

The Relationship between Stock Market Development and the Performance of the Nigerian Economy



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ABSTRACT: This paper examined the relationship between stock market development and performance of the Nigerian economy. The analysis scope covered a period of 10 years spanning from 2010-2020. The analytic procedure for the information was econometric. The estimation techniques used are co-integration, Granger Causality and Error Correction to check whether the exchange indices have impacted on the macroeconomic performance of Nigeria. The result showed that the constant parameter is negatively or inversely associated with LGDP. The coefficient of the constant parameter (B0) is -15038.18. This suggests that if all the explanatory variables are held constant, LGDP which is that the explained variable will increase by 15038.18 units. Conclusively, all variables might not have been reasons enough for a change in the Gross domestic product level, but the fact still remains that there is an affinity between them. The study recommends that the central bank of Nigeria (CBN) being the monetary authority should plan and implement policies that bring about an increase flow of investment funds and improves the extent of capitalisation to the economy.

KEYWORDS: Stock Market, Performance, Nigerian Economy, Exchange Commission

1. INTRODUCTION

Over time, the Nigerian stock exchange market has grown. The effects of this development, however, does not appear to have had a significant impact on the Nigerian economy. The securities market has been recognized as an institution that contributes to emerging and industrialized economies' socioeconomic progress and development. According to Ogboi and Oladipo (2012), studies on this subject suggest that the current exchange is the most exciting and hopeful sign of a country's economic activity. However, the consequences have no obvious direction. It has been discovered that there is a rising body of issues and disputes regarding the function of stock markets in economic process and development (Sulaiman & Mohammed, 2014), which is why study on this topic continues to attract interest and attention. Various empirical research reveal that exchange rate development is significantly connected with actual per capita growth rates (Rousseau & Wachtel, 2000; Beck & Levine, 2003). The effect of the securities market on economic processes was also investigated by Ekundayo (2002) and Osaze (2000), with conflicting results. Donwa and Odia (2010), for example, found that exchange indices have little effect on the Gross Domestic Product. Within Nigeria, the securities market provides the necessary lubricant to keep the economy running.

The bond market and the stock exchange are two components of the securities market, both of which signal the market's overall success. In addition, the stock exchange gives investors a hint as to what steps they should take in the future. According to Bernardo (2005), the Nigerian stock exchange remains low and unliquid. Actions to improve stock exchange liquidity have had mixed outcomes, with one problem being the Nigerian exchange's lack of depth. The most recent literatures on the Nigerian securities market, notably the exchange, have recognized the market's phenomenal performance in recent years. The critical significance of securities market development in the performance of the Nigerian economy, on the other hand, has not been empirically explored, leaving a significant void in this field. As a result, the purpose of this research is to see how the growth of the securities market has influenced the performance of the Nigerian economy.

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prices, whereas other variables such as IPI and GFCF have a minor impact. The findings also revealed that internal factors such as increased production and capital formation are inconsequential, however external factors such as M2 and interchange have a beneficial impact.

Yui (2008) examines the Efficient Market Hypothesis (EMH) in the context of monetary policy in the Chinese securities market. VAR models are commonly used to estimate the relationships between stock returns and relative macroeconomic factors connected with monetary policy. The estimated vector auto-regression (VAR) computation shows that lagged changes in charge per unit, cash in hand, and GDP have a significant impact on stock returns. The results reveal that the efficient market hypothesis (EMH) of China exchange has a partly strong variation..

Abdul (2008) uses co-integration and Granger causality tests that are resilient to structural breaks to analyze the dynamic interactions between four macroeconomic factors and stock prices in Pakistan. The findings strongly show that stock prices and macroeconomic factors such as consumer prices, industrial production, rate, and hence the market rate of interest are co-integrated. With the exception of consumer prices, which exclusively affect stock prices, estimates of bivariate error-correction models suggest that there is a long run bidirectional causality between stock prices and macroeconomic variables. The findings also suggest that stock prices and Granger are influenced by interest rate changes in the short run. The methodology, on the other hand, is unable to investigate any short-run causality between stock prices and the remaining three macroeconomic variables. As a result, it will be argued that the link between the stock exchange's health, as measured by rising share prices, and the economy's health is merely a long-term occurrence.

Soyode (2009) attempted to investigate the relationship between stock prices and macroeconomic variables such as cost per unit, inflation, and cost per unit. He discovered that macroeconomic variables are intertwined with stock prices and, as a result, are linked to stock returns.

