International Journal of Science and Research Archive

eISSN: 2582-8185

Cross Ref DOI: 10.30574/ijsra

Journal homepage: https://ijsra.net/

(Review Article)

Check for updates

Effect of economic indices on the performance of listed multinational manufacturing companies in Nigeria

Ajuh Ali Iteh [1], Sunday Egbe Idaka [2,*] and Gabriel Femi Goodwill [2]

[1] *Department of accountancy, Faculty of Business Administration, University of Nigeria Nsukka, Enugu State, Nigeria.*

[2] *Department of Accounting, Faculty of Management Sciences, University of Calabar, Calabar, Nigeria.*

International Journal of Science and Research Archive, 2022, 07(02), 115–127

Publication history: Received on 24 September 2022; revised on 10 November 2022; accepted on 13 November 2022

Article DOI: https://doi.org/10.30574/ijsra.2022.7.2.0256

Abstract

This paper examines the effect of economic indices on the financial performance of multinational manufacturing firms in Nigeria from 2004-2021. The Expo facto research design was adopted along with ordinary least squares, and other econometric tests to estimate the effect of the predictor variables on the response variable. The population comprises 22 listed multination manufacturing companies and 19 companies were used as the sample size which represents 86 percent of the population. We found that the exchange rate, inflation rate, and government capital expenditure all have a correlation with return on equity (ROE) based on the regression results, but other econometric parameters showed no significant relationships between the explanatory variables and ROE because a 1 percent rise in predictor variables results in a decrease in ROE. This is a clear indication that Nigeria's economy is bleeding profusely due to the high exchange rate and the economy is still battling inflation coupled with infrastructural challenges. We recommended that to reduce the effect of the exchange rate, the Nigerian government should make the economic environment business-friendly by encouraging mass production and patronage of made-in-Nigeria in order to curtail the increase in the importation and adopt the public-private partnership (PPP) model to harness other mineral resources for export thereby putting cost-push inflation in check and the exchange rate. Also, the electricity supply should be improved to mitigate the costs of production which will also help address the inflation rate.

Keywords: Economic indices; Exchange rate; Inflation rate; Capital expenditure; Financial performance return on equity

1. Introduction

Multinational companies (MNCs) are the main players in the global market that help accelerate the world economy, thereby helping other countries where their branches are located in the area of technical expertise for the benefit of indigenous companies. Nigeria has played host to MNCs and attracted so much foreign direct investment (FID) for decades Onudogo (1); Ozoigbo & Chukuezi (2). The huge economic resources attracted many international firms such as; United Africa Company (UAC), Coca-Cola, Julius Berger, Unilever, Cadbury, etc. to establish branches in Nigeria due to access to cheap raw materials and labour, and the concept of globalization has also helped MNCs to operate easily with fewer issues in terms of local barriers.

Over decades, there are a lot of mixed reactions based on the bemoaning of indigenous companies and MNCs, that the Nigerian government has failed to provide good economic policies to control the exchange rate, inflation, and interest rate and implement good policies to address the poor infrastructures that have also contributed to the shutdown of some indigenous firms and MNCs in Nigeria, but the government on the other hands blamed the MNCs for not contributing enough due to the avoidance of tax through transfer pricing system, tax heaven areas, and sales of

* Corresponding author: Sunday Egbe Idaka

Department of Accounting, Faculty of Management Sciences, University of Calabar, Calabar, Nigeria.

intangible assets to subsidiaries which were considered as special purpose vehicles (SPV) Eluka, Ndubuisi-Okolo & Anekwe (3). The mixed reactions point to the fact that the same forex risks faced by MNCs are also the same risks that other manufacturing companies that import materials for production are facing which makes the outputs produced very costly because there are vulnerable to foreign exchange risk. Despite this, the government still considered their activities as "exploitative" with less impact on the economy because of the repatriation of funds to the parent company instead of reinvesting a good percentage of their profit in Nigeria Eluka, Nudubuisi, & Anekwe and Ozoigbo (3).

The operations of multinational companies especially multinational manufacturing companies (MNMCs) remain an indispensable component of any economy that strives toward the part of economic prosperity. Their operations do not only add value to building a strong economy by attracting more foreign investments, but they help to midwife with existing and new indigenous firms for mass production. For multinational manufacturing companies in Nigeria to thrive, there is a need for government to ensure its monetary policies are well-formulated to encourage existing and potential investors to have an open mind to invest their funds. Many economists and financial analysts used the metrics of the MNCs to judge the progress of the economy through the number of foreign investments that the government was able to attract into the country annually. In addition, the manufacturing sector is a catalyst, the life wire that enhances the flow of resources that stirs other sectors, all work together to create a vibrant and productive economy that enhances domestic consumption and export (Sanusi (4).

For any economy to make substantial progress in terms of production, government policies must be well-articulated through the provision of adequate capital expenditure and implementation to improve the economic environment with enabling infrastructures to encourage both local and foreign firms Aganga, Kolawole, Oritse & Ali (5). The Nigerian political environment over decades has been very unpredictable coupled with inconsistencies in policy formulation as a result of the blame games of one administration to another. The value of the naira is eroding daily, infrastructure, epileptic power supply, and deplorable roads have been causes of concern to indigenous firms and MNCs Adibiyi (6); Rasheed (7). All these issues stem from mismanagement of public funds during the oil rainy days that have resulted in a poor economic system that is affecting both firms and the citizens, which makes the rate of increase in the price of commodities skyrocketing daily The Economist (8). However, when government controls its expenditures on consumption through good policies and increased expenditure on infrastructures, the economy will soar, because the 2019 and 2020 Covid-19 pandemic had a great impact on economic parameters and is still affecting countries that failed to manage their economic policies Hussain & Lin (9). This is the case in Nigeria due to reckless expending and improper utilization of internally generated revenue and intervention funds.

