; ASI = All Share Index; MKTCAP = Market Capitalization; VTRANS = Value of Transactions

For the a priori expectation, we propose that: $b_1, b_2, b_3 \geq 0$

DATA PRESENTATION

Table-1: Data for Gross Fixed Capital Formation, All Share Index, Market Capitalization, and Value of Transaction (1985-2016).

Period	Gross Fixed Capital Formation	All Share Index	Market Capitalization	Value of Transaction
1985	8799.48	127.30	6.60	316.60
1986	11351.46	163.80	6.80	497.90
1987	15228.58	190.90	8.20	382.40
1988	17562.21	233.60	10.00	850.30
1989	26825.51	325.30	12.80	610.30
1990	40121.31	513.80	16.30	225.40
1991	45190.23	783.00	23.10	242.10
1992	70809.16	1107.60	31.20	491.70
1993	96915.51	1543.80	47.50	804.40
1994	105575.49	2205.00	66.30	985.90
1995	141920.24	5092.20	180.40	1838.80
1996	204047.61	6992.10	285.80	6979.60
1997	242899.79	6440.50	281.90	10330.50
1998	242256.26	5672.70	262.60	13571.10
1999	231661.69	5266.40	300.00	14072.00
2000	331056.73	8111.00	472.30	28153.10
2001	372135.65	10963.10	662.50	57683.80
2002	499681.53	12137.70	764.90	59406.70
2003	865876.46	20128.94	1359.30	120402.60
2004	863072.62	23844.50	2112.50	225820.00
2005	804400.82	24085.80	2900.06	262935.80
2006	1546525.65	33189.30	5120.90	470253.40
2007	1936958.21	57990.20	13181.69	1076020.40
2008	2053005.95	31450.78	9562.97	1679143.70
2009	3050575.92	20827.17	7030.84	685717.29
2010	4012918.65	24770.52	9918.21	799910.95
2011	3908280.32	20730.63	10275.34	638925.70
2012	3357397.77	28078.81	14800.94	808991.42
2013	10281951.75	41329.19	19077.42	2350875.70
2014	11478080.09	34657.15	16875.10	1334783.13
2015	13595842.15	28642.25	17003.39	961221.51
2016	14112169.84	26874.62	16185.73	618985.48

Source: CBN Statistical Bulletin, 2017 Edition

Data Analyses, Research Results and Interpretation

Data for the study as shown in Table-1 above was analyzed using E-views version 8.1. Results of the data analyses are shown in Table-2.

The results in Table-2 above indicate that there is a negative and statstically significant relationship between All Share Index and Gross Fixed Capital Formation with a coefficient of regression (B) -103.64. This means that a unit increases in ASI will lead to a 103.64 units decline in gross fixed capital formation and vice versa. This result is contrary to our a priori expectation of a positive relationship. The results further indicate a positive and statistically significant relationship between gross fixed capital formation and market capitalization. With a coefficient of regression (B) value of 894.66, this result imply that for every unit increase in market capitalization, gross fixed capital formation is predicted to increase by 894.66 units. The result also indicates that there is a negative and statistically non-significant relationship between gross fixed capital formation and value of transaction. With a coefficient of regression (B) of -1.784 implying that every unit increase in value of transaction of traded stocks on the Nigeria Stock Exchange is predicted to lead to a 1.784 units decline in gross fixed capital formation.

Table-2: Regression Analyses for Data for Gross Fixed Capital Formation, All Share Index, Market capitalization, and Value of Transaction.

Dependent Variable: GFCF				
Method: Least Squares				
Date: 03/20/18 Time: 15:12				
Sample: 1985 2016				
Included observations: 32				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	419868.8	435319.6	0.964507	0.3430
ASI	-103.6391	38.17324	-2.714967	0.0112
MKTCAP	894.6593	108.3574	8.256557	0.0000
VTRANS	-1.783849	1.162175	-1.534922	0.1360
R-squared	0.846123	Mean dependent var		2330347.
Adjusted R-squared	0.829637	S.D. dependent var		4067600.
S.E. of regression	1678906.	Akaike info criterion		31.62165
Sum squared resid	7.89E+13	Schwarz criterion		31.80487
Log likelihood	-501.9464	Hannan-Quinn criter.		31.68238
F-statistic	51.32132	Durbin-Watson stat		1.844545
Prob(F-statistic)	0.000000			

Furthermore, the value of the coefficient of determination (R_2) of 0.846 indicate that variations in all share index, market capitalization and value of transactions on the Nigeria Stock Exchange can explain about 84.6% of the variations in gross fixed capital formation in Nigeria. The F-Statistic of 51.32 and Probability of the Statistic of 0.000 imply that the model specified data is fit and proper. This is buttressed by the value of the Durbin-Watson statistic which indicates that the presence of auto-serial correlation is quite minimal.

