

pISSN: 2971-6195 eISSN: 2971-6209 MULTINATIONAL CORPORATION INVESTMENTS, MACROECONOMIC STABILITY AND DEVELOPMENT OF THE NIGERIAN (BOURSE) STOCK EXCHANGE

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ABSTRACT

This study attempts to analyze the impacts multinational investments have on macroeconomic stability and the level of development in the Nigerian bourse from 1999-2022. Historical data are sourced and collated from bulletins of the Central Bank of Nigeria (CBN) and Nigerian Exchange (NGX) for various years. An empirical assessment of the relationship between macroeconomic conditions and stock market performance in Nigeria. The findings of the Johansen cointegration result indicated a long-term correlation between multinational investments, macroeconomic stability, and stock market development. The ECM findings showed that the adjustment coefficient is statistically significant and negative at -6.6901, indicating that movement from the equilibrium level of development in the local bourse will be adjusted by 66.90 percent in the upcoming period from the current one. The growth of the burse has been significantly but positively impacted by direct foreign investment, but the exchange rate has been positively but not significantly. In contrast, the inflation rate had a negative and insignificant impact on the Nigerian stock market development. The study makes the recommendations that policymakers should prioritize attracting foreign direct investments into the local bourse and implement economic measures to strengthen the value of the national currency in Nigeria.

Keywords: FDI, economic growth, macroeconomic stability, complementarity, stock market. **JEL:** G14, G15, O16

INTRODUCTION

The stock market is a highly organized market where governments, as well as investors, converge to buy and sell existing securities. This market known as the 'bourse' plays a critical role in the accumulation of capital, generation of revenue, creation of employment opportunities, and financing of projects. The stock market is thus, crucial for the development of every economy (Okoro, 2017). It provides a forum where individuals, business organizations, and the government can source funds for investments, that are necessary to spur growth, reduce poverty, and strengthen the financial system (Umar & Ibrahim, 2014). According to Dev and Shakeel's (2013) theory, a country's economic performance is reflected in the financial market. This is why regulatory authorities and relevant stakeholders take a keen interest in ensuring that the stock market is operational, safe, and stable for domestic and international investors. Okoro (2017) opined that every stock market needs development to facilitate greater mobilization of funds and better allocation of resources. Nigeria has experienced several reforms since the Structural Adjustment Programme (SAP) was put into effect in 1986 to foster the expansion and development of its stock market. These reforms have led to the installation of flexible exchange platforms and a direct influx of foreign money.



Other notable reforms over the years are the Stock Demutualization in 2013, the Market Structure Reform in 2015, the Investors' Education Reform, and the Capital Market Development reforms, amongst others. Despite these reforms, available statistics have shown that foreign investors' capital inflows in 2009 were over N228.986 billion, which was an exponential increase of about 67 percent compared with N153.457 billion recorded in the previous year. However, this surge was occasioned by a decline to N211 billion the following year and N201.74 billion in the year that followed and since then has not been stable. The recent decline in oil prices globally and the concerning level of insecurity in the nation have made the current situation worse and have restricted the possibil of foreign investments in the stock markets, which has an impact on the growth of the economy.

The stock market is the greatest source of a nation's long-term capital and a storehouse of future prosperity, claim Raza, Iqbal, Ahmed, Ahmed & Ahmed (2012). It creates an atmosphere where lenders and borrowers meet to access and mobilize long-term funds from investors, including foreign investors for a country's development. Thus, a stock market, that is properly regulated and well-managed, should facilitate the inflow of foreign investments, in the form of multinational corporation investments to the country (Babarinde, 2020). Foreign direct investments are pivotal in the development of any economy because they complement each other in helping the local exchange expand its market activity and capital formation to access international markets.