The negative effect of micro and macroeconomic factors when there are not well managed with well-articulated economic policies cannot be downplayed due to the fact that both deal with the structural design of an economy, political system, market structure, decision-making, and performance of the overall economy. All investors hold the view that when the political system is stable and the government worked to ameliorate the entire economy devoid of political sentiments, the economy will experience a rapid increase with less intervention from the economic team Eichengreen & Luengnaruemitchai, (10). The incessant economic crisis emanating from the unbearable exchange rate, power supply, inflation, and poor infrastructures has seriously caused setbacks to firms, resulting in a fragile economy as forex continues to increase unabatedly due to the economic decision underpinning the exchange rate policy (IMF, 11).

This paper unravels the problems by juxtaposing the MNMCs variable and key economic indices to proffer solutions that will encourage both government and manufacturing firms to create an enabling environment for smooth operations that will be beneficial to both.

2. Statement of the problem

The economic environment has not worked as expected because of the economic noise which has been very unpredictable due to the incessant fall in the value of the naira that has resulted in high exchange and inflation rates. Also, poor capital infrastructure, insecurity, and inconsistency in policy formulation from one administration to another are issues affecting the Nigerian economy. These are issues that have been mentioned by investors, and analysts as the root cause of the economic noise that makes it difficult for indigenous and international firms to make proper capital budgeting. However, based on budgetary allocation, capital expenditures double annually but the lack of willpower from political appointees to utilize available resources well has negatively affected infrastructure for decades due to reckless spending of taxpayers' money on recurrent expenditures and frequent budget padding.

The foreign exchange rate is a key factor that determines a lot from the inputs to the outputs. Nigerian manufacturing firms are facing serious challenges in the international market because of the high exchange rate between the naira and other currencies in the international markets for a currency that trades at N545.8 to $1dollar indicates that manufacturers are facing serious challenges and the country's economic outlook is at the brink and very darkening CNB (12); IMF (11).

2.1. Research objectives

- To evaluate the effect of the exchange rate on the return on the equity of Multinational manufacturing firms in Nigeria.
- To measure the effect of Government capital expenditure on the return on equity of Multinational manufacturing firms in Nigeria
- To evaluate the effect of inflation on the return on equity of Multinational manufacturing firms in Nigeria.

2.2. Research hypothesis

- Ho1: exchange rate does not have any significant impact on the return on equity of multinational manufacturing companies in Nigeria
- Ho2: there is no significant relationship between government capital expenditure and the return on equity of multinational manufacturing companies in Nigeria.
- Ho3: there is no significant relationship between the inflation rate and the return on equity of multinational manufacturing companies in Nigeria.

3. Conceptual review and theoretical framework

3.1. Exchange Rates

The exchange rate is simply the value of a country's currency in relation to another country in the open market or between traders. The exchange rate is a key determinant of economic performance because a weaker currency indicates that more of the currency will be used to purchase another currency or to pay for transactions in the open market. For individual firms, it determines the amount of money one firm will exchange for another either in the course of business transactions. Normally, firms expect the economic team to formulate policies that take into consideration the economic situation in order to control the exchange rate to not excessively affect the costs of imported inputs Kirui, Wawire & Perez (13). The two exchange rates are; fixed and floating rates. The Central Bank of Nigeria controls the official rate, while the floating exchange rate is controlled by the black market or the forces of demand and supply of forex.

Manufacturing firms smile to the market when the naira is appreciating against the dollar or the pound which are dominant currencies in the international market. The appreciation of the naira is more advantageous to local firms due to the fact that some firms lack strategies and the financial capacity to manage macroeconomic risks Kuwornu (14). However, an increase in foreign currencies indicates that more of the naira will be used for transactions in the international markets resulting in an increase in the price input to output. The effect of economic variables from the standpoint of a macroeconomic view assumed that a rise in the exchange rate against another currency would negatively impact economic health Obura & Anyango, (15). Based on the purchasing parity theory, the assumption is that increase in the exchange rate between two countries should offset the inflation rate differential. However, in practice, the volatility of the exchange rate will be so high that this assumption will not work, thereby adding more tasks on managers to plan the best means to hedge some foreign currency transactions to either make a payment for payables or collect receivables.

3.2. Capital expenditure

Government expenditure is a critical tool for stirring the private sector to invest and contribute to government revenue through taxes. Investment in roads, electricity, health, schools and water resources remain key indicators that investors consider when planning to establish any business. Government finances its activities through taxation mostly from the private sector, internal and external borrowings, and grants from other countries and corporations like the World Bank, and IMF. The only way governments especially in developing countries can woo the private sector to build industries that will produce at the expected capacity is to make the economic environment conducive for investment by ensuring that its responsibilities are taken care of in order to attain goals. Government expenditure includes; capital expenditure and recurrent expenditure. Capital expenditures is expenditure incurred on housing, health, schools, electricity, and road construction, while recurrent expenditure is an expenditure for payment of salaries and other miscellaneous expenses, however, the government ought to invest more in capital expenditure Aigheyisi (16).

