JORMASS
Volume 9, Issue 1
June 2023
JOURNAL OF RESEARCH
IN MANAGEMENT AND SOCIAL SCIENCES
DOI: To be assigned

Effect Of Macroeconomic Variables On Manufacturing Sector Performance In Nigeria

Ariwa, Florence Onyinyechi
Department of Banking and Finance
Michael Okpara University of Agriculture Umudike Abia State, Nigeria

ABSTRACT:
The volatility of exchange rate, inflation rate and interest rate in Nigeria is believed to undermine the performance of key sectors of the Nigerian economy. Thus, this study investigated the effect of these macroeconomic variables on Nigeria's manufacturing sector performance from 1999 to 2022. Ordinary least squares (OLS) technique was employed to analyze data collected from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicators. Findings revealed that exchange rate positively and significantly affected manufacturing sector performance in Nigeria. On the other hand, it was revealed that the inflation rate and interest rate had negative and insignificant effects on the manufacturing sector performance in Nigeria. The study recommended that the Nigerian government strengthen its exchange rate policy to increase the export of its finished products, thereby increasing the manufacturing sector's performance.

KEYWORDS: *macroeconomic variables, exchange rate, inflation rate, interest rate, manufacturing sector performance*

MANUSCRIPT TYPE:
Research Paper
PUBLICATION DETAILS:
Received: JAN 2023
Revised: MAR 2023
Accepted: MAR 2023

Publication of College of Management Sciences, Michael Okpara University of Agriculture, Umudike Nigeria

INTRODUCTION

Governments often develop policies to achieve overall stability and offer lubrication to the wheels of governance. The government does this by adopting policies that accommodate the various interests of all segments of the society. These government policies, on their part, operate through specific instruments referred to as macroeconomic variables (David-Wayas et al., 2018). Most importantly, effective macroeconomic policies stimulate investment and capital formation, thereby increasing households' performance, organizational performance, institutional performance, sectoral performance, and economic performance (Okoye & Nwakoby, 2015; Tapsin, 2017). Hence, macroeconomic variables indicate how effectively and efficiently the entire economy is working (Anochie et al., 2023).

Despite the assumed accommodative intentions of the government through its macroeconomic variables, they may still have adverse implications on some segments of society. This is against the backdrop that when government makes policies, it might be to achieve increased growth of local industries, stability in financial institutions, and increased exportation of locally produced goods and services, to mention but a few (Ozuah,

2021). However, the point of the argument remains that not all of these macroeconomic policies (using macroeconomic variables) work in the same way for all businesses and sectors of the economy. For instance, when the government increases the interest rate, it may attract more foreign investment (investors), but at the same time, it may lead to the death of local industries because of the dearth of investible funds. Hence, while increasing interest rates may attract foreign investment, it also decreases domestic investment (Nkoro & Uko, 2013).

The manufacturing sector and its performance cannot be isolated from the influence of the macroeconomic variables, especially given that the manufacturing sector remains one of the critical sectors that shape any nation's growth and overall existence. For instance, in 1999, the monetary policy rate stood at 18 percent and decreased to 14 percent in 2000 (CBN, 2021). It increased to 20.5 percent in 2001 and continued to fluctuate in the years that followed until it stood at 11.5 percent in 2021. It existed majorly in the double-digit threshold. Similarly, the inflation rate had, over the years, been largely within the double-digit threshold. 1999 it stood at 0.2 percent and increased to 14.5 percent in 2000 (CBN, 2021). It increased to 16.5 percent in 2001 and continued to fluctuate across the years, standing at 15.75 percent in 2021 (CBN, 2021).

Interestingly, the manufacturing sector output in Nigeria has also been fluctuating. For instance, in 1999, manufacturing sector output in Nigeria stood at ₦2,975.62 billion and increased to ₦2,980.65 billion in 2000. It further increased to ₦3,050.51 billion in 2001. In 2002, it increased to ₦3,591.4 billion. The manufacturing sector output experienced a decline in 2003 as it went down to ₦3.203.24 billion and further decreased to ₦3,169.21 billion. Manufacturing sector output continued in this trajectory until it stood at ₦6,291.59 billion in 2021 (CBN, 2021). With this scenario, one wonders to what extent these macroeconomic variables have affected manufacturing sector performance in Nigeria. Based on the foregoing, this study specifically investigated the effect of exchange rate, inflation rate and interest rate on manufacturing sector value added in Nigeria.