Given the theoretical connections between macroeconomic stability and stock market development, empirical findings in Nigeria and other emerging countries have not attained empirical consensus. For example, Fama (2012) discovered that macroeconomic factors including interest rates, inflation rates, and exchange rates affect stock values. Ogunmuyiwa (2011) discovered a slender correlation between the average share price in the Nigerian stock market and the rates of inflation, exchange rates, foreign capital flows, and budget deficit. According to Omodero and Ekwe (2016), macroeconomic instability has a detrimental effect on stock market presentation, whereas foreign direct investment has a slight but beneficial effect.

Thus, the stability of the aggregate economy is critical to determine stock market development. Since they have a direct impact on the relationship between foreign investment and stock market development, exchange rates and inflation rates will be employed in this article as proxies for macroeconomic stability. Examining how MNCs and macroeconomic stability affect Nigeria's local stock exchange is the goal of this study.

REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE

The theoretical support to this learning is the Complementarity theory and Stock-oriented theory. The complementarity theory was proposed by Claessens, Klingebiel, and Schmukler in 2001 who viewed FDI as having a supplemental role in the growth of the stock market. The reason behind this assertion is that expansions in the stock market activities result from the improvements and developments of local markets through foreign direct investments. Hence, there is a high propensity of the local bourse to access global markets through foreign investments. They argued that increased FDI results in increased stock market activity.

Stock-oriented theory also known as Portfolio-balanced theory was first established by Branson and Frankel in 1983. According to the idea, there exists a tendency for stock prices to influence



changes in macroeconomic variables, including foreign investments, interest rates, inflation rates, and currency rates. Thus, oscillations in stock prices will lead to variations in foreign investments. For instance, an increase in stock market prices will result in exchange rate appreciation via the attraction of foreign investment inflows. A decrease on the other hand would lead to a reduction in the purchasing power of money, devaluation, increased volatility, and capital flight.

In their assessment of the literature, Musa and Ibrahim (2014) looked at the impact of certain macroeconomic variables and foreign direct investments on the growth of the Nigerian stock market between 1981 and 2010 using the Johansen cointegration and the Error Correction Mechanism (ECM) methodologies. The outcome showed that the selected factors have a long-term association. FDI had a positive but non-significant effect on stock market growth while the inflation rate had a negative insignificant effect, with only the exchange rate significantly but negatively affecting the stock market growth.

Based on quarterly data from 1992:Q1-2014:Q1, Al-Majali and Al-Asaaf (2014) used several research techniques such as the Variance Decomposition (VD), Impulse Response Function (IRF), Vector Error Correction Model (VECM), and Johansen Cointegration Test to investigate the correlation between Jordan's stock market index and key macroeconomic factors. The findings exposed that the stock market index and the main macroeconomic variables have a long-run equilibrium relationship in Jordan. The results also indicated that a bi-directional long-run relationship exists between the dependent and independent variables.

Adebowale and Akosile (2018) investigated the impact of interest rates and foreign direct investment on the growth of the Nigerian stock market using Ordinary Least Squares (OLS) and Cochrane-Orcutt Iterative approaches. From 1981 to 2017, data on foreign direct investment (FDI), prime lending rate (PLR), and stock market capitalization (SMC) were obtained from official Nigerian websites, such as the National Bureau of Statistics, the Nigerian Stock Exchange, and the Central Bank of Nigeria. The results demonstrated that interest rates had a significant negative influence on the growth of the Nigerian stock market over the analyzed period, whereas foreign direct investment had a significant positive impact. Sanni and Hassan (2018) examined how Nigeria's stock market, economic growth, and exchange rates interact.

The contribution of foreign direct investments to the Nigerian Stock Exchange Market over sixteen years (2000-2015) was evaluated by Linda, Okoye, and Caleb (2019). The objectives of the study were guided by four hypotheses which were analysed using simple linear regression. The result revealed that foreign direct investment contributes to stock market development and affects domestic savings. Also, foreign direct investments positively affect security indices in the Nigerian Stock Market. For the years 1981–2018, Babarinde (2020) used the pairwise Granger causality technique and Dynamic Ordinary Least Squares (DOLS) to analyze how foreign direct investment (FDI) contributed to the growth of the Nigerian stock market.

