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Impact Of Stock Market Performance On Economic Growth In Nigeria Over The Period, 1985-2017

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Abstract – This paper investigated the impact of stock market performance on economic growth in Nigeria over the period, 1985-2017. The specific objectives of the study to (i) determine the impact of stock market capitalization on economic growth, (ii) assess the impact of stock market turnover on economic growth, and (iii) examine the impact of stock market returns on economic growth in Nigeria. Using time series data from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2017, the study employed the error correction model (ECM) technique in estimating our specified models. We specifically investigated both direction and magnitude of impact of stock market performance (as proxied by market capitalisation, stock market turnover and stock market returns) on economic growth over the sample period covered by the study. Our main findings indicate that that market capitalisation had positive and significant impact on economic growth in Nigeria. Similarly, stock market turnover ratio and stock market returns were found to exert positive and significant influence on economic growth. We therefore infer that the respective outcomes stock market performance supports the position of theoretical expectation that stock market performance should be positively related to economic growth. Moreover, for each of our estimated models, we found that stock market performance is jointly significant in explaining economic growth in Nigeria over the period of the study.

Keywords – Stock Market,Performance,Economic Growth,Nigeria, 1985-2017

I. INTRODUCTION

Masoud (2013) defines stock market as a very sophisticated market place, where stocks and shares are the traded commodity, which is central to the creation and performance of a strong and competitive economy. From a theoretical perspective, El-Wassal (2013) argues that stock markets can stimulate economic growth by mobilising and boosting domestic savings and improving the quantity and quality of investment. Thus, stock market performance plays a crucial role in the growth of the industry as well as commerce that ultimately affects the economy of a particular nation to a great extent. For this reason, the government, central banks and industrial sector of any country keep a very close watch on the activities of the stock market (Kisang, Kogei and Ochieng, 2017). The stock market remains one of the most key sources where companies can raise funds. This allows firms to be publicly quoted and have their stocks traded on the floor of the Nigerian Stock Exchange. The stock markets are vital for economic growth as they ensure the flow of needed resources to the most productive investment opportunities.

Matadeen (2017) asserts that in the recent past, a number of empirical studies have shifted attention on whether the performance of stock market in particular enhances economic growth. On the theoretical viewpoint, several studies highlighted the significance of the services provided by stock markets in promoting economic growth either directly or indirectly. Indeed, there are several channels through which stock market performance is understood to boost economic growth. These include enhanced mobilization of savings, improved liquidity and dissemination and acquisition of information and risk diversification (Worlu and Omodero, 2017). In line with these important roles, assessing the linkages among financial intermediary performance as well as stock exchange remains a vital issue for discussion.

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Many researchers have focused on different viewpoint of relationship both practically and theoretically (Khan, 2017). The previous empirical investigation points to the fact that the financial intermediary is essential factor of stock market (Levine and Zervos, 1996). Therefore, current study buttresses the relationship economic growth and stock market performance, and the influence of financial intermediary.

However, with development in economic growth theory, there has been a change in the focus of growth dynamics from the traditional elements (like capital, technology and labour) to other determinants that might also impact on the growth process. These other factors comprise stock market performance, macroeconomic factors, foreign direct investment, and political stability among others. Stock market performance facilitates the allocation of capital, hence enhancing the prospects of long-term growth of the economy. A liquid and efficient stock market performance offers the potential for investors to effectively spread their portfolios thereby mitigating the possible risks associated with their investment, thus, facilitating investments in projects that are more rewarding and profitable (Ezeabisili and Alajekwe, 2012). Without a liquid stock market, numerous profitable long-term investments would not be ignored because savers would be unwilling to tie up their investments for longer periods of time (Okonkwo, Ogwuru andAjudua, 2014).

Having an understanding of the linkages between macroeconomic indicators and the various measures of stock market performance, including market capitalization, stock market return and stock market turnover (or liquidity) do not only enable investors improve their asset portfolios but also help policymakers in formulating policies that would aid stock market performance in in Nigeria and increase accessibility to financial capital through financial markets (Garonfolo, 2011).

II. Review of Related Literature

Although a number of empirical studies have examined the relationship between stock market performance and economic growth, the results from such studies vary greatly from country to country. For instance, Omorokunwa and Ikponmwosa (2014) examined the relationship between stock price volatility and selected macroeconomic indicators such as GDP, inflation, interest rate, and exchange rate. Annualised time series data from 1980 to 2011 was used in the analysis. The generalized autoregressive conditional heteroskedasticity (GARCH) model was employed in the empirical analysis. The findings of the study revealed that stock prices in Nigeria display signs of volatility. And that past information in the stock market have effect on variations in stock price volatility in Nigeria. In addition, the study indicated that exchange rate and interest did not have effect on stock price.