CONCEPTUAL REVIEW

Macroeconomic variables

Macroeconomic variables are indicators that point to the economy's trends or workings of the economy on an aggregate basis. The government often adopts them to micro-manage the economy, given that they show the economy's current status (Anochie *et al.*, 2023). Among the macroeconomic variables adopted by the Nigerian government are the inflation rate, interest rate, and exchange rate. Inflation rate is an indicator of price stability; interest rate indicates cost of borrowing money among different lenders while exchange rate is an indicator of price of one currency in terms of another (AC-Ogbonna, 2021).

Manufacturing sector value added.

Manufacturing value added has often been adopted as a measure of manufacturing sector performance. Given that the manufacturing sector is the engine of industrialization, the manufacturing sector value added is understandably considered a good measure because it captures the net output of residents' activity, less intermediate consumption**.** Thus, the higher the manufacturing sector value added, the higher the manufacturing sector's performance in Nigeria. Conversely, if the manufacturing sector value added is low, manufacturing sector performance in Nigeria is also low.

Theoretical framework

This study was anchored on endogenous growth theory, which was postulated by Arrow (1962), Romer (1986), and Lucas (1988). It postulates that internal factors, not external factors, achieve economic growth. Given its emphasis on internal factors as crucial determinants of output growth, it follows that government intervention is highly needed to drive output growth. Macroeconomic variables are fundamental government policies that determine the level of output growth. When the government makes its policies on the exchange, interest, and inflation rates, it is internal. It can determine the level of output growth, especially in the manufacturing sector. This theory favors the study as it brings to the fore the role of government in determining output growth (even in the manufacturing sector) owing to its policies encapsulated in macroeconomic variables.

Empirical literature

Some empirical works have been conducted on the nexus between macroeconomic variables and manufacturing sector performance in developed and developing economies. For instance, Islam (2003)

investigated the short-run and long-run equilibrium relationship between macroeconomic variables such as interest rate, exchange rate, inflation rate, and industrial productivity, and the stock market's performance in Malaysia from 1985 to 2002. The study employed the Ordinary Least Squares (OLS) method as the analytical tool. Findings showed a significant short-run and long-run relationship between the macroeconomic variables and the Kuala Lumpur Stock Exchange (KLSM) performance. Thus, the study concluded that macroeconomic variables significantly impacted stock market performance in Malaysia.

For Kandir (2008), the effect of macroeconomic factors on stock returns in the Turkish Stock Market was studied. The study adopted growth rate of industrial production index, change in consumer price index, growth rate of narrow money supply, change in exchange rate, interest rate and growth of international crude oil price as the macroeconomic factors. These macroeconomic factors served as the independent variables, while stock returns served as the dependent variable. The study period covers 1997 to 2005, and findings revealed that exchange rate, interest rate, and world market returns have significant effects on all the stock market returns measures. On the other hand, the inflation rate had only a significant effect on three out of the twelve (12) stock market return measures, while industrial production, money supply, and international crude oil prices had no significant effect on any of the stock market returns measures adopted in the study.

The relationship between macroeconomic variables and stock market performance was studied by Akbar et al. (2012). The study covered the period from 1999 to 2008, and data was collected from firms listed on the Karachi Stock Exchange. The study employed co-integration test and Vector Error Correction Mechanism (VECM) as the analytical tools. Findings showed a negative relationship between inflation rate and stock market prices exists. The study concluded that macroeconomic variables strongly impacted stock market performance in the Karachi Stock Exchange.

Enu *et al.* (2013) understudied macroeconomic factors' impact on Ghana's industrial production from 1990-2010. Real petroleum prices, real exchange rate, import of goods and services, and government spending were adopted as macroeconomic variables. Ordinary least squares (OLS) multiple regression technique was employed to analyze the data. Findings showed that real petroleum prices, real exchange rates, and imports of goods and services negatively and significantly affected industrial production. On the other hand, government spending positively and significantly affected industrial production in Ghana.

Okoye and Nwakoby (2015) examined the influence of finance and macroeconomic variables on manufacturing capacity utilization in Nigeria from 1975 to 2012. Explanatory variables were exchange rate, interest rate, external debt, terms of trade, and trade openness. The error correction mechanism (ECM) technique was employed in the analysis. Findings showed that exchange rate, interest rate, and terms of trade had negative and significant effects on manufacturing capacity utilization. On the other hand, inflation rate, external debt, and trade openness had negative and insignificant effects on manufacturing capacity utilization in Nigeria.

