Does Fiscal Policy Tools have the Potential to Stimulate Performance of Manufacturing Sector in Nigeria?

Cyril Madubuko Ubesie[1], Amalachukwu Chijindu Ananwude[2*], Ezechi Nwanekpe Cyracus[1] & Ebe Emmanuel [1]

[1]Department of Banking and Finance, Enugu State University of Science and Technology, Enugu State, PMB 01660, Enugu, Nigeria

[2]Department of Banking and Finance, Nnamdi Azikiwe University, Anambra State, PMB 5025, Awka, Nigeria.

**Corresponding author:* amalision4ltd@yahoo.com

Doi: https://doi.org/10.38157/finance-economics-review.v2i3.163

Citation: Ubesie, C. M., Ananwude, A. C., Cyracus, E. N. & Emmanuel, E. (2020). Does Fiscal Policy Tools have the Potential to Stimulate Performance of Manufacturing Sector in Nigeria? *Finance & Economics Review*, 2(3), 33-51. Doi: https://doi.org/10.38157/finance-economics-review.v2i3.163

Research Article

Abstract

Purpose: *There is no denying the fact that the Nigerian manufacturing sector is not performing up to the expectation. The poor performance of the manufacturing sector is attributed largely to the poor state of basic infrastructures, especially power supply, and good road networks. To this end, this study examined the potential of fiscal policy to stimulate manufacturing sector performance in Nigeria.*

Methods: *The model estimation employed the Ordinary Least Square (OLS) estimation technique, while the effect of estimation was carried out using the Granger causality test based on the data from the Central Bank of Nigeria (CBN) and Federal Inland Revenue Service (FIRS) for the period of 1986 to 2019.*

Results: *The result of the analysis revealed that recurrent expenditure has no significant effect on manufacturing sector performance. However, capital expenditure, fiscal deficit, and the company's income tax significantly affect manufacturing sector performance.*

Implications: *The Federal, State and Local governments should stop wasteful expenditure on unnecessary entertainment on meetings, seminars, workshops, foreign trips, etc. to increase spending on basic industrial infrastructures, most importantly on the power supply and road network to stimulate the manufacturing sector performance.*

Keywords: Government Expenditure, Fiscal Deficit, Corporate Income Tax, Nigeria.

1. Introduction

The nexus between fiscal policy and manufacturing sector performance is a topical issue in literature, especially for developing economies like Nigeria. This is linked to the fact that developing economies are characterized by an underdeveloped and fragmented financial

system. Thus, the fiscal policy of the government has a great influence on the performance of the manufacturing sector. Fiscal policy through government expenditure or spending, taxation, and fiscal deficit affect economic activities in a country. For instance, capital expenditure of the government on power and road network would greatly aid the manufacturing sector by way of reduction in operating costs. An increase in recurrent expenditure will lead to an upsurge in citizens' spending on consumption hence, high demand for the supply of goods and services resulting in more production by the manufacturing sector. The high rate of taxation affects industrial production, especially when companies consider the fact that a considerable sum of their profit would be given to the government in the form of tax. In the same way, savings and investments will be affected as individuals and corporate firms would be left with less money to spend. Fiscal deficit no doubt tends crowding out private sector investments which ultimately result in a decline in gross domestic product.

Based on environmental reality which everybody can attest to, to assert confidently that the Nigerian manufacturing sector is performing to expectation is to assume our worries away. The poor performance of the manufacturing sector is attributed largely to the poor state of basic infrastructures, especially power supply, and good road networks. Uncertainty in macroeconomic fundamentals such as inflationary tendency and volatility in the exchange rate are not left out too. In the past, the government has intervened through various policies to improve manufacturing capacity, generates employment, and distributes income however, this sector horrifyingly performs underneath desire (Echekoba & Ananwude, 2016).