Finally, with regards to the hypotheses proposed for the study, we conclude that there is a significant relationship between gross fixed capital formation and all share index. For hypothesis two, we conclude that there is significant relationship between gross fixed capital formation and market capitalization of the Nigeria stock market. Hypothesis three analysis shows that there is no significant relationship between gross fixed capital formation and value of transactions in the Nigeria stock market.

CONCLUSIONS AND RECOMMENDATION

A close look at the findings from the data analyses above would lead one to conclude that the Nigeria stock market is not yielding the much expected returns to the economy in terms of infrastructure development which is the foundation on which economic growth and development is built. This situation of affairs is quite evident on ground where the huge infrastructural deficit is stifling economic activities and stunting growth. This is despite the fact that the Nigeria stock market is touted to be the third largest in Africa behind South Africa and Egypt in that order. Considering this, we recommend that more development oriented securities be introduced into the Nigeria Stock market to help boost investment in infrastructure. More funds from institutional investors should be channeled into investment in long-term government securities to provide funding for infrastructure investments. Finally, we recommend that the activities in the Nigeria Stock market be deepened in order to foster stability in trading activities.

REFERENCES

1. Emeh, Y., & Chigbu, E. E. (2014). The impact of capital market on economic growth: the Nigerian Perspective, *International Journal of Development and Sustainability*, 3(4): 838-864.
2. Oteh, A. (2010, December). Capital market as a long term option for financing infrastructure development. In *A Paper Delivered at the Central Bank of Nigeria Infrastructure Finance Conference held at the Sheraton Hotel and Towers, Abuja*.
3. Oyejide, T. A. (1994), Financial System and Economic Growth in the context of Political Transition. *Central Bank of Nigeria Economic and Financial Review*, 32(3): 260-267.
4. Levine, R., & Zervos, S. (1996). Stock market development and long run growth. *American Economic Review*, 88(3) 537-558.
5. Demirgue, K. A., & Levin, R. (1996), Stock market development and financial intermediaries: stylized facts, *The world bank Economic Review*, 10 (2): 241-259.
6. Nyong, M. O. (1997). Capital market development and long run economic growth: theory, evidence and analysis, *First Bank Review*, 13-38.
7. Obadan, M. I. (1998), Capital market and Nigeria's economic development. Presidential Address presented at the 1 day Seminar of *the Nigerian Economic Society at the Institute of International Affairs.*
8. Bencivenga, V. R., & Smith, B. D. (1991). Financial Intermediation and Endogenous Growth, *Review of Economic studies*, 52(2), 195-209.

9. McKinnon, R. I. (1973). *Money and Capital in Economic Development*, Brookings Institution, Washington, DC, USA.
10. Regan, M. (2017) Capital markets, infrastructure investment and growth in the Asia pacific region, *International Journal of Financial Studies*, 5(5).
11. Obamiro, J. K. (2005). Nigerian economy: Growth and the role of stock market. *Journal of Economic and Financial Studies*, 2(2).
12. Osuala, A. E. (2017). Macroeconomic environment and stock market performance: the case of Nigeria, *International Journal of Finance and Accounting* 3(6)
13. Rutherford, D. (2002). *Routledge Dictionary of Economics*, 2nd ed.; Taylor and Francis: London, UK.
14. Weber, B., & Alfen, H. W. (2010). *Infrastructure as an asset class, investment strategies, project finance and PPP*; JohnWiley and Sons Limited: Chichester, UK.
15. Obubu, M., Konwe, C. S., Nwabenu, D. C., Omokri, P. A., & Chijioke, M. (2016). Evaluation of the contribution of nigerian stock market on economic growth; regression approach, *European Journal of Statistics and Probability*, 4(5), 11-27.
16. UNESCAP. (2017). Tapping Capital markets and institutional investors for infrastructure development, *United Nations Economic and Social Commission for Asia and the Pacific*, 2017
17. Adigwe P. K., Nwanna I. O., & Ananwude, A. (2015). STOCK market development and economic growth in Nigeria: an empirical examination (1985-2014). *Journal of Policy and Development Studies*, 9(5).
18. Olweny, T. O., & Kimani, D. (2011). Stock market performance and economic growth Empirical Evidence from Kenya using causality test approach, *Advances in Management & Applied Economics*, 1(3) 1, 153-196.