Oseni and Nwosa (2011) This study employed the LA-VAR Granger Causality test to analyse the connection between stock market fluctuations and macroeconomic variables in Nigeria for the periods 1986-2010 using annual time-series data. The results of the findings showed that there exists a bi-causal relationship between GDP and stock market volatility in Nigeria; and no causal relationship was found between stock market volatility and such other variables like interest rate and inflation rate.

Asaolu and Ogunmuyiwa (2011) investigates the impact of macroeconomic indicators on Average Share Price and goes further to examined whether changes in macroeconomic indicators explain movements in stock prices in Nigeria from the period, 1986-2007. The Granger Causality test, Johansen Cointegration and Error Correction Method were adopted in analyzing the data. The results indicated that a weak relationship exists between Average Share Price and macroeconomic variables in Nigeria. The findings further revealed that Average Share Price is not a leading indicator of macroeconomic performance in the Nigerian context, even though, a long-run relationship was found between Average Share Price and macroeconomic indicatord for the period under review.

Nkechukwu, Onyeagba and Okoh (2015) assessed the effect of macroeconomic variables on stock market prices using annual data for Nigeria for the period 1980-2013.. The study employed Johansen cointegration and VECM in the analysis. The macroeconomic variables utilised were gross domestic product (GDP) and broad money supply (M2). The results of the findings indicate that Nigerian stock market prices had long-run association with macroeconomic variables. However, gross domestic product has significant long-run negative effect on stock prices contrary to *a priori* expectation that gross domestic product had significant positive effect on stock prices. But M2 has significant long-run positive effect on stock prices, the result being consistent with a priori expectation. Again, there is unidirectional causal effect between GDP and stock prices with direction running from stock prices to GDP. Whereas there is no causal effect between stock prices and broad money supply. However, in the short-run both GDP and M2 have positive but insignificant effect on stock prices in Nigeria. This result suggests that stock market in Nigeria is informational inefficient. It shows that predicting stock prices based on macroeconomic factors is difficult.

Osamwonyi and Evbayiro-Osagie (2012) analysed the relationship between macroeconomic variables and the Nigerian stock market index, using annual data of several macroeconomic variables of GDP and money supply from 1975-2005. The VECM was adopted to examine the short-run dynamics and the long-run relationship between the stock market index and the selected macroeconomic variables from the Nigerian economy. The major finding is that macroeconomic variables influence stock market index in Nigeria.

Kalu and Okechukwu (2014) examined the impact of macroeconomic indicators on stock market return volatility in Nigeria, using GARCH-X model on a monthly data from January 1996 to March 2013. Selected macroeconomic variables namely, GDP, consumer price index, exchange rate, broad money supply, credit to the private sector, and the net foreign assets were obtained. The results suggested that the stock market return volatility is positively influenced by variations in exchange rates and credit to private sector but negatively influenced by estimated changes in money supply and consumer price index. Then again, changes in net foreign assets showed negative but insignificant influence on changes in the stock market return.

Yartey and Adjasi (2007) investigated the economic importance of stock markets in Africa. The results of the paper showed that the stock markets have contributed to the financing of the growth of large firms in certain African countries. An econometric assessment of the impact of stock markets on growth in selected African countries, however, found inconclusive evidence although stock market value traded appeared to be positively and significantly related to growth.

III. METHODOLOGY

Data collected are presented descriptively with aids of table. We also tested for unit root using the Augmented Dickey-Fuller (ADF) approach. The error correction model (ECM) was employed in testing the various hypotheses stated. This technique of analysis will help to determine the impact of independent variable(s) on the dependent variable and to what extent and to also ascertain the speed of adjustment.

3.1 Model Specification

Model for this study is fashioned after the model developed by Ahmad et al. (2015) which investigation of the causal relationship between stock market returns and macroeconomic variables in Nigeria. Linear regression form of the model is presented thus:

$$ASI_t = \beta_0 + \beta_1 GDPt + \beta_2 M2_t + \beta_3 TBR_t + \beta_4 FDI_t + \varepsilon_t \quad - \quad - \quad - \quad - \quad (1)$$

Where,

ASI = All Share Index proxied by market capitalisation,

M2 = Broad money supply

TBR = the short term treasury bills rate

FDI = foreign direct investment

β_0 = Constant term

β_1- β_2 = Coefficients

ε = error term.