Two controversial issues observed in theoretical and empirical works of literature propelled our interest to carry out this research. To begin with, there's no agreement on the hypothetical relationship between fiscal policy and manufacturing sector performance. The Keynesian theory is of the view that government intervention in the market is needed as a means of addressing failures that may be associated with the operation of the market. Of a different view is the Richardian Equivalence hypothesis where there is an underlying assumption that manufacturing activities cannot be stimulated by government intervention through fiscal policy tools. They are of the view that the benefit that may be associated with increased spending by the government would be outweighed by the tax the government would impose in other to curb inflationary tendency. Secondly, empirical results in the subject matter are mixed. The researches of Falade (2020), Uffie and Aghanenu (2019), Ajudua and Imoisi (2018), Okpala (2018), Osinowo (2015), Falade and Oladiran (2015), Nwanne (2015), Njoku, Okezie, and Idika (2014), Ademola (2012) and Eze and Ogiji (2013) revealed that government fiscal policy is positively related with manufacturing sector performance and has significantly influenced the performance of the sector. Conversely, Jeff-Anyeneh, Ezu, & Ananwude (2019), Okpe (2018), Kanu (2017), Arikpo, Ogar, and Ojong (2017) have found that the manufacturing sector has not performed to expectation despite the variation in fiscal policy tools of the government. The lack of agreement on the linkage between fiscal policy and manufacturing sector performance in Nigeria calls for re-examination on whether or not fiscal policy tools have the potential to stimulating manufacturing sector performance in Nigeria from 1986 to 2019.

2. Literature Review

The concept of fiscal policy has been well documented in the literature. Precisely, we used the concept of Obioha (2018) who defined fiscal policy as the instrument dealing with the government spending, borrowing and, taxation to prompt variation in aggregate demand and output in an economy. The Manufacturing sector is respected as a real vital sector in an economy since of its capacity to cultivate wide and effective in reverse and forward linkages among other sectors of the economy (Victoria, 2019). The efficient and effective functioning of the manufacturing sector results in foreign exchange earnings which strengthen the local currency against foreign currencies. That apart, it protects the economy against external shocks, for instance, fluctuation in the exchange rate and trade deficit. In Nigeria, the reverse is the case because we substantially depend on imports for our basic needs. The contribution of the manufacturing sector to Nigeria's gross domestic product is very poor. Based on the Central Bank of Nigeria (CBN) statistical bulletin of 2018, the manufacturing sector contributed only 9.20% to our real gross domestic product. Comparing this to our neighboring African country like Ghana, where the manufacturing sector contributed 31.53% to their real gross domestic product in the same period will make one wonder where our country is heading to. Capital projects capable of influencing industrial development are inflated and on many occasions, money budgeted for these projects are diverted into private pockets as a result of corruption in public offices by public officials thereby impeding economic growth and stimulating poor industrial development (Jeff-Anyeneh, Ananwude, Ezu, & Nnoje, 2020).

Three major theories have been documented in the literature that linked the process of manufacturing sector development to the fiscal policy pattern of the government. These theories include Keynesian Theory, Neoclassical Theory, and Richardian Equivalence Theory. We anchored this study on the Keynesian Theory owing to its prevalence in finance literature. The review of previous studies is based on the different tools of fiscal policy as utilized by the Federal Government of Nigeria. We followed the orthodox style and they are reviewed in subsequent sub-sections (2.1 – 2.3).

2.1. Government Expenditure and Manufacturing Performance

Falade (2020) explored the differential effects of fiscal policy variables on the performance of the key sectors of the economy namely; industrial, agricultural, and service sectors using an Autoregressive Distributive Lag (ARDL) and Error Correction Model (ECM) between 1970 and 2018. Obtained results indicated that while both domestic and foreign debts have no significant effects on the three sectors examined in the short run, it was observed that foreign debt and government consumption expenditure have incremental effects on the industrial sector's output. Jeff-Anyeneh, Ezu, and Ananwude (2019) assessed the long and short-run elements between government consumption and industrial development in Nigeria from 1981 to 2016 with the see to assessing how industrial development has been affected by the variety in government spending. The Autoregressive Distributive Lag (ARDL) was the method connected. They found with daunting that government consumption has not emphatically influenced industrial

development in Nigeria both in the long and short-run despite of the persistent rise in government consumption and different approaches of the government towards making strides manufacturing activities in Nigeria.

Victoria (2019) enquired into the determinants of manufacturing sector performance and its commitment to the net residential items in Nigeria employing a time-series information from 1981 to 2015 utilizing Johansen Co-integration and the Vector Error Correction Model. The think about found that whereas workforce, gross fixed capital formation, and exchange rate appeared a positive long-run relationship with manufacturing value-added, the mean of manufacturing capacity utilization, lending interest rate, and government consumption appeared a long-run negative relationship.