3. METHODOLOGY

Annual Statements of Accounts, Key Financial and Economic Indicators, Security and Exchange Commission market bulletins and pertinent journals, Nigerian exchange fact books, financial institution of Nigeria Statistical Bulletin, and Nigerian stock market publications were utilized to compile the data. The standardized ordinary least square (OLS) analytical methodology was used in the study. The information is analyzed using an econometric technique. To see if the stock exchange indexes have had an impact on Nigeria's macroeconomic performance, estimating techniques such as co-integration, Granger Causality, and Error Correction were employed.

Specification of the Model

$$GDP = f(MCAP, FDI, INF, ITR)$$

$$\ln GDP = \alpha_0 + \alpha_1 \ln MCAP + \alpha_2 \ln FDI + \alpha_3 \ln INF + \alpha_4 \ln ITR + u$$

Where:

The apriori expectation is $\alpha_1, \alpha_2, \alpha_3, \alpha_4 > 0$

$\ln GDP$ = Gross Domestic Product

$\ln MCAP$ = Market Capitalization

$\ln FDI$ = Foreign Direct Investment

$\ln INF$ = Inflation

$\ln ITR$ = interest rate

u = Disturbance Term

α = Intercept

$\alpha_1 - \alpha_4$ = Coefficient of the Independent Variables.

Note, all variables are in their natural logarithm form.

4. RESULTS AND INTERPRETATION

Table 1: OLS Results Summary

Dependent Variable	Independent Variables					Summary of Results			
	Constant	LMCAP	LFDI	LINFR	LINTR	R ²	Adj.R ²	F-Cal	DW-Stat
LGDP	-15038.18 (9779.488)	3.331035 (0.655096)	0.000117 (8.14E-05)	20.77884 (106.7221)	546.5605 (393.5316)	0.888042	0.869383	47.59170	0.835870

Source: Author (2021).

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From the results of the OLS above, the constant parameter is inversely associated with LGDP. The coefficient of the constant parameter (B0) is -15038.18 . This suggests that if all the explanatory variables are held constant, LGDP which is the explained variable will increase by 15038.18 units. The coefficient of market capitalisation (LMCAP) is 3.331035. This signifies that the short run, market capitalisation (LMCAP) is directly associated with LGDP. The implication can be a unit increase in LMCAP, which implies LGDP will increase by 3.331035 units. Also, the coefficient of foreign direct investment (LFDI) is 0.000117 and it means a causal relationship exist between LGDP and LFDI within the short run. The short run equilibrium relationship existing between LGDP and LFDI is in conformity with the a priori expectation.

The link reveals that an increase in LFDI will cause LGDP to rise by 0.000117 units. The coefficient of rate (LINFR) is 20.77884, this implies that a positive relationship exists between LGDP and LINF and this relationship is against the a priori expectation. LGDP will increase by 20.77884 units, if the speed increases by a unit. Also, the coefficient of charge per unit (LINTR) is 546.56. This shows that LINTR is positively related to LGDP and this relationship is in line with the stated a priori expectation. A unit increase within the ratio of LINTR to LGDP i.e., LINTR will consequently end in LGDP increasing by 546.5605 units. The coefficient of multiple determination represented as R2 with a price of $0.888042 \approx 0.89$ shows that 89% of total difference in LGDP could also be explained by LMCAP, LFDI, LINFR, and LINTR while the remaining 11% is explained by the error term not within the model. The adjusted R2 of $0.869383 \approx 87\%$ further confirms the goodness fit of the model.

Table 2: Johansen Co-integration Result

E. Value	Trace Statistic	5% C. value	No. of CE(s)
.777182	90.89942	69.81889	None *
0.552610	50.36160	47.85613	At most 1*
0.407638	28.64484	29.79707	At most 2
0.335887	14.50661	15.49471	At most 3
0.120129	3.455448	69.81889	At most 4

Source: Author (2021).

Trace test indicates 2 co-integrating equation(s) at the 0.05 level

*** Denotes rejection of the hypothesis at the 0.05 critical level**

Based on the above table, it may be confirmed that a causal long-run co-integration exists between (LGDP), capitalization (LMCAP), Foreign direct investment (LFDI), rate of inflation (LINFR), and rate of interest (LINTR). This is often because the critical value at 5% is a smaller amount than the trace statistic at 0 in row 1 and a couple of cointegration equations. Based on this, the hypothesis shows no co-integration has been rejected at 5% level of significance.