Making the economic environment business-friendly is a factor that both manufacturing firms and other companies considered a key responsibility of the government before the imposition of taxes. Considering the roles of manufacturing companies especially multinational manufacturing companies (MNMC), the processes involved in the manufacturing of products are herculean and revenue can only be maximized and cost minimized if the economic environment is structured well by the government. This is because the process involved in adding value to the inputs is a combination of many stages to produce output. Investors always bemoan that poor investment in infrastructure is the root cause of poor performance, especially for manufacturing firms in Nigeria, but there are mixed findings on the relationship between capital expenditure and firm performance Muritala & Taiwo (17); Nurudeen & Usman (18).

3.3. Inflation

Inflation is an economic term widely used by researchers as an indicator to measure differences in the price of goods and services monthly, quarterly or yearly. However, to measure the differences in the prices of goods, inflation is measured using two ways; consumer price index (CPI) and gross domestic product (GDP) indicators Akers (19). However, the measurement of CPI is based on the price level of products, that is the price consumers paid to purchase the items or products. High inflation indicates deteriorating economic health because during those periods the end users spend more to purchase resulting in shifting spending habits. Moreover, inflation impedes the growth of a good economic system because it might result in urgent adoption or adaption of economic policies without careful consideration of the peculiarities that characterized the system Alimi (20).

The increase in the prices of goods and services occurs because of inflation, resulting in to increase in CPI Bora (21). The Nigeria CPI which measures the rate of changes in the price of goods and services has increased to 18.6 percent, which is the highest since April 2017; in the same vein, food inflation has also crossed the threshold of 20 percent NBS (22). The persistent rise in the general price levels over a period of time emanates from an increase in inflation. The resultant effect is that the value of money will reduce because more money will be spent without getting good value for the huge expenditure, however, the prices of inputs determine a lot about the selling price because the prices of the inputs determine the profit margin, and increase in inflation and exchange rates worsen the economic situation Stewart (23).

3.4. Return on equity (ROE)

Businesses strive to add value to the wealth of shareholders which is the primary objective, but this is attainable when firms are able to achieve their value proposition to their customers. This makes the goal of every business, large or small achievable within the short-term and long-term because the expectation of investors is that, management should be able to increase every one naira through efficient use of the resources at their disposal. Business owners believe that, for every one naira invested in any business, there should be a corresponding increase in the value. To a large extent, the wealth of shareholders in any business is determined by the number of funds they are able to inject into the business, either as startup funds or additional funds injected into the business for expansion. The metric is one of the commonly used metrics to assess the performance of managers in order to measure the value increase or decrease in the wealth of shareholders Monteiro (24).

Generally, managing a firm or an investment portfolio entails a lot because businesses do not operate in isolation which makes the decision very demanding due to the environmental factors that must be considered by researching the pros and cons of any business decision before funding Afm (25). Shareholders might not be interested in annual sales, but one variable that is very important to them is the ROE which shows the naira increase in their net value. The ROE is a function of the company's net assets after the deduction of all known liabilities. It is mathematically expressed as:

$$ROE = \frac{Net\ Income}{Equity} \times 100$$

3.5. The pros and cons of multinational companies and industrial development in Nigeria

Multinational companies have been in operation in Nigeria for decades, and their contributions to the industrial development of Nigeria's economy are very obvious because they have helped to boost government revenue, reduced the unemployment rates, and shared technical knowledge with local industries resulting in a paradigm shift to their culture of operations Economy acceleration can only be achievable through partnering or doing business with other countries or firms that have the technical expertise that is beneficial, that is why MNCs are the backbone that supports other indigenous firms to enhance economic advancement Ikelegbe (26); Akerodolo-Ale, (27). Nigeria is a developing country and it requires technical help and the managerial skills of MNCs to harness the abundant natural resources because the contribution of the MNCs especially the multinational manufacturing firms cannot be over-emphasized Onimode (28).

However, scholars also hold the view that MNCs operate in a diabolic way due to less involvement in export, sales of intangible assets, and over-pricing of technologies from the parent companies which are means of reducing taxable profit, resulting in less payment of tax Andabai (29). Because MNCs considered Nigeria as vulnerable and in dire need of help, they operate to the detriment of the economic policies and place their priority above national interest because most of their operations are targeted at lucrative areas like; agriculture, manufacturing, oil and mining, construction, which makes their impacts are less felt at the host communities' level. Multinational firms rather than helping the local firms killed local firms because of their dominance and control of the market share.

The argument for and against that MNCs' investments in Nigeria has done more harm than good is because scholars ignored that the first objective of investors is profit maximization, and the argument that foreign private investors take more than what they reinvest is obvious because in the long-run profit remittance to the parent company is great than reinvestment inflows because many of the firms are special purpose vehicles (SPV) established to achieve preplanned goals or as a cash-generating unit.

4. Theoretical framework

4.1. Unique exchange theory

The unique exchange theory was propounded by Arghiri in (30) and critically examines the interactions between developed, developing, and underdeveloped countries. The theory stated that countries that are underdeveloped are exploited through the unique exchange rate because of their weak economic situation which also affects their commodities trade in the international markets. He also states that for any economy to make progress in trade, the economy must be a producing economy with good economic policies that will attract multinational firms that have the capacity to invest and harness natural resources, that is why MNCs are an important weapon to fight underdevelopment, thereby reducing the exchange rate disparity and driving the economy towards the path of prosperity Ikelegbe (26); Akerodolo (27)

The situation is real even in this 21st century because when underdeveloped countries sell their products in the international market below value, and purchase some products from developed countries in the market above value, the weaker currencies continue to depreciate in the international market because developed countries with strong currencies values control the forces of demand and supplies to the detriment of the underdeveloped and developing countries.