The impact of selected macroeconomic variables on the balance sheets of the manufacturing sector in Turkey was investigated by Tapsin (2017) using data from 1996 to 2015. Working capital to total assets ratio, profit before interest, taxes to total assets, and debt-equity ratio were adopted as proxies for balance sheet performance, while labor participation rate, real exchange rate, and discount rate were macroeconomic variables. Ordinary least squares (OLS) regression method was employed for analysis. Findings showed that the labor participation rate, real exchange rate, and discount rate had a positive and significant effect on all the proxies of balance sheets of the manufacturing sector in Turkey.

David-Wayas *et al*. (2018) investigated the impact of selected macroeconomic variables on Nigeria's manufacturing productivity from 1981 to 2015. Domestic private investment, government capital expenditure, exchange rate, foreign direct investment, consumer price index, credit to the manufacturing sector, and the prime lending rate were selected macroeconomic variables while manufacturing output was a proxy for manufacturing productivity. Ordinary least squares (OLS) regression technique was employed to analyze the data. Findings showed that credit to the manufacturing sector, consumer price index, and domestic private investment positively and significantly affected manufacturing sector productivity in Nigeria. On the other hand, the exchange rate negatively and significantly affected manufacturing sector productivity. Furthermore, foreign direct investment and prime lending rates had positive and insignificant effects on manufacturing sector productivity in Nigeria.

Onakoya (2018) examined Nigeria's macroeconomic dynamics and manufacturing output from 1981 to 2015. Unemployment rate, exchange rate, inflation rate, and interest rate were macroeconomic variables. The manufacturing output-GDP ratio was a proxy for manufacturing output. The vector error correction model (VECM) regression technique was employed. The result showed that the inflation rate and interest rate had negative and insignificant effects on manufacturing output, while the exchange rate and broad money supply had negative and significant effects on manufacturing output in Nigeria. Furthermore, the study showed that the unemployment rate positively and significantly affected manufacturing output in Nigeria.

Ozuah (2021) studied the link between macroeconomic variables and manufacturing sector output in Nigeria. The study covered the period 1986 to 2018. The autoregressive distributed lag (ARDL) technique was employed to analyze the data. The result showed that broad money supply, interest rate, and credit to the private sector positively and significantly affected manufacturing sector output in Nigeria in the short run. The study concluded that macroeconomic variables significantly affected manufacturing sector output in Nigeria.

Examining the impact of fluctuations of macroeconomic variables on manufacturing output in Nigeria, AC-Ogbonna (2021) employed descriptive statistics as an analytical tool. Exchange rate, lending rate and inflation rate were adopted as macroeconomic variables. Findings revealed that macroeconomic instability negatively and significantly impacted manufacturing output in Nigeria. Overall, the study concluded that macroeconomic variables significantly impacted manufacturing output in Nigeria.

Anochie *et al.* (2023) explored macroeconomic variables and productivity of Nigeria's manufacturing sector in Nigeria for the period 1980-2020. Exchange, interest, and inflation rates were adopted as macroeconomic variables. Ordinary least squares (OLS) technique was employed to analyze the data. The study showed that the exchange rate and interest rate had a significant effect on the productivity of Nigeria, while the inflation rate had no significant effect on Nigeria's productivity. The study concluded that macroeconomic variables significantly affected Nigeria's productivity.

Gap in literature

Previous studies on the effect of macroeconomic variables on manufacturing sector performance have yielded divergent outcomes. Enu, Hagan and Attah-Obeng (2013), Okoye and Nwakoby (2015), David-Wayas *et al.* (2018) and Onakoya (2018) found that exchange rate (which is one of the macroeconomic variables) exerted negative and significant effect on manufacturing sector performance while Tapsin (2017) and Ozuah (2021) found that exchange rate had positive and significant effect on manufacturing sector performance. In the same vein, while Okoye and Nwakoby (2015) and Onakoya (2018) found inflation rate exerted an insignificant effect on manufacturing sector performance, Anochie *et al*. (2023) found inflation rate had no significant effect on the manufacturing sector performance. Thus, the effect of selected macroeconomic variables on manufacturing sector performance is inconclusive. More so, all the previous studies adopted the manufacturing sector-GDP ratio, industrial sector-GDP ratio, and a host of other indices as measures of manufacturing sector performance. To the best of the researcher's knowledge, this study has adopted manufacturing value added as a measure of manufacturing sector performance.