The above model is modified and adopted for our purpose, and are presented below:

H_{o1}: Stock market performance does not have positive and significant effect on economic growth

$$\Delta GDPgr_t = \beta_0 + \sum_{i=0}^{n} \beta_1 \Delta GDPgr_{t-1} + \sum_{i=0}^{n} \beta_2 \Delta MCAP_{t-1} + \sum_{i=0}^{n} \beta_3 \Delta SMT_{t-1} + \sum_{i=0}^{n} \beta_4 \Delta SMR_{t-1} + \sum_{i=0}^{n} \beta_5 \Delta INF_{t-1} + \sum_{i=0}^{n} \beta_6 \Delta INT_{t-1} + \beta_7 ECT_{t-1} + \varepsilon_t \quad (2)$$

Where:

GDPgr	=	Gross domestic product growth rate
MCAP	=	Market capitalization (% of GDP)
SMT	=	Stock market turnover ratio
SMR	=	Stock market returns
INF	=	Inflation
INT	=	Interest rate
β_0	=	Intercept
β_1- β_6	=	Coefficients
ε	=	error term
ECT	=	error correction term
Δ	=	differencing operator

IV. Results and Discussion

Table 1. Descriptive Statistics

Statistic	GDPGR	MCAP_GDP	SMT	SMR	INF	INT
Mean	4.673461	10.91093	6.459711	24.86314	19.14784	22.92732
Median	4.756907	7.209363	5.421381	35.16336	12.92101	21.98299
Maximum	14.60438	39.95010	34.78530	130.9388	76.75887	36.09000
Minimum	-1.583070	3.053461	0.816748	-45.76540	0.223606	11.75000
Std. Dev.	3.874719	8.290082	6.623588	34.89314	18.62723	4.975512
Skewness	0.453395	1.394560	2.426999	0.398538	1.710466	0.241545
Kurtosis	2.555149	5.190354	10.63555	3.911147	4.917080	3.665396
Jarque-Bera	1.530239	18.86526	122.7944	2.137214	23.06695	1.014194
Probability	0.465278	0.000080	0.000000	0.343487	0.000010	0.602241
Sum	168.2446	392.7935	232.5496	870.2098	689.3221	825.3835
Sum Sq. Dev.	525.4707	2405.391	1535.517	41396.07	12144.08	866.4501
Observations	36	36	36	35	36	36

Table 1 presents the descriptive statistics of our model variables. The results revealed that average GDP growth rate was 4.67% between 1985 and 2020. The highest rate of GDP growth was 14.60% in 2002 and lowest at -1.58% in 2016. Market

capitalization as a ratio of GDP averaged 10.91 while the mean of stock market turnover ratio (SMT) and stock market returns stood at 6.46% and 24.86%. Inflation (INF) rate ranged between 0.22% and 76.76% and averaged 19.94% during the sample period. On the other hand, interest rate (INT) averaged 22.93% between 1985 and 2020.

Table 2. Unit Root Test Results

Variable	ADF-Statistic	5% critical value	P-value	Order of Integration
GDPgr	-7.480425	-3.562882	0.0000	I(1)
MCAP	-6.100481	-3.562882	0.0001	I(1)
SMT	-5.581161	-3.622033	0.0008	I(1)
SMR	-6.451186	-3.574244	0.0001	I(1)
INF	-5.449078	-3.612199	0.0010	I(1)
INT	-7.031282	-3.562882	0.0000	I(1)

Results of the stationarity test in Table 2 reveal that our variables are stationary at same orders of integration. Eache of the variable has no unit root, and attained stationarity after first differencing [i.e. I(1)]. Based on the fact that all our variables are I(1), we employ the error correction model (ECM) regression technique in analysing our model.