Imide (2019) examined the effect of fiscal policy on the manufacturing segment of the Nigerian economy from 1980 to 2017. The show for the ponder comprised of Index of the manufacturing sector as an endogenous variable and exogenous factors were government consumption, company income tax rate, and government domestic debt obligation. The methods utilized for investigation was the ordinary least square technique. The comes about uncovered that the government consumption and company income tax rate has a positive relationship the manufacturing sector index, whereas government domestic debt obligation has a negative direct relationship with manufacturing sector index.

Uffie and Aghanenu (2019) examined the impact fiscal variables -total government consumption and company income tax on the total output of the Nigerian manufacturing sector. It utilized time-series information extricated from different sources traversing the period from 1981 to 2016. It utilized the Autoregressive Distributive Lag (ARDL) bounds test approach to Co-integration. The research found that both the short-run and long-run impacts of the regressors are very critical on the target variable. It built up that government consumption upwardly drove output of the manufacturing sector which can be underscored by expanded government consumption on capital infrastructure, whereas company income tax hosed output owing to an assortment of taxes.

Ajudua and Imoisi (2018) assessed the nexus between fiscal policy and manufacturing segment yield in Nigeria. Utilizing the Error Correction Model (ECM) strategy, time-series information for the period 1986-2016 were tried to find out the relationship between manufacturing segment yield and government consumption. Discoveries from the study built up that government consumption was noteworthy and emphatically related to the manufacturing segment yield in Nigeria, whereas government income was not noteworthy.

Okpe (2018) ascertained the impacts of government policies on the development of the manufacturing sector. The result from the fiscal side appears that recurrent consumption, subsidy, and tax from petroleum have a negative and critical impact on the development of the manufacturing sector, whereas capital investment by the government showed a critical and positive impact on the development of the manufacturing sector.

Okpala (2018) considered the effect of government capital spending on manufacturing output in Nigeria utilizing time-series information from 1981 to 2016. The investigation uncovered that capital spending on road networks have a positive critical relationship with manufacturing

output in short-run, whereas within the long-run it has a negative and immaterial effect on manufacturing output. Capital consumption on wellbeing has a positive significant impact manufacturing output within the long-run, whereas within the short-run; it has a negative but critical effect on manufacturing output. Capital use on telecommunication has a positive noteworthy effect on manufacturing output both in the long and short run. Capital consumption on electricity has a negative and inconsequential effect on manufacturing output both in long and short-run.

Arikpo, Ogar, and Ojong (2017) examined the effect of fiscal policy on Nigeria's manufacturing sector performance. An ex-pose facto investigative plan was embraced for the study. Time-series information was collected from the Central Bank of Nigeria from 1982 to 2014 were utilized. The data were dissected utilizing the conventional ordinary least square multiple regression procedure. Results from the investigation uncovered that increments in government income diminished the yield of the manufacturing sector.

Okoro, Ujunwa, Betty, Chijioke, and Ukemenam (2017) evaluated the impact of fiscal and monetary approaches on the Nigerian industrial output. The paper utilized recounted prove to x-ray the suits of monetary policies implemented to advance a dynamic industrial performance. The prove recommends that manufacturers in Nigeria are not maximizing the benefits associated with various fiscal and monetary policies of the government.

Olawale, Ijirshar, Tersugh, and Yahaya (2017) examined the effect of government financial development on the yield of the manufacturing sector from 1970 to 2014. Data collected were dissected following the Auto-Regressive Distributive Lag (ARDL) approach. The study found a positive but immaterial effect of government spending on the yield of the manufacturing sector.

Kanu (2017) undertook a study on the effect of government consumption on the production of food in Nigeria. The standard level arrangement parameter result appeared a negative relationship between government consumption and the quantum of food processed. The result of co-integration appeared the presence of long-run combination of government use and production of food. The result of granger casualty demonstrated that government consumption does not affect the quantity of food processed.