METHODOLOGY

The study covered the period 1999-2022. *Ex-post facto* research design was adopted, given that data for the study already exists and cannot be manipulated by the researcher. Data were collected from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2022, and World Development Indicators (various years). Data analysis was done using the ordinary least squares (OLS) technique, which is most appropriate because it gives unbiased estimates, especially when the number of observations does not exceed 30 years. The study was anchored on the endogenous theory, which established that internal factors were responsible for economic output growth. Given that government interference determines macroeconomic factors, endogenous macroeconomic variables explain manufacturing sector performance in Nigeria. Anochie *et al.* (2023) specified the relationship between macroeconomic variables and manufacturing sector performance in Nigeria as:

$$MSVA = \int (EXCR, LINTR, INFR) \quad 1$$

Where,
MSVA = Manufacturing sector value added (proxy for manufacturing sector performance)
EXCR = Exchange rate
LINTR = Lending interest rate
INFR = Inflation rate

In line with Anochie *et al*. (2023), the model for the study is modified and specified as follows:

$$MVA = \int (EXCHR, INFR, INTR) \quad 2$$

Transforming equation (2) into its linear econometric form, we obtain

$$LN(MVA_t) = \beta_0 + \beta_1 EXCHR_t + \beta_2 INFR_t + \beta 3 INTR_t + e_t \quad 3$$

Where,
MVA= Manufacturing value added (proxy for manufacturing sector performance)
EXCHR = Exchange rate (measured as the exchange rate of ₦/$)
INFR = Inflation rate (measured by the consumer price index)
INTR = Interest rate (measured by the monetary policy rate)
LN = Natural logarithm
β_0 = Constant (intercept) term
β_1, β_2, and β_3 = Coefficient parameters of the explanatory variables
e = Stochastic error term
t = time series notation
By a priori, $\beta_0 > 0$, $\beta_1 < 0$, $\beta_2 < 0$ and $\beta_3 < 0$

RESULTS AND DICSUSSIONS

Table 1: Ordinary Least Squares (OLS) Result
Dependent variable: LNMVA

Variable	Coefficient	Std. Error	t-statistic	Prob.
C	23.65008	0.213130	110.9653	0.0000
EXCHR	0.003527	0.000583	6.044269	0.0000
INFR	-0.011142	0.009629	-1.157163	0.2623
INTR	-0.001113	0.013038	-0.085403	0.9329
R-squared = 0.673352				
Adjusted R-squared = 0.618911				
F-statistic = 12.36842				
Prob. (F-statistic) = 0.000125				
DW-statistic = 1.798447				
Critical values:				
(i) t-statistic, $t_{0.05} = 1.711$				
(ii) F-statistic, $F_{0.05}(3, 20) = 3.10$				

Source: Researcher's computation (2023)

The Ordinary Least Squares (OLS) result shown above can be summarized as:
LNMVA = 23.65008 + 0.003527EXCHR – 0.011142INFR – 0.001113INTR
T-statistic = (110.9653) (6.044269) (-1.157163) (-0.085403)
Adjusted R-squared = 0.618911
F-statistic = 12.36842
Prob. (F-statistic) = 0.000125
DW-statistic = 1.798447

The result showed that exchange rate positively impacted manufacturing value added (proxy for manufacturing sector performance) in Nigeria. From the result, a one percent increase in the exchange rate led to a 0.35 percent increase in manufacturing value added in Nigeria. This result is not in conformity with theoretical expectations because as the exchange rate depreciates, the manufacturing sector of an import-dependent nation is expected to be adversely affected. The probability value of exchange rate (0.0000) was less than the test significant level (i.e. $p < 0.05$). Thus, the researcher concluded that exchange rate significantly affected manufacturing sector value added in Nigeria.

Second, the result showed that inflation rate negatively impacted manufacturing value added (proxy for manufacturing sector performance) in Nigeria. From the result, a one percent increase in inflation rate led to a 1.11 percent decrease in the balance of payments in Nigeria. This result conforms to economic theoretical expectations because a high inflation rate erodes the purchasing power of firms, thereby undermining manufacturing sector output/performance. The probability value of inflation rate (0.2623) was greater than the test significant level (i.e. $p > 0.05$). Thus, the researcher concluded that inflation rate had no significant effect on manufacturing value added in Nigeria.

Third, the result showed that interest rate negatively impacted manufacturing value added (proxy for manufacturing sector performance) in Nigeria. From the result, a one percent increase in interest rate led to a 0.11 percent decrease in manufacturing value added in Nigeria. This outcome conforms to economic theoretical expectations because a high-interest rate increases borrowing costs, adversely affecting the nation's manufacturing sector. The probability value of interest rate (0.9329) was greater than the test significant level (i.e. $p > 0.05$). Thus, the researcher concluded that interest rate had an insignificant effect on the manufacturing sector value added in Nigeria.