Table 3. Error Correction Model (ECM) Regression Result

Dependent Variable: D(GDPGR)

Method: Least Squares

Date: 04/22/21 Time: 07:56

Sample (adjusted): 1987 2020

Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MCAP/GDP)	0.012118	0.128499	5.094303	0.0006
D(SMT)	0.158205	0.133785	3.182537	0.0073
D(SMR)	0.014995	0.016904	3.887049	0.0029
D(INF)	-0.037193	0.034652	-4.073338	0.0006
D(INT)	0.208242	0.117224	1.776445	0.0869
ECT(-1)	-0.537537	0.173936	-3.090428	0.0046
C	-0.046260	0.544596	-0.084944	0.9329

R-squared	0.763083	Mean dependent var	-0.036259
Adjusted R-squared	0.721545	S.D. dependent var	3.587244
S.E. of regression	3.165028	Akaike info criterion	5.323442
Sum squared resid	270.4698	Schwarz criterion	5.637692

Log likelihood	-83.49851	Hannan-Quinn criter.	5.430610
F-statistic	2.565281	Durbin-Watson stat	2.097859
Prob(F-statistic)	0.000097		

From the Table above, it can be observed that MCAP has positive and significant impact on economic growth in Nigeria, as proxied by GDP growth (GDPgr). This was explained by the positive coefficient value of our explanatory variable MCAP and the corresponding probability value 0.0006<0.05. The coefficient of the independent variable is 0. 012, which entails that when market capitalisation increased by 1%, economic growth increased by 1.2%. This is consistent with a priori expectation that stock market performance is positively related to economic growth.

The results also revealed that stock market turnover ratio (SMT) has positive and significant impact on economic growth. The coefficient of SMT is 0.158 with a corresponding p-value of

0.0073<0.05. This outcome entails that when SMT increased by 1% economic growth increased by 15.8% during the sample period. Our findings further showed that stock market returns (SMR) has positive and significant influence on economic growth in Nigeria within the reference period, 1985-2020. This was explained by the positive coefficient value of SMR (0.015) and the corresponding p-value is 0.0029. This implies that 1% change in stock market returns led to about 1.5% increase in economic growth (GDPgr).

Moreover, inflation is found to have exerted negative and significant influence on GDPgr over the period covered by the study. When inflation increased by 1%, GDPgr declined by 3%. We also observed that interest rate (INT) had negative and non-significant impact on GDPgr. In other words, when interest rate rose by 1% GDPgr declined by 20.8%. The error correction term (ECT) indicated that deviations from long-run equilibrium were corrected at the speed of 53.75% annually.

The R^2 is the summary measure that tells us how well the sample regression line fits the data. From the model above, R^2 of 0.76 means that 76% variation in GDPgr was explained by a change the independent variables, and the remaining 21% was explained by variables not included in the model. The adjusted R^2 take account of more number of regressors if included and it still explains 72% variation in the dependent variable.

The F-value (2.57), with a probability value 0.000097<0.05 indicated that the overall regression is significant. The Durbin Watson statistics (DW) approximate value of 2.0 shows there are no signs of autocorrelation.

Decision:

Based on the hypothesis tested, we reject the null hypotheses and accept the alternate hypotheses that;

i. Stock Market capitalisation has positive and significant impact on economic growth. This is evidenced by the p-value of the coefficient of explanatory variable, 0.0006<0.05.

ii. Stock market turnover ratio has positive and significant impact on economic growth. This is evidenced by the p-value of the coefficient of explanatory variable, 0.0073<0.05.

iii. Stock market returns have positive and significant impact on economic growth. This is evidenced by the p-value of the coefficient of explanatory variable, 0.0029<0.05.

V. Conclusion and Recommendation

Assessment of the effect of stock market performance on economic growth has continued to attract attention from researchers. Most of the existing empirical studies failed to look at various stock market performance indicators to determine how they individually affect economic growth. In view of the observed gap, we attempt to analyse the impact of stock market performance indices on stock market performance (as proxied by market capitalisation, stock market turnover and stock market returns) on economic growth in Nigeria over the period, 1985-2017. From the findings of this study, we conclude that market capitalisation had positive and significant impact on economic growth in Nigeria. Similarly, stock market turnover ratio and stock market returns were found to exert positive and significant influence on economic growth. We therefore infer that the respective

outcomes stock market performance supports the position of theoretical expectation that stock market performance should be positively related to economic growth. Moreover, for each of our estimated models, we found that stock market performance is jointly significant in explaining economic growth in Nigeria over the period of the study. We recommend that there is need to formulate policies that would ultimately stimulate economic growth and boost investment in the Nigeria. For instance, ensuring that the Nigerian capital market is made more efficient and attractive for raising of capital as well as saving mobilisation. This would translate into more activity in the stock exchange, with listing of more firms, increase in trading activities on the exchange, and recapitalisation of existing firms with attendant positive effect on economic activities, hence growth.

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