Since the 16th century, the problems of uneven distribution of gains among competing countries in the international markets have been reoccurring issues, and the countries with strong or striving to maintain the value of their currencies are able to trade well because it exports more than they import. Firms that are performing well, especially for export help the economy because it strengthens the value of their currencies, and this is the major pro multinational corporations offer due to large-scale production capacity.

Despite the many economic and political setbacks from the ministry era that also lingered during this democratic dispensation, the economic activities of the 60s and the 70s were far better despite the government did not do much with the enormous revenue from the sales of crude oil and utilized the agricultural gains that were very high. As stated by Arghiri, the Nigeria economy for over decades has gone through such a situation because the government from the military era did not create a good platform for the country to chart its course, and lack of clear economic policies and political will to sustain continuity resulting in the moribund of many indigenous industries and MNCs that were wooed to established branches in Nigeria. The drastic reduction of production firms and total neglect of agriculture during the oil rainy days resulted in the excessive import of all kinds of materials/products resulting in the drastic fall in naira value against the dollar that was over decades below the naira between the 60s and 70s Akinwale & Adekunle (31). The oil rainy periods resources were not well managed, for over two decades because the government failed to manage available funds well which exacerbated the issues making the disparity between the naira, dollar, and pounds unbearable Dagoro (32). This makes the Nigerian economy very weak and the value of her naira keeps depreciating without implementing her lofty ideas of making the country a productive economy rather it an import-dependent country.

4.2. Managerial theory of the firm by Bumole, 1967

The managerial theory of the firm was propounded by Bumole in the year 1967 in his book titled "business behaviour, value and growth". This theory is based on the assumption that the manufacturing processes are very complex because of the nature modern manufacturing sector due to rapid changes in technologies and changes in economic activities. When any economy is underperforming in terms of infrastructure, the real sector is the worst hit because the costs of establishing a factory and maintenance are high. The main objective of every firm is centered on the effective and efficient utilization of resources to add value to the wealth of shareholders. It is based on this premise the theory asserts that the reason why owners employ managers is to ensure that revenue is maximized while minimizing cost, thereby adding value to their invested fund. This theory states that for a country to experience rapid development, such must be done through the establishment of enabling facilities that will aid the established firms and the expansion of industrialization which is a function good economic environment through the implementation of capital projects that will enable investors to have access to natural resources.

For performance to be relevant, there must be a process called "input and output" for the measurement of performance to be useful or to achieve the objective. Richard, Devinney, George, and Johnson (33) in their view stated that an organization's performance could be categorized into three major perspectives; financial performance (this aspect is measured using: profit before tax or profit after tax, return on equity, return on investment, net asset per share, and return on asset. Product market performance using sales and market share and shareholders' return using total shareholder return and economic value added. Companies' key performance indicators are very crucial variables that all classes of investors used to evaluate the use of resources, and the ability of firms to generate future revenue is an indication of the going concern. It is a variable that is widely used by researchers in ensuring that managers prioritize value creation for shareholders before going for individual objectives. It is like a check, and it keeps the organization in business under control by evaluating past performance and creating greater prospects for future opportunities.

5. Empirical Review

Ogiriki and Andabai (34) empirically examine the analysis of multinational corporations and economic growth in Nigeria from 1991-2014, using secondary data that were collected from the Central Bank of Nigeria (CBN) statistical bulletin and the National Bureau of Statistics. All the hypotheses formulated were tested using time series econometrics, and the paper found there exists a long-run equilibrium relationship between multinational corporations and economic growth, which also indicates that the short-run adjustment speed is 73% of the long-run equilibrium. The result also revealed that there were 52% variations explained by the growth of multinational corporations. It was recommended that government should monitor the activities of multinational corporations and encourage them to reinvest part of their profit and makes the economic business friendly for multinationals to continue to support the government and charge the agencies responsible for monitoring their activities to adhere to lay down rules.

Aguguom, Ashamu, and Olanipekum (2022) researched multinationality and financial performance: the place of multinational manufacturing companies in Nigeria. The researchers used secondary data and an expo-facto research design was adopted for the study. The population of the study was 22 Nigerian multinational manufacturing firms and 18 firms were selected for the study using purposive sampling techniques which represent 82 percent of the population. The variable used as the dependent variable is Tobin Q, foreign sales to group total sales, foreign exchange rate, and inflation. Based on the outcomes of the study it was discovered that multinationality has a positive and significant effect on performance. It was recommended that the government should create enabling environment by having well-articulated policies or regulatory frameworks that will improve the ease of doing business in Nigeria.

Falade and Olagbaju (36) examine the effect of government capital expenditure on manufacturing sector output in Nigeria using time series data collected from the central bank of Nigeria publications and from the national bureau of statistics spanning 1970-2013. The variables used are; manufacturing output, interest rate, gross domestic product, and exchange rate. The researchers found that there is a relationship between capital expenditure and the output of manufacturing firms in Nigeria, but recurrent expenditure showed a negative relationship with the output of manufacturing firms. A one percent increase in capital expenditure will increase output by 11.2 percent. It was recommended that the government should increase funding for the capital budget to encourage existing and potential investors to invest in the Nigerian economy.