The coefficient of determination (adjusted R-squared) of 0.618911 showed that 62 percent of the variations in manufacturing value added in Nigeria are due to variations in exchange, inflation, and interest rates. Therefore, the remaining 38 percent of the variations in manufacturing sector value added are due to other factors not included in the model. The computed F-statistics (12.37) was greater than the critical (tabulated) F-statistic (3.10) at a five percent level of significance. As a confirmation, the probability (F-statistic) of 0.000125 was less than the test significant level (0.05). Thus, it is evident that the model adopted in the study is reliable, significantly appropriate, and suitable for sound policymaking. Finally, the Durbin-Watson statistic (1.798447) lies within the acceptance region as it can be approximated to 2 but less than 4 (i.e. $2 \leq DW < 4$). This indicated that there was no serial correlation and that the result was not spurious.

Discussion of findings

The study showed that exchange rate positively and significantly affected the manufacturing sector performance in Nigeria. This finding corroborates Tapsin (2017) which found a positive and significant effect of exchange rate on manufacturing sector performance. However, the finding contrasts with Onakoya (2018), who found that the exchange rate had a negative effect on the manufacturing sector's performance in Nigeria. The finding of this study is surprising because as exchange rate depreciates, it is expected to hurt the economy especially if the country is import-dependent, such as Nigeria. This finding may be attributed to the devaluation of Nigeria's currency over the years. The devaluation of the nation's currency aims to increase the availability and reduce the cost of Nigeria's products in the international market. With this, the demand for Nigeria's exported products has increased, thereby increasing the productivity of the domestic (local) firms that produce the exported products.

The study found a negative and insignificant effect of the inflation rate on manufacturing sector performance in Nigeria. This outcome corroborates Anochie *et al*. (2023), who found that inflation rate had no significant effect on manufacturing sector output in Nigeria. However, it contradicts *David-Wayas et al. (2018)*, who found that the inflation rate had a positive and significant effect of inflation rate on the manufacturing sector productivity in Nigeria. The negative effect of the inflation rate on manufacturing sector performance in Nigeria, as shown in this study, may be attributed to the fact that Nigeria's inflation rate has remained largely double-digit and has tremendously affected not only individuals but firms that operate in Nigeria. First, the high inflation rate in Nigeria has led to an increased cost of production for manufacturing firms in the country. With such a high cost of production, many manufacturing firms have either reduced production or totally stopped operations. Second, the high inflation rate has eroded the purchasing power of individuals such that the goods produced by the manufacturing firms do not have much patronage. In all of this, the performance of manufacturing firms in Nigeria has been undermined.

Finally, the study showed that interest rates had a negative and insignificant effect on manufacturing sector performance in Nigeria. This finding corroborates Okoye and Nwakoby (2015), who found a negative effect of interest rates on manufacturing output in Nigeria. Nevertheless, the study's outcome contradicts David-Wayas (2018), who found that interest rates positively affected manufacturing sector productivity in Nigeria. This outcome is not surprising given Nigeria's double-digit and high monetary policy rate (prime interest rate). With such high interest rates, many entrepreneurs and manufacturers have found it very costly to borrow from commercial banks in Nigeria. This is against the backdrop that borrowing at a high interest

rate ultimately increases their production cost, and if the companies cannot repay the loans, they are taken over by the banks. More so, even when they continue in operation, the high cost of production is passed over to the consumers, which affects their sales because oftentimes their products become too expensive. In these ways, the performances of the manufacturing companies are adversely affected.

CONCLUSION AND RECOMMENDATIONS

The debate on the effect of macroeconomic variables on the manufacturing sector in Nigeria has become more intense given that successive governments have continued to churn out policies after policies to achieve a set of targets. Thus, it becomes imperative to determine how these policies (which are macroeconomic factors) influence the performance of the manufacturing sector in Nigeria. To achieve this, exchange, inflation, and interest rates were adopted as macroeconomic variables in this study, and their effect on manufacturing value added was investigated. From the empirical results, the exchange rate exerted a positive and significant effect on manufacturing sector performance, while the interest rate and inflation rate had negative and insignificant effects on manufacturing sector performance in Nigeria.

The under-listed recommendations are made:

(i) The Nigerian government should float its exchange rate and increase the export of its finished products. This will increase the performance of the manufacturing sector.