Mensah, Ofori-Abebrese, and Pickson (2016) explored the effect macroeconomic variables have on manufacturing activities in Ghana over the period 1980 to 2013. The Autoregressive Distributive Lag Model was utilized to look at the long-run and the short-run flow of macroeconomic components and manufacturing activities. The research found a co-integration relationship between manufacturing activities and the macroeconomic components. The study demonstrated that the major macroeconomic variables that influence manufacturing activities in Ghana are loaning rate, inflationary trend, employment opportunities, and government consumption.

Osinowo (2015) evaluated the impact of fiscal policy on the output of the real economy in Nigeria for the period of 1970-2013. The study utilized an Autoregressive Distributive lag (ARDL) and Error Correction Model (ECM). The findings appeared that the total expenditure of the government has emphatically contributed to the yield of the different sectors of the real economy with an exception of the agribusiness sector. The discoveries unveiled that the manufacturing

sector has a positive relationship with all the determinant factors, whereas the inflation rate has contrarily affected sectorial growth of the real economy except the industrial sector.

Falade and Oladiran (2015) assessed the relationship between government consumption and output of the manufacturing sector in Nigeria. Government spending was disaggregated into capital and recurrent spending. The research utilized time-series information from 1970 to 2013. Information on the output of the manufacturing sector, capital, and recurrent spending, and interest rate were utilized. Findings showcased that government capital spending has a positive relationship with the output of the manufacturing sector, recurrent spending revealed a negative impact on the output of the manufacturing sector.

Nwanne (2015) utilized quantitative time-series information and multiple regression methods within the examination to assess the impact of government capital use on the yield of the manufacturing sector in Nigeria. The result of the co-integration test showed a long-run relationship between explained and explanatory variables. It too uncovered that capital spending on the road network and communication influences the yield of the manufacturing sector essentially, whereas government capital spending on electricity has an inconsequential impact on the yield of the manufacturing sector.

Njoku, Okezie, and Idika (2014) explored the relationship between Nigeria's capital consumption and the development of the manufacturing sector from 1971-2012. The ordinary least square strategy was utilized. The outcome of the research disclosed that there is a positive connection between the growth rate of GDP, capital consumption, money supply, trade openness, recurrent spending, and development of the manufacturing sector within the period studied.

Eze and Ogiji (2013) explored the effect of fiscal policy on manufacturing output in Nigeria. An ex-post-facto research plan was utilized to carry out the study. The result of the analysis demonstrated that government consumption altogether influenced manufacturing output based on the size and the level of importance of the coefficient and p-value and there is a long-run relationship between fiscal policy and manufacturing output.

Enu, Hagan, and Attah-Obeng (2013) studied the effect of macroeconomic fundamentals on Ghana industrial sector development. Ordinary least square estimation procedure was utilized given the test measure of 21 due to the inaccessibility of information. The research distinguished genuine petroleum costs, exchange rate, exports and importation of goods and services, and government spending as the key macroeconomic variables that impact industrial sector development in Ghana.

Nekarda and Ramey (2010) evaluated the industry-level impacts of government buys in arrange to shed light on the transmission component for government investing in the total economy. The observational comes about showed that increments in government request raise yield and hours, but lower genuine item compensation and efficiency. Mark-ups do not alter as a result of government request increments.

Tkalec and Vizek (2009) assessed the effect of macroeconomic arrangements on manufacturing production in Croatia. The examination was conducted on quarterly information from 1998 to 2008. The study proposed that changes in fiscal policies, exchange rate, and individual utilization generally influence low technological intensity industries. Production in high technological

intensity industries is, in common, flexible to changes in speculations, remote requests, and fiscal policies. Fiscal policies appear especially vital for manufacturing production, both in terms of the size of financial flexibilities and shorter time slacks. Production in low technological intensity industries escalated with exchange rate deterioration, whereas in high and medium-high technological intensity industries it contracts as a result of deterioration.

2.2. Fiscal Deficit and Manufacturing Performance

Olatunde and Temitope (2017) inspected the impact of budget shortfall on the output of different sectors of the economy in Nigeria from 1981 to 2015. The sectors were the agricultural sector, industrial sector, building and construction sector, wholesale and retail trade sector, and service sectors. Autoregressive distributive lag was the evaluating method. The result appeared that in the short-run, the budget deficit has a negative impact on agricultural, building and construction, industrial and wholesale, and trade sector, whereas within the long-run, it negatively impacts on the agricultural, building and construction, service and wholesale and trade sectors.