Kanwal and Nadeem (37) researched the impact of macroeconomic variables on the profitability of listed commercials on the Karachi Stock Exchange in Pakistan between the year 2002-2011 using secondary data gotten from the World Bank publication, Economic Survey of Pakistan (2003-2004), and from the annual reports of the various banks. The statistical techniques used for the analyses are Descriptive statistics, Pearson Correlation, and Pooled Ordinary Least

Squares (POLS) Regression. The variables used to measure macroeconomic variables are inflation rate, real gross domestic product (GDP), and real interest rate on profitability indicators such as; return on assets (ROA), return on equity (ROE), and equity multiplier (EM). The results showed a strong correlation between real interest rate, return on equity, return on assets, and equity multiplier. Real gross domestic product has an insignificant effect on return on equity and equity multiplier, and also, inflation has an insignificant effect on return on assets, return on equity, and equity multiplier.

Abubakar (38) researched the impact of multinational corporations on economic growth in Nigeria using secondary data collected from the Central Bank of Nigeria statistical bulletins and the Bureau of statistics from 2008-2017. Companies in the services, construction, and oil and gas were used. The researcher found based on the econometric results that a relationship exists between multinational firms and economic growth in Nigeria. The researcher recommended that MNCs should uphold green culture with the host communities and provide scholarships and skills acquisition to them.

The research conducted by Ebunike and Okerekeoti (39) on macroeconomic factors, firm characteristics, and financial performance studied some selected quoted manufacturing firms in Nigeria using secondary data which were gotten from firms producing consumables. The independent variables were interest, inflation exchange, and gross domestic product rates, while the dependent variable was the return on assets. The researchers used a non-probability sampling technique, and the data were analyzed using multiple linear regression to validate the hypotheses formulated. First, the researchers discovered that the interest rate and the exchange rate do not significantly affect the return on assets, but inflation and gross domestic product growth rates significantly affect the return on assets. Second, the firm characteristics showed that firm size, leverage, and liquidity were significant.

5.1. Research gap

Previous researchers that did empirical studies using multinational firms used variables such as; Tobin Q, profitability to measure the performance of MNCs, etc., But the gap this study identified is that previous studies failed to include ROE in their model which is a very important variable that this study made use in the model. But capital expenditure was used to examine the output of manufacturing in Nigeria by Falade and Olagbaju (36), but we used capital expenditure to regress ROE because investors are more interested in an increase in the annual increase in the value of their investment with the expansion of the scope of the study to 2021.

6. Methodology

The research design that was adopted is the ex-post-facto because the variables were collected from secondary sources from the firm's financial statements, the Central Bank of Nigeria CBN) statistical bulletins and the National Bureau of Statistics (NBS) which covered 2004-2021. The population of the study is 22 multinational manufacturing firms quoted on the Nigeria Exchange Limited (NEL), and 19 sample size was selected using the purposive sampling method which represents 86 percent of the population. The panel data were analyzed with the aid of ordinary least squares (OLS) and other econometrics parameters such as the Augmented Dickey-Fuller (ADF) Test of Unit Root Heteroskedasticity test: Breusch-Pagan-Godfrey, normality test, etc. to examines and estimate the effect of the economic parameters on the performance of Multinational companies listed on the Nigeria Exchange Group (NEG).

6.1. Model specification

The model used for this paper is denoted as; Y is the dependent variable, measured using ROE, and the independent variables as; X1, X2, and X3.

$$ROE = f\ (EX\text{-}R,\ GCAPEX,\ NFLA\text{-}R) \ldots\ldots\ldots\ldots\ldots\ldots\ldots.. (1)$$

Where;
ROE= Return on Equity
EX-R=Exchange rate
GCAEXP =Government capital expenditure

The equation can be expressed as:

$$ROE = b_o + b_1EX\text{-}R + b_2GCAEXP\ b_3INFLA\text{-}R{+}e\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where;

bo = unknown constant to be estimated
b1, b2, b3, and b4 = unknown coefficient to be estimated
e = stochastic error.

7. Results

7.1. Unit root tests for the variables

Table 1 Augmented Dickey-Fuller (ADF) Test of Unit Root

Variables	Level (first difference)	ADF Critical 5%	Order of Integration	Remark
ROE	-1.438357 (-3.346062)	-3.020686 -3.029970	I (1)	Integrated of order one
EX-R	-0.870775 (-4.554178)	-3.020686 -3.040391	I (1)	Integrated of order one
GCAEXP	0.724002 (-3.744974)	-3.020686 -3.029970	I (1)	Integrated of order one
INF-R	-4.012345	-3.020686	I (0)	Integrated of order zero
R-squared	0.540039			
Adjusted R-squared	0.453797			

Researchers' computation, 2022

From table 4.1, using the Augmented Dickey-Fuller (ADF) Test of Unit Roots, only the inflation rate (INF-R) is stationary at the level because the ADF computed value of -4.012345 is greater than the ADF critical value of -3.020686 in an absolute term at 5 percent level. The other variables namely, ROE, EX-R, and GCAEXP are all stationary at the first difference since their ADF computed values of (- 3.346062), (-4.554178), and (-3.744974) are all greater than the ADF critical values at 5 percent respectively. This is an indication the variables used to test the stationarity of the variables are good for the model.

7.2. Lag length selection criteria

Before the regression results were estimated, the test for the selection of lag length was carried out. The aim was to determine the greatest lag length that variables would be lagged. Several lag selection criteria were adopted for the selection of the lag length including sequential modified LR test statistics, Final prediction error, Akaike information criterion, Schwarz information criterion, and Hannan-Quinn information criterion. The result of the lag length criteria is presented in Table 2. The lag length of one (1) was selected based on the Akaike information criterion and Schwarz information criterion. The values with asterisks show the accepted lag length which is within the lad length of 1.