Table 3: Over-Parameterized Model (ECM1) results

Models	Co-efficient	STD Error	T. Statistics	P. Value
D(GDP(-1),2)	-0.624596	0.153365	-4.072609	0.0010
C	105.9925	954.9735	0.110990	0.9131
D(MCAP,2)	1.212129	0.366139	3.310575	0.0048
D(MCAP(-1),2)	0.925216	0.369970	2.500786	0.0245
D(FDI,2)	0.000284	0.000127	2.229430	0.0415
D(FDI(-1),2)	0.000402	0.000134	3.008442	0.0088
D(INFR,2)	26.40018	47.94506	0.550634	0.5900
D(INFR(-1),2)	7.669975	44.74439	0.171418	0.8662
D(INTR,2)	94.94470	155.7686	0.609524	0.5513
D(INTR(-1),2)	-2.486702	139.1761	-0.017867	0.9860
ECM (-1)	-0.371992	0.135880	-2.737646	0.0153

Source: Author's computation (2021).

$R^2 = 0.746973$, $DW^* = 1.808991$

The results of the over-parameterized ECM reveals that the ECM term coefficient is critical with the negative sign. The coefficient value of ECM is -0.371992 , revealing that, the rate of adjustment to future equilibrium is 37.1% when any past deviation

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are going to be corrected within the present period. This means that this value of LGDP changes gradually to vicissitudes in LMCAP, LFDI, LINFR, and LINTR.

Table 4: Results of Standard Error Test

Variable	Co-efficient	Co-efficient/2	Standard Error	Decision
LMCAP	-14.15558	7.07779	1.83505	Significant
LFDI	0.001551	0.0007755	0.00022	Significant
LINFR	1523.462	761.7231	1523.462	Significant
LINTR	-1820.241	910.1205	956.839	Insignificant

Source: Author's (2021).

Based on the above table, it can be inferred that most of the variables involved in the model are significant except LINTR in explanation of all the changes that happened in the value of LGDP.

5. SUMMARY OF FINDING

This research work is in a bid to critically examine and supply a big contribution to the recently increasing talks about the influence of exchange on the economic process. All statistical tests, on the long run were carefully evaluated with their various outcomes determined freed from any permutation respectively. In addition, causal relationship was established between Gross domestic product and three explanatory variables with the exception of market capitalisation (LMCAP) so as to supply a benchmark for the formulation of effective and efficient policy recommendations. Consequently, the parameters were individually evaluated and tested to ascertain their individual stationarity and their speed of adjustment to changes over time. The co-integrating equation was never unnoticed. The Johansen co-integration test which was adopted revealed two co-integrating equation. This signifies the flexibility of Gross domestic product to regulate to changes efficiently within the long run. Also, the speed of adjustment within the over-parametized Error Correction model and along side the Parsimonious Error Correction model showed an awfully slow rate response of Gross domestic product to any past changes. Meanwhile, the analysis did not fail within the establishment of the variables that causes the changes that occur in Gross domestic product using the Granger Causality test. The test revealed that Foreign direct investment (LFDI), rate (LINFR) and rate of interest (LINTR) are major causes of any changes in Gross domestic product while the effect of those changes now result a consequent explanation for changes within the other variables identified. This therefore indicates that changes in market capitalisation (LMCAP) caused by Gross domestic product (LGDP) with the unilateral relationship shown within the Granger Causality result.

6. CONCLUSION/RECOMMENDATION

The study shows that all variables may not have been a cause of change in Gross domestic product level, but this does not mean that there is no relationship between them and the explained variable. The variables that are not in accordance with the Apriori statement about their outcomes, but then it emphasizes the fact that study was done with extreme objectivity and also that care needs to be taken in macroeconomic decisions in order to avoid a divastating trade-offs. Meanwhile, this study has been done in it best possible and objective manner to serve as good starting point for further researcher and academicians who vows for a future development in the subject matter through objective contribution of this nature. The study therefore charge the monetary authority headed by the central bank of Nigeria (CBN) to put necessary plan in place and implement policies that will bring about an increase flow of investment funds and improves the extent of capitalisation to the Nigerian economy for better performance.

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