Akpo, Hassan, and Friday (2015) determined how investment expenditure has been influenced by the fiscal deficit in Nigeria from 1970 to 2010. The study followed a multiple regression model. The estimation procedure utilized in the paper was the Ordinary Least Square (OLS) strategy. The study revealed that budget deficit has a significant effect on Nigeria. Government consumption and gross domestic product have a significant effect on the venture, but corporate income tax features a positive, rather than a negative effect on venture use in Nigeria.

2.3. Taxation and Manufacturing Performance

Dussaux (2020) evaluated the impact of energy vitality costs and carbon tax collection on firms' environment and economic performance. The examination employed information on 8,000 firms that are agents of the French manufacturing sector and watched amid 2001-2016. The paper appeared that indeed even though a 10% increment in energy vitality costs caused a decrease in energy consumption by 6% at the firm level, this increase has no impact on net employment at the industry level, but it propels a reallocation of production and specialists from energy-intensive to energy-efficient companies. Re-enactments appeared moreover that the current carbon tax rate diminished manufacturing CO2 outflows in 2018 by 5% or 3.6 Mt of CO2 compared to a no-tax situation, which a further increment of carbon tax in France from its current rate of 45€ to 86€ per ton of CO2 would actuate a lessening in carbon outflows by 8.7% or 6.2 Mt of CO2 and a work reallocation for 0.24% of the workforce within the manufacturing segment.

Ogu and Kem (2020) evaluated the effect of tax collection on Nigeria's manufacturing sector performance from 1981 to 2018. From the result, together tax paid by companies, taxes from petroleum products, customs, and excise duty, and capacity utilization of the manufacturing sector showed a significant and noteworthy relationship with manufacturing sector performance but independently evaluated, it appears that tax paid by companies, taxes from petroleum products divulged a positive effect and no significant relationship on manufacturing sector performance, whereas taxes impose on importation and exportation of certain goods and services

and capacity utilization of the manufacturing sector encompassed a positive effect and noteworthy relationship on the output of the industrial sector.

Andabai (2019) studied the causality between tax collection and manufacturing sector development in Nigeria from 1990-2018. The dependent variable was the output of the manufacturing sector, whereas inflationary rate, value-added tax, and tax from petroleum products were used explanatory variables. The result of the study unveiled that there is a long-run relationship between the variables of interest.

Aziz and Sharifuddin (2019) found out the impact of distinctive sorts of government motivations on the performance of SMEs within the Malaysian food manufacturing sector. The study was conducted utilizing Structure, Conduct, and Performance (SCP) criteria on auxiliary information from 140 companies for years (2013 – 2017). The study found that financial and tax incentives gave distinctive impacts on the performance of SMEs within the Malaysian food manufacturing sector. Tax incentives appeared a solid critical positive relationship with market share and a weak significant positive relationship with capital intensity, return on assets, and return on sales.

Oladipo, Iyoha, Fakile, Asaleye, and Eluyela (2019) assessed the impacts of taxes paid by companies and value-added charges on manufacturing output in Nigeria utilizing Auto-Regressive Distributive Lags. The long-run result uncovered that there is a positive relationship between corporate tax and manufacturing output, whereas value-added charge uncovers a negative relationship with manufacturing output. In the short-run, the result appeared that corporate tax is not factually significant at a 5% significant level.

Ewubare and Ozo-Eson (2019) evaluated the impact of tax assessment on the output of the manufacturing sector in Nigeria for the period 1980-2017. The variables passed through the unit root test, Johansen co-integration test, and the parsimonious error correction model. The coefficient of corporate tax appeared that a rate increment in corporate tax will increment the output of the manufacturing sector by 0.028585%. Moreover, a rate increment petroleum tax will increment the output of the manufacturing sector by 0.023040%. But the coefficient of value added tax appeared that a rate increment in value added tax will cause a comparing depreciation in the output of the manufacturing sector by 0.010024%.

Adefeso (2018) dissected the impact of government company's income tax on the performance of 54 quoted companies that cut across 17 categories of non-financial service firms in Nigeria for 1990-2002. Utilizing Generalized Method of Moment (GMM) and opposite to the desire, the study found a positive relationship between companies' income tax and the output of listed firms in the manufacturing sector.