Table 2 Lag length selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-429.8593	NA	8.02e+14	45.66939	45.86822	45.70304
1	-390.2747	58.33514*	7.05e+13*	43.18681*	44.18096*	43.35506*
2	-376.3173	14.69200	1.15e+14	43.40182	45.19128	43.70467

Researchers' computation, 2022

7.3. ARDL bounds test for the existence of cointegration

Test of cointegration for the equation indicates that the computed F-statistic of 1.239029 is less than the lower and upper bounds critical values of 3.23 and 4.35 respectively at the 5 percent significance level, using Pesaran, Shin, & Smith (2001). Therefore, the null hypothesis of no cointegration is accepted. This implies that there is no long-run relationship between ROE, EX-R, INF-R, and GCAEXP.

Table 3 Null hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	1.239029	3
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Researchers' computation, 2022

7.4. Estimates of the Short Run Coefficients ARDL

Table 4 Dependent Variable: ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EX-R)	0.061150	0.315820	0.193622	0.8491
D(INF-R)	-7.758676	6.629862	-1.170262	0.2602
D(GCAEXP)	-0.049530	0.058634	-0.844726	0.4115
ECM (-1)	-0.273465	0.194529	-1.787005	0.0812

Researchers' computation, 2022

As shown in Table 4 none of the variables is significant at 5 percent respectively. Implying that no variable in this equation seems to impact significantly on return on equity (ROE) in the short-run.

The present value of the exchange rate (EX-R) is positive with a coefficient value of 0.06115. The coefficient of EX-R indicates that in the short run, a one percent increase in EX-R increases ROE by 0.061150 percent because such a marginal increase occurs of an increase in profit margin. On the other hand, the present values of inflation rate (INF-R) and government capital expenditures (GCAEXP) are not significant at the 5% statistical level. This implies that a one percent rise in present values INF-R and GCAEXP reduces ROE by -7.758676, and -0.049530 in the short run. Also, the coefficient of ECM shows a good sign which is negative and it is statistically significant at 10 percent. The parameter of the ECM value shows a good sign of slow adjustment of 27.34 percent in the long-run and short-run.

7.5. Diagnostic tests

Table 5 Heteroskedasticity test: Breusch-Pagan-Godfrey

F-statistic	0.486574	Prob. F (4,15)	0.7455
Obs*R-squared	2.297017	Prob. Chi-Square (4)	0.6813
Scaled explained SS	0.352934	Prob. Chi-Square (4)	0.9861

Researchers' computation, 2022

Diagnostic tests for the equation indicated the Breusch-Pagan-Godfrey Heteroskedasticity Test value of 0.486574 with a high probability value of 0.7455 shows that there was no issue with heteroskedasticity. Therefore, the white noise residual terms have a normal distribution for each of the independent variables.

7.6. Breusch-Godfrey Serial Correlation LM Test

The Breusch-Godfrey serial correlation test shows that the residuals are not serially correlated. This however implies that the variables included in the VAR model are well-behaved, implying that the result of the VAR model has a high predictive ability. It also shows that the result can be relied on in making forecasting and economic decision. The result showed a probability value greater than 0.05. Therefore, we accept the alternate hypothesis which states that there is a serial correlation in the model.

Table 6 **Breusch-Godfrey Seria Correlation**

F-statistic	0.911245	Prob. F (2,13)	0.4262
Obs*R-squared	2.459087	Prob. Chi-Square (2)	0.2924

Researchers' computation, 2022

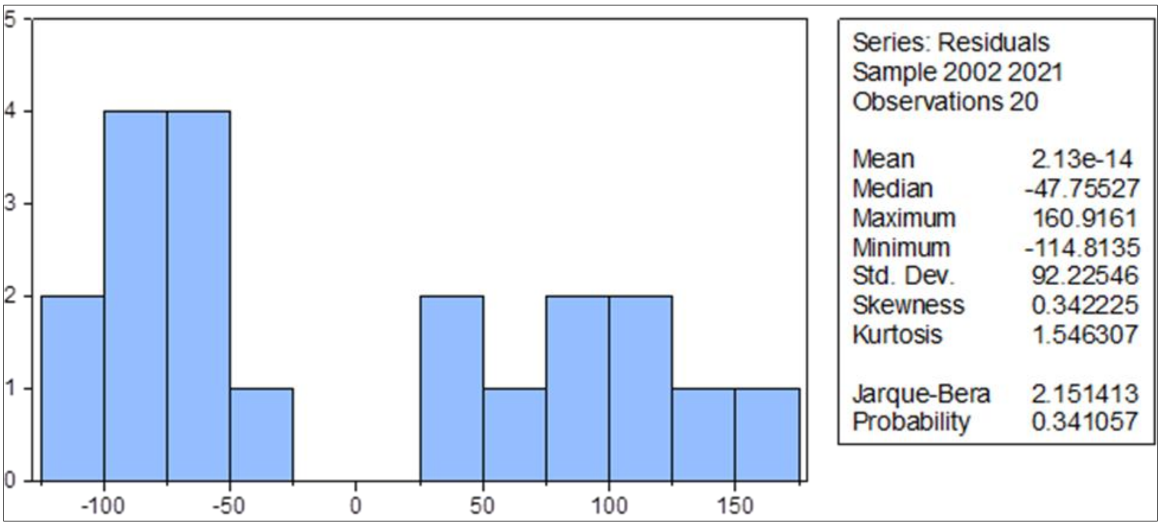

Figure 1 Test of normality

H1: Residual is not multivariate normal. H0: Residual is multivariate normal. It is significant if the p-value >0.05.

The 2.151413 value of the Jacque-Bera and probability value of 0.341057 shows that the probability value is greater than 0.05 levels hence, the study accepts the null hypothesis which specified that the residual is normally distributed which is an indication of the goodness of fit of data used for the model.