(ii) The government should work with the Central Bank of Nigeria (CBN) to reduce the double-digit monetary policy rate in Nigeria to facilitate borrowing from commercial banks. This would give the manufacturing sector easier access to funding, translating to increased performance.

(iii) The government should channel its investment to the manufacturing sector to increase productivity and reduce inflationary pressures in Nigeria.

References

AC-Ogbonna, C. (2021). Fluctuations of macroeconomic variables andmanufacturing output: Issues, challenges and prospects of the growth of manufacturing output in Nigeria. *Bullion*, 45(3), 30-43.

Amadi, A. U., Ezeudu, I. J., & Odili, O. (2015). Effects of inflation on stock market returns in Nigeria.*ESUT Journal of Accountancy*, 6(2), 79-94.

Anochie, U. C., Okereafor, G., & Bashir, M. O. (2023). Macroeconomic variables and productivity ofNigeria's manufacturing sector. *Nigerian Journal of Management Sciences*, 24(1), 244-254.

CBN (2014). *Statistical Bulletin*. Abuja: Central Bank of Nigeria.

CBN (2021). *Statistical Bulletin*. Abuja: Central Bank of Nigeria.

David-Wayas, O. M., Ugwu, J. O., Chukwuma, Q. O., & Anyaegbuna, P. C. (2018). The impact ofmacroeconomic variables on manufacturing productivity in Nigeria. *International Journal of RecentResearch in Social Sciences and Humanities (IJRRSSH)*, 5(1), 246-258.

Enu, P., Hagan, E., & Attah-Obeng, P. (2013). Impact of macroeconomic factors on industrial productionin Ghana. *European Scientific Journal*, 9(28), 238-254.

Islam, M. (2003). The Kuala Lumpur stock market and economic factors: A general-to-specific errorcorrection modeling test. *Journal of the Academy of Business and Economics*, 9(2), 20-30.

Kaplan, R., & Norton, D. (2001). Transforming the balanced scorecard from performance measurement tostrategic management. *Accounting Horizons*, 15(1), 87-104.

Nkoro, E., & Uko, A. K. (2013). A generalized autoregressive conditional heteroskesdascity model of theimpact of macroeconomic factors on stock returns. Empirical evidence from the Nigerian StockMarket. *International Journal of Financial Research*, 4(4), 38-45.

Okoye, L. U., & Nwakoby, C. (2015). The influence of finance and macroeconomic variables onmanufacturing capacity utilization in Nigeria. *Accounting Frontier*, 6(1), 176-188.

Onakoya, A. B. (2018). Macroeconomic dynamics and the manufacturing output in Nigeria. *MediterraneanJournal of Social Sciences*, 9(2), 43-54.

Osamwonyi, I. O., & Evbayiro-Osagie, E. I. (2012). The relationship between macroeconomics variablesand stock market index in Nigeria. *Journal of Economics*, 3(1), 55-63.

Oseni, I. O., & Nwosa, P. I. (2011). Stock market volatility and macroeconomic volatility in Nigeria: Anexponential GARCH approach. *Journal of Economics and Sustainable Development*, 2(10), 28 – 42.

Osuala, A. E. (2010). *Econometrics: Theory and Problems*. Nigeria: Toniprints Services.

Owolabi, A. U., & Adegbite, T. A. (2013). Inflation and capital market performance. *Journal of EmergingTrends in Economics and Management Science*, 5(1), 93-99.

Oyovwi (2012). Exchange rate volatility and imports in Nigeria. *Academic Journal of Interdisciplinary Studies,*1(2), 103 – 114.

Ozuah, L. A. (2021). Macroeconomic variables and manufacturing sector output in Nigeria. *InternationalJournal of Trend in Scientific Research and Development (IJTSRD)*, 5(2), 242-249.

Piana, V. (2002). Interest rates. Economics Web Institute. Retrieved from http://www.economicswebinstitute.org/

Taofik, M. I., & Omosola, M. A. (2013). The relationship between stock returns and inflation in Nigeria.*Europe Scientist Journal*, 9(4), 146-157.

Tapsin, G. (2017). The impact of selected macroeconomic variables on the balance sheets of manufacturing sector in Turkey. *Account and Financial Management Journal*, 2(5), 737-747.

Terfa, W. A. (2010). Stock market reaction to selected macroeconomic variables in the Nigerian economy.*CBN Journal of Applied Statistics*, 2(1), 61 – 70.

WDI (2021). *World Development Indicators, 2021*. Retrieved from https://wdi.worldbank.org