Using unbalanced panel data of ASEAN countries over the period 1985 – 2014, Yoke and Chan (2018) examined the impact of VAT on manufacturing performance. The result appeared that VAT is adversely related to manufacturing performance. The result showed also that in nations where there is VAT, manufacturing firms performed better compared to countries without VAT.

Employing a modified difference-in-differences system, Ohrn (2017) evaluated the manufacturing sector reaction to state appropriation of tax policies. The investigation showed that there was an increase in investment owing to tax policies. Total production and opportunity of gaining employment were also affected, but it was many years after the implementation of tax

policies. The decoupled speculation and work reactions recommended that the motivating forces quickened the mechanization manufacturing sector in the U.S.

Ehinomen, Akindola, and Adeleye (2017) examined the effect of government tax collection and consumption on manufacturing sector performance in Nigeria from 1980 to 2014. The Ordinary Least Square (OLS) estimation strategy was utilized in getting the numerical gauges of the coefficients in the model. The OLS output appeared that there was a positive and noteworthy relationship between government spending and manufacturing sector performance. Additionally, there was a positive relationship between revenue from taxation and manufacturing sector performance.

Uwuigbe (2016) determined the impact of tax incentives on the Nigerian industrial sector's overall performance. The research embraced the utilization of organized survey which were disseminated to the chosen staff of companies into manufacturing. The result of the investigation uncovered that tax incentives would influence the funds that those manufacturing companies could invest in profitable ventures. The study also showed that companies that benefit from government tax incentives are not reluctant to pay their taxes at the required time stipulated by the tax law, and that tax incentive have the potential to increase the number of firms in the manufacturing sector.

Ocheni and Gemade (2015) examined the impacts of different tax assessment on small and medium scale enterprises (SMEs) performance in Nigeria. The research includes a study investigation plan with a population of 91. The analysts determined their test measure to reach at 74 and a self-administered questionnaire was utilized to gather information. This information was quantitatively dissected with basic rates and formulated hypotheses tested with ANOVA. Discoveries uncovered that different tax assessment has a negative impact on SMEs' survival and the relationship between SMEs' estimate and its capacity to pay charges is critical.

Ezejiofor, Adigwe, and Echekoba (2015) considered whether tax collection as a fiscal policy instrument influences output of selected companies that are into manufacturing in Nigeria. To attain the points of the study, a clear strategy was used to collect financial details of the company for six years and analyzed using ANOVA criteria. The research found that tax assessment tax collection as a fiscal policy instrument features a noteworthy impact on the output of selected manufacturing companies.

Flues and Lutz (2015) investigated the causal effects of these diminished minimal tax rates on the financial performance of firms employing a regression irregularity plan. Their econometric examination depends on official micro-data at the plant and firm level collected by the German Government Statistical Office that covers the complete manufacturing segment. The study did not find any orderly, factually significant effects of the electricity tax on firms' turnover, exports, value-added, venture, and employment.

Using panel data from the UK production census, Martin, Preux, and Wagner (2014) assessed the effect of carbon taxation on manufacturing plants. Their methodology was built on the comparison of results between plants subject to the complete taxation and plants that paid as it were 20% of the tax. Taking advantage of exogenous variety in qualification for the discount in

taxation, they found that the carbon tax had a solid negative effect on the intensity of energy and utilization of electricity.

3. Methodology

We adopted a research design that relied on quantitative data to ascertain whether or not fiscal policy tools have the potential to stimulating manufacturing sector performance in Nigeria. The Central Bank of Nigeria (CBN) and Federal Inland Revenue Service (FIRS) annual reports served as the source of data. We trusted the traditional Ordinary Least Square (OLS) as our estimation technique. The dependent variable is manufacturing sector performance proxied by Manufacturing Sector Contribution to Real Gross Domestic Product (MSCRGDP). The independent variables are Recurrent Expenditure (REXP), Capital Expenditure (CEXP), Fiscal Deficit (FSD), and Corporate Income Tax (CIT). Two control variables were included in the model due to the probable effect of macroeconomic fundamentals on manufacturing activities in the country. There are Interest Rate (INTR) and Inflation (INFL). A modified model of Olawale, Ijirshar, Tersugh, and Yahaya (2017) for a study in Nigeria was adapted. The functional form of Olawale, Ijirshar, Tersugh, and Yahaya (2017) is expressed as:

$$MOTPU = f(GOV) \quad (1)$$

Where:

$MOTPUT$ = Manufacturing Gross Domestic Product

GOV = Government Expenditure

Evaluating the effect of fiscal policy tools on manufacturing sector performance in Nigeria, the following functional model is developed as:

$$MSCRGDP = f(REXP, CEXP, FSD, CIT, INTR, INFL) \quad (2)$$

Econometrically transforming the models by introducing log, constant parameter, and error term, the following model is developed:

$$LogMSCRGDP_t = a_0 + a_1 LogREXP_t + a_2 LogCEXP_t + a_3 LogFSD_t + a_4 LogCIT_t + a_5 LogINTR_t + a_6 LogINFL_t + u_t \quad (3)$$

Where:

$MSCRGDP$ = Manufacturing sector contribution to real gross domestic product

$REXP$ = Recurrent expenditure

$CEXP$ = Capital expenditure

FSD = Fiscal deficit

CIT = Corporate income tax

$INTR$ = Interest rate

$INFL$ = Inflation

a_0 = constant coefficient

u = error term

t = time trend

4. Results

4.1 Descriptive Properties of the Data

Table 1 presents the descriptive properties of the variables used in this study. The mean values of the MSCRGDP, REXP, CEXP, FSD, CIT, INTR, and INFL are 3195422, 1644486, 542180.9, -708596, 398289.5, 18.62647, and 18.84206, while the median is 1215650, 840550, 395000, 147394.7, 101950, 17.77000 and 12.05000 respectively. The time-series information on maximum as well as minimum values are 16781060 and 38650 for MSCRGDP, 6997390, and 7700 for REXP, 2289000, and 6370 for CEXP, 32049.40 and -4913820 for FSD, 1607320 and 1102 for CIT, 29.8 and 10.5 for INTR, 72.8 and 5.4 for INFL. The variables' standard deviation is 4200522 for MSCRGDP, 1903469 for REXP, 532101.9 for CEXP, 1195481 for FSD, 513094.5for CIT, 3.72 for INTR, and 16.87 for INFL. We found that the variables are skewed positively to normality as was revealed by the skewness statistics that were all positively signed. However, there is a case of exceptionality as unveiled by the negative values of fiscal deficit. Again, there is also support that the variables were naturally leptokurtic as seen by Kurtosis statistics that are higher than the benchmark of 3.0, excluding the company's income tax. The Jarque-Bera suggests that all were normally distributed as the p-values are significant at 5% level of significance.

Table 1: Descriptive Properties of the Data

	MSCRGDP	REXP	CEXP	FSD	CIT	INTR	INFL
Mean	3195422.	1644486.	542180.9	-708596.0	398289.5	18.62647	18.84206
Median	1215650.	840550.0	395000.0	-147394.7	101950.0	17.77000	12.05000
Maximum	16781060	6997390.	2289000.	32049.40	1607320.	29.80000	72.80000
Minimum	38650.00	7700.000	6370.000	-4913820.	1102.500	10.50000	5.400000
Std. Dev.	4200522.	1903469.	532101.9	1195481.	513094.5	3.725691	16.87395
Skewness	1.596396	1.104965	1.300453	-2.199766	1.056784	1.027917	1.829760
Kurtosis	4.829170	3.286148	4.780714	7.116687	2.650071	4.758670	5.312299
Jarque-Bera	19.18135	7.034707	14.07551	51.42924	6.501964	10.36912	26.54666
Probability	0.000068	0.029678	0.000878	0.000000	0.038736	0.005602	0.000002
Sum	1.09E+08	55912510	18434150	-24092264	13541843	633.3000	640.6300
Sum Sq. Dev.	5.82E+14	1.20E+14	9.34E+12	4.72E+13	8.69E+12	458.0656	9396.093
Observations	34	34	34	34	34	34	34

Source: Output data from E-views 10.0.

4.2 Diagnostic Test Result

To ascertain the robustness of the model, serial correlation LM, heteroskedasticity, and Ramsey RESET test were performed. We found from the output in Table 2 that there no issue of serial correlation, heteroskedasticity, and model misspecification as the p-values of the f-statistics are greater than 0.05 (insignificant at a 5% level of significance).