8. Discussion

From the relevant tests carried out by the researchers, it is obvious based on the economic parameters used for the model are very good. The results of the cointegration test showed that only INF-R is integrated into order zero, but EX-R, GCAEXP, and ROE were all integrated into order one. The results of the ARDL show that there is no long-run relationship between the independent variables and the dependent variables, and it was observed based on the estimation of the short-run cointegration of the ARDL that no short-run relationships between the dependent variable and the independent variables. Despite the correlation between the variables based on the OLS result which shows that the R-Squared is 54 and the Adjusted R-squared is 45 percent respectively, there was no significant effect on ROE, which is an indication that the complaint by manufacturers that Nigeria's economic environment is not business friendly due to unbearable economic factors is obvious based on the results. The result of this work is in line with the work of Falada and Idagbaju (36) based on their study effect of government capital expenditure on manufacturing output in Nigeria. Both studies observed that GCAEXP and EX-R do not have a significant effect on the performance of manufacturing firms in Nigeria.

9. Conclusion

The empirical evidence based on the findings in this study has proven that Nigeria's economy is very fragile and darkening which is in agreement with the IMF reports about the present economic situation which needs urgent intervention through the implementation of good policies that will mitigate the harsh economic condition thereby ameliorates the performance of the manufacturing sector and others. The empirical evidence shows that EX-R, INF-R, and GCAEXP have no short-run and long-run relationship with ROE, so none of the explanatory variables have any significant impact on ROE.

It can be deduced from the tests of the relevant variables that, the reason why EX-R has no significant impact is that between the periods that were reviewed, the exchange has continued to soar unabatedly, and inflation has occurred many of which the government through her agencies; the Central Bank of Nigeria, National Bureau of Statistics and Ministry of Finance, Budget and National Planning many times have given conflicting reports about the inflation situation of the country. It is very clear based on this that Nigeria is not yet out of inflation because the prices of items in the market are skyrocketing daily. Also, the problem of poor implementation of the capital budget whereby many capital budgets are abandoned by contractors and projects awarded to ghosts contracted for political benefits has been proven based on the result of the GCAEXP.

In a nutshell, the economic health has been very bad evidenced by the perennial rise in the exchange rate, high debts profile, and inadequate utilization of the rise in oil revenue resulting in poor infrastructures which the World Bank said might cause an existential challenge to Nigeria economic if Nigeria failed to address the problems by creating enabling environment and harnessing others non-oil resources.

Recommendations

The following recommendations are very pertinent based on the outcome of the study to help proffer solutions that will reposition the Nigeria economy:

- The issue that has lingered for decades concerning the exchange rate deserves urgent attention following a holistic approach devoid of political sentiment by ensuring that Nigeria becomes a productive economy that can import more than what it exports from other countries because the country imports more than it produce;
- The issue of poor implementation of the capital budget is like a tradition in Nigeria, there is a need for government to ensure that capital budgets are awarded to genuine contractors and fully implemented because enormous amounts are appropriated yearly to address infrastructural challenges., and those who intentionally sabotage the government efforts resulting to poorly or non-implantation of infrastructural facilities are persecuted;
- The country is still battling inflation, and to mitigate the effect on the economy, the exchange rate must be controlled, agriculture must be encouraged to improve the availability of foods, and the implantation by government for non-importation of items that can be produced in Nigeria must be totally discouraged to increase the patronage of Nigeria products; and
- Government at all levels must take the lead by patronizing made in Nigeria, instead of using taxpayer monies for foreign shopping, which is exacerbating the issue of forex scarcity considering the current situation that the country is going through whereby $1 is ₦710 PUNCH (41).

Compliance with ethical standards

Acknowledgments

We give all thanks and praises to God Almighty for all He has done for us.

Disclosure of conflict of interest

We the authors affirmed that all the materials used for this paper were gathered from reliable sources and at no time either now or in the future would any issue occur that would result in a conflict of interest among the researchers that own this article or the public.

References

[1] Onodugo V.A Multinational corporations (MNCs) and employment and labour conditions of Developing Countries: The Nigerian Experience. European Journal of Business and Social Sciences, 2012, 1(6), 67-76.

[2] Ozoigbeo, V. B., & Chukuezi, C. O. The impact of multinational corporations on the Nigerian economy, European Journal of social science, 2011; 19(3), 380-387.

[3] Eluka, J., Ndubuisi-Okolo P. N., & Anekwe, R. F. Multinational corporations and their effect on the Nigerian economy, European Journal of Business Management, 2016; 8(9), 59-67.

[4] Sanusi, L.S. Growing Nigeria's real sector for employment and economic development: The role of Central Bank of Nigeria. Paper delivered at the inaugural memorial lecture in honour of late Professor Okefie Uzoaga at the University of Nigeria, Enugu Campus July 12, 2011.

[5] Aganga, O., Kolawole, Y; Oritse, G. B & Alli, F. How Asians are killing made-in Nigeria goods, Financial Vanguard, 2012, April 2:17-18; 20-21.

[6] Adebiyi, M. A. Can high real interest promote economic growth without fueling inflation in Nigeria? Journal of Economic and Social Studies, Maiden Edition, 2001; 1(2) 80-100.

[7] Richard, P.J., Devinney, T.M., George, S.Y., & Johnson, G. Measuring organizational performance: Towards Methodological Best Practices. Journal of Management, 2009; 35, 718-804.