The results of the research point to a notable and positive relationship between foreign direct investment (FDI) and the expansion of the Nigerian stock market. Furthermore, the relationship between FDI and the growth of the stock market is one-way causal. It was determined that foreign direct investment (FDI) bolsters the expansion of the Nigerian stock market and contributes to its growth. The empirical analysis makes it evident that few studies have examined the impact of



macroeconomic stability and foreign direct investment on the evolution of the stock market. Therefore, the goal of this study is to present new data that will supplement the body of knowledge and address any gaps or discrepancies from earlier research.

METHODOLOGY

The ex-post facto research strategy was chosen for the paper because it is the best one to utilize in the management sciences when looking at potential past occurrences that are not subject to researcher manipulation or maneuvering. The variables that were chosen, which covered the years 1999 to 2022, were sourced from the Central Bank of Nigeria (CBN) statistical bulletin and the National Bureau of Statistics (NBS) gazette, depending on the availability of data. In its most basic form, the model aims to ascertain how MNC investments and macroeconomic stability affect the growth of the Nigerian local stock exchange:

SMDt = f(FDIt, EXRt, INFt).....(i)

Where SMD means stock market development (proxied as market capitalization); FDI is foreign direct investment inflow (a proxy for MNC investments); EXH is exchange rate; and INF is inflation rate. n order to examine the econometric relationship between the independent and dependent variables:

 $SMD = \alpha_0 + \beta_1 FDI + \beta_2 EXR + \beta_3 INF + \mu.....(ii)$

In the econometric model above, SMD, FDI, EXR, and INF are compositions of variables in relative form and absolute forms, hence, all the variables are logged to eliminate outliers, ensure result reproducibility, and avoid a spurious output. Therefore eq (ii) is respecified as:

 $LnSMD = \alpha_0 + \beta_1 LnFDI + \beta_2 LnEXR + \beta_3 LnINF + \mu t.....(iii)$

in which the error term is μ . Ln stands for "natural log." $\alpha_0 =$ is the intercept and $\beta_1 - \beta_3 =$ Slope coefficient

However, to estimate the long-run convergence among the chosen variables, the model in eq (iii) will be analyzed with the Johansen cointegration technique. In addition, a unit roots test will be conducted to check for stationarity in the model and determine the order of integration. We will use the Augmented Dickey-Fuller test for this. Lastly, the short-run dynamics of the pertinent variables will be estimated using Error Correction Mechanism (ECM) estimates in cases where at least one cointegrating equation is discovered.

ANALYSIS OF DATA AND DISCUSSIONS

Table 1 depicts the descriptive statistics result which showed that stock market development (SMD) proxied by market capitalization stood at an average of 23.99986, for the period 1999 to 2022. The maximum value of SMD was 25.12888 while the minimum value was 17.35210. The difference of 7.77 is the range of the data which demonstrated that the SMD is not widely dispersion from its average value. Foreign direct investments showed their minimum value as 14.65472 and maximum as 22.90267; with a mean and standard deviation of 21.36324 and 1.930628 respectively. The exchange rate ranges from a minimum of 92.34000 to a maximum of



391.5000, with a mean of 170.0057. The inflation rate for the period had a mean value of 12.97048 and a standard deviation of 3.636573. Its smallest value was 6.6000 in 2007 and its maximum value was 23.79 in 2019.

	LNSMD	LNFDI	EXCH	INF
Mean	23.99986	21.36324	170.0057	12.97048
Median	24.42756	22.07693	148.8800	12.22000
Maximum	25.12888	22.90267	391.5000	23.79000
Minimum	17.35210	14.65472	92.34000	6.600000
Std. Dev.	18.00194	1.930628	78.19898	3.636573
Probability	0.000000	0.000000	0.004195	0.033990
Observations	24	24	24	24

Table I: Summary of descriptive result

Source: E-Views 12 Econometric Package

The figure below reports that the level of foreign direct investments was abysmally low in the beginning years of this study and the stock market performance witnessed a sharp decline in 2008 partly due to the global financial crisis. However, due to the favorable operating environment and supportive regulations that support private-driven investments in the nation, foreign direct investment (FDI) and stock market development (SMD) in Nigeria achieved their zenith in 2011 and 2013.