[8] The Economic Times. Definition of the exchange rate. Available at: https://economictimes.indiatimes.com/definition/exchange-rate 2017, September 21.

[9] Hussain, S. M., & Liu L. (2020) Macroeconomic effects of government spending shocks: new narratives from Canada. 2020; Working Paper in Economics.

[10] Eichengreen, B., & Luengnaruemitchai, P. Why doesn't Asia have bigger bond markets? National Bureau of Economic Research, 2004; 5(6), 10-57.

[11] International Monetary Fund (MIF). Facing a darkening economic outlook: how the G20 can respond, 2022.

[12] Central Bank of Nigeria (CBN). Exchange rate archives. https://www.cbn.gov.ng/rates/ExchangeArchives.asp, 2022.

[13] Kirui, E., Wawire, H. W. & Onono, P. Macroeconomic variables, volatility, and stock market return A case of Nairobi Securities Exchange, Kenya. International Journal of Economic and Finance, 2014; 6(8), 214-228.

[14] Kuwornu, J. K. M. Effect of macroeconomic variables on the Ghanaian stock market returns a co-integration analysis. Agric on-line Papers in Economics and Informatics, 2012, 4 (2), 1-12.

[15] Obura, J. M. & Anyango, C. Moderating effect of interest rates on the relationship between foreign exchange rate fluctuation and performance of Nairobi securities exchange market. Universal Journal of Accounting and Finance, 2016; 4(2), 27-34.

[16] Aigheyisi, O. S. The Relative Impacts of Federal Capital and Recurrent. American journal of economics, 2013; 3(5), 210-221.

[17] Muritala, T., & Taiwo, A. Government expenditure and economic development: Empirical evidence from Nigeria, European Journal of Business and Management, 2011; 3(9).

[18] Nurudeen, A., & Usman, A. Government expenditure and economic growth in Nigeria, 1970-2008: A disaggregated analysis, Business, and Economics Journal, 2010, 4.

[19] Akers, H. Key macroeconomic variables, 2014, EHow Contributor.

[20] Alimi, R.S. Inflation and financial sector performance: The case of Nigeria Timisoara, Journal of Economics and Business, 2014; 7(1), 55-69.

[21] Bora, B. Inflation effect on capital budgeting decisions. International Journal of Conceptions on Management and Social Sciences, 2013; 1(2), 2357-2787.

[22] NBS Just in: inflation jumps to 16.47%, the highest point since 2017. Vanguard news, 2021, February 16th.

[23] Stewart. M. C. Capital structure. Journal of Economic Perspectives, 2001; 15(2), 81-102.

[24] Monteiro, A. A quick guide to financial ratios. The citizens' money business web insert, 2006; 6(3.).

[25] Afm, M. A. Can return on equity be used to predict portfolio performance? Economics, Management, and Financial Market, 2012; 7(2), 132-148.

[26] Ikelegbe, A. The Economy of Conflict in the Oil Rich Niger Delta of Nigeria. Journal of African Studies, 2005; 14(2); 65-88

[27] Akerodolo-Ale, E. O. The Underdevelopment of Indigenous Entrepreneurship in Nigeria. Ibadan University Press, 1998.

[28] Onimode B. The Role of Indigenous MNCs in Economics Development in Ideas in Development: A multi-disciplinary overview edited by Okeke et al in Owerri, creative Education Management Consultant., 2005.

[29] Andabai, P. W. Corporate Social Responsibilities of Multinational Oil Companies: Host Community Perspectives. International Journal of Social and Policy Issues, 2006; 4(1&2); 48-55.

[30] Arghiri, E. Unequal Exchange: A Study of the Imperialism of Trade. Monthly Review: New York, 1962.

[31] Akinwale, S. O. & Adekule, E. O. Industrial policy and industrial sector productivity in Nigeria, Financial Markets Institutions, and Risks, 2019; 3(2), 44-50.

[32] Dogoro, D. W. Nigeran industrial development between 1943-2013: Challenges and opportunities, International Review of Research of Emerging Markets and Global Economy, 2013; 1(3), 132-143.

[33] Richard, P.J., Devinney, T.M., George, S.Y., & Johnson, G. Measuring organizational Performance: Towards Methodological Best Practices. Journal of Management, 2009; 35, 718-804.

[34] Ogiriki, T. & Andabai W. P. Empirical analysis of multinational corporations and economic growth in Nigeria (1991-2014). World Scientific News, 2015; 58-72.

[35] Auguom, T., Ashamu, S. & Olanipekum, A. Multinational, and Financial Performance: The Place of Multinational Manufacturing Companies in Nigeria, Universal Journal of Accounting and Finance, 2022; 10(2) 538-548.

[36] Falade, O. E. & Olagbaju I. O. Effect of government capital expenditure on manufacturing output in Nigeria. Business and economic research, 2015; 5(2), 136-152.

[37] Kanwal, S. & Nadeem, M. The impact of macroeconomic variables on the profitability of listed commercial banks in Pakistan. European Journal of Social Science, 2013; 2(9), 186-201.

[38] Abubakar, A. A. Impact of Multinational Corporations on Economic Growth in Nigeria, European Journal of Business and Management, 2021; 13(6), 110-117.

[39] Egbunike, C. F. & Okerekeoti, C. U. Macroeconomic factors, firm characteristics, and financial performance. Asian Journal of Accounting Research, 2018; 3(2),142-168.

[40] Pesaran, H., Shin, Y., Smith, R. Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 2011; 16 (3), 289-326.

[41] PUNCH. Naira falls to 4% to N710, Senate summons Emefiele, 2022, July 28th.