Figure 1: Trend analysis of FDI and SMD in Nigeria (1999-2022)

Unit Root Test

As stated earlier, the unit root test is appropriate not only to ascertain the order integration and check for stationarity in the interest variables but also to avoid a spurious regression result. If all



the variables are in the same order, the researcher can proceed to conduct the co-integration test otherwise the bound test when they are mixed of order (0) (I), and (II).

Variables	ADF at Level		ADF at First	Difference	Order of integration
	Test Stat	Prob	Test Stat	Prob	
LnSMD	-3.566803	0.0672	-4.051750	0.0067*	I(I)
LnFDI	-1.630485	0.4494	-4.611687	0.0020*	I(1)
EXCH	2.992165	1.0000	-2.112729	0.0421*	I(I)
INF	-2.932839	0.0623	-4.429219	0.0038*	I(I)

TABLE 2. Augmented Dickey-Fuller - Unit Root Test

Source: E-Views 12 Econometric Package

According to the results of the Augmented Dickey-Fuller (ADF) unit-root test, every variable is integrated in the same level 1 or first difference order. This result gives the signal to perform the Johansen co-integration tests.

Co-integration Test

The co-integration test is a useful tool for illustrating the long-term link between the variables; yet, choosing the ideal lag for the model is crucial to performing this estimation. Thus, the Johansen co-integration test and the VAR lag order selection criterion test were carried out simultaneously.

Table 3. VAR lag order selection criteria and Johansen Co-integration Test

Lag formation		AIC		SC		HQ	
0		51.22110		51.3	36814	51.23572	
Ι		50.66166		50.8	35771	50.68115	
2		50.39994*		50.6	64500*	50.42439*	
Hypothesized	No.	Eigenvalue	0.05	Critical	t-statistics	Prob**	
of CE(s)			Value				
None		0.749341	47.85	613	54.73214	0.0099*	
At most I		0.572116	29.79	707	28.44257	0.0210*	
At most 2		0.364734	15.49	471	12.31340	0.1425	
At most 3		0.176641	3.841	465	3.692890	0.0546*	

Source: E-Views 12 Econometric Package

In the top layer of the table above, it is evident that all the criteria collectively suggest lag length 2. Hence, the AIC of lag length 2 with the lowest value is selected in estimating the model.



Error correction results

The ECM is used to investigate the speed of adjustment in the short-run. There are at least three long-run equilibrium relationships between the dependent variables and all of the independent variables, according to Table 3's bottom layer, which demonstrates three cointegration convergences among the variables at a 5% level of significance.

The ECM findings showed that the adjustment coefficient is statistically significant and negative at -6.6901, indicating that movement from the equilibrium level of development in the local bourse in the current period will be corrected by 66.90 percent in the period that follows.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-0.295959	0.428114	-0.691309	0.5007
D(LOG(FDI))	0.387996	0.454326	0.854003	0.0175
D(EXCH)	0.020289	0.014597	1.389963	0.1862
D(INF)	-0.038555	0.076729	-0.502477	0.6231
ECM (-I)	-6.69E-11	1.77E-11	-3.732815	0.0021
R-squared	0.656713	Mean dependent var		0.004111
Adjusted R-squared	0.590060	S.D. dependent var		2.085209
S.E. of regression	1.574215	Akaike info criterion		3.966325
F-statistic	4.395569	Schwarz criterion		4.214862
Prob(F-statistic)	0.016471	Durbin-Watson stat		1.967652

Dependent Variable: D(LOG(SMD))

Source: EViews 12 Econometric Package

When all the explanatory factors are held constant, the constant term coefficient, which has a value of -0.2959, has a negative and negligible effect on the development of the stock market. However, the coefficient for FDI was 0.3879 with a statistical probability value of 0.0175; implying that there was a positive and significant impact of foreign direct investments on stock market development in Nigeria. Based on the econometric results, a percentage change in multinational investments will lead to a significant increase of about 39 percent in the development of the Nigerian local bourse. Hence, as FDI increases in Nigeria, the local bourse will experience increased development. This result aligns with the findings of Babarinde (2020), and Linda, Okoye & Caleb, (2019). The exchange rate's econometric results showed a negligible beneficial influence on the growth of Nigeria's stock market. In other words, an increase in the exchange rate would benefit the Nigerian local market but have minimal effect on its growth. This finding agrees with Raza et al (2012); and Sanni and Hassan (2018) and also conforms to our apriori expectation. The regressed result revealed a negative coefficient value of -0.0385, showing that the rate of inflation hurts the growth of the Nigerian stock market. This helps to address the topic of how the inflation rate influences stock market development. As a result, when inflation increases in Nigeria, the growth of the stock market declines proportionately. The outcome validates the findings of Musa



and Ibrahim (2014), who discovered that inflation had a detrimental impact on the growth of the stock market.

Diagnostics analysis

Various diagnostics tests were conducted to check the veracity of the data obtained, the suitability/stability of the model, and the efficacy of the results necessary for policy recommendations.

Diagnostics tests	Observed values	P-values	Remarks
Breusch-Godfrey Serial Correlation LM Test	1.656754	0.1348	No serial correlation
Jarque-Bera Normality Test	0.567468	0.7045	Normally distributed
Ramsey Test	1.233543	0.1231	Well-specified
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.323502	0.4360	Free Heteroskedasticity
Stability diagnostic test	Stable	Stable	

Table 5: Residual Diagnostic Test Results

Source: E-Views I2 Econometric Package

From the above diagnostic results, it is crystal clear that the findings from the study are suitable for policy making as there were no traces of serial correlation in the model, not only that, the model was well specified as revealed by the Ramsey test. In addition, the tests for heteroscedasticity and normality of the residuals were normal, with probability evidence showing it is free from heteroscedasticity (i.e.> 0.05). Additionally, the CUSUM stability test agreed that the model was stable as the plots fall within the two straight recursive lines.

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CONCLUSION AND RECOMMENDATION

The study looked at how investments made by international corporations, macroeconomic stability, and the growth of the Nigerian stock exchange interact. The objective was to determine how the growth of Nigerian stock markets has been aided by foreign direct investment inflow, currency rates, and inflation rates. Johansen Cointegration and error correction methods were used to gather and estimate time series data. The estimations' findings showed that while foreign direct investment had a positive and significant impact on stock market development, exchange rates had a beneficial but insignificant effect. Conversely, the inflation rate has little to no effect on the expansion of the Nigerian stock market. All things considered; foreign direct investment is an important factor to take into account while examining the growth of Nigeria's stock markets.

Drawing from the conclusion, it is advised that the government create a strong set of regulations



to draw international investors to the Nigerian stock exchange. Also, economic policies that will strengthen the value of our national currency should be implemented to proffer solutions to the incessant depreciation of the Naira. Lastly, the inflation rate tends to negatively affect stock market development, thus, policy guidelines should be put in place by the monetary authorities to regulate prices and curb the alarming fluctuations in the cost of products and services, encouraging investment in the Nigerian stock exchange.

Contributions to Knowledge

The study's contributions to knowledge are as follows:

(a) Gaining insight into the fluctuations of the Nigerian stock market is facilitated by analyzing the effects of global investments and macroeconomic stability on the growth of the Nigerian exchange.

(b) Understanding how the Nigerian stock exchange reacts to changes in MNC investments and macroeconomic stability over the long term has been aided by the use of the Cointegration test and Error Correction Mechanism to examine the long-run relationship between the chosen variables and the speed of adjustment.

(c) In conclusion, the study has made a substantial contribution to earlier research by showing that inflows of foreign direct investment have a favorable impact on the growth of the Nigerian stock market.

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