Table 2: Diagnostic Test

	F-statistic	Prob.
Serial Correlation LM Test	0.878765	0.2341
Heteroskedasticity Test	1.935800	0.1111
Ramsey Reset Specification	1.487200	0.4529

Source: Output data from E-views 10.0.

4.3 Unit Root Test Result

The stationarity of the data was checked using the Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests. The unit root test is essential to the statistical reliability of regression output. Where data used in the analysis are encumbered by stationarity defect that affects most time-series data, the result of such analysis could be faulted on the statistical ground. The stationarity of the data was affirmed by the ADF and PP results in Table 3 and 4 and as such, inferences made from the analysis will not be spurious.

Table 3: ADF Test Result

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Order of Integration/Remarks
MSCRGDP	-7.481034 (0.00)*	-4.339330	-3.587527	1(2)/Stationary
REXP	-4.981399 (0.00)*	-3.737853	-2.991878	1(2)/Stationary
CEXP	-5.370882 (0.00)*	-4.394309	-3.612199	1(1)/Stationary
FSD	-4.714502 (0.00)*	-2.653401	-1.953858	1(2)/Stationary
CIT	-3.873184 (0.03)**	-4.394309	-3.612199	1(1)/Stationary
INTR	-5.211518 (0.00)*	-3.699871	-2.976263	1(1)/Stationary
INFL	-2.484707 (0.02)**	-2.660720	-1.955020	1(1)/Stationary

Source: Output data from E-views 10.0.

Note: The p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

Table 4: PP Test Result

Variables	PP Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Order of Integration/Remarks
MSCRGDP	-4.647150 (0.00)*	-3.661661	-2.960411	1(2)/Stationary
REXP	-4.256394 (0.00)*	-4.273277	-3.557759	1(1)/Stationary
CEXP	-4.334459 (0.00)*	-3.653730	-2.957110	1(1)/Stationary
FSD	-3.988031 (0.00)*	-3.653730	-2.957110	1(1)/Stationary
CIT	-4.145105 (0.00)*	-3.653730	-2.957110	1(1)/Stationary
INTR	-10.48444 (0.00)*	-3.653730	-2.957110	1(1)/Stationary
INFL	-5.216967 (0.00)*	-3.653730	-2.957110	1(1)/Stationary

Source: Output data from E-views 10.0.

Note: The p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

4.4 OLS Regression

The relationship between fiscal policy tools and manufacturing sector performance was examined using the OLS regression technique. The statistical criteria used in evaluating the regression result are the coefficient of Adjusted R-squared, F-statistic, and Durbin Watson statistics. The result in Table 5 divulges the presence of an insignificant negative relationship between recurrent expenditure (insignificant), fiscal deficit (significant), interest rate (insignificant), and manufacturing sector performance. A unit increase in recurrent expenditure, fiscal deficit, and the interest rate would lead to 7.66%, 130.73%, and a factor increase of 12,111.2 in manufacturing sector performance respectively. On the other hand, a unit appreciation in capital expenditure, companies' income tax, and inflation result in a corresponding increase of 51.49%, 500.8%, and 967% factor appreciation in manufacturing sector performance equivalently. When fiscal policy

tools via recurrent expenditure, capital expenditure, fiscal deficit, and companies' income tax, and controlled by interest rate and inflation are held constant, manufacturing sector performance would be estimated to worth ₦297,981.7 million. The Adjusted R-squared reveals that 98.02% variation in manufacturing sector performance was attributed to fluctuation in fiscal policy tools vide recurrent expenditure, capital expenditure, fiscal deficit, and companies' income tax, and moderated by interest rate and inflation. The significant value (5% significance level) of the F-statistic entails that fiscal policy tools significantly explained that changes in manufacturing sector performance within the period studied. The Durbin Watson statistic of 1.16 is not that close to the benchmark of 2.0. However, the deficiency that may be associated with this was corrected by the serial correlation LM test in Table 2 which details that the variables in the model are not serially correlated.

Table 5: OLS Result of Fiscal Policy Tools and Manufacturing Sector Performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	297981.7	714438.3	0.417085	0.6799
REXP	-0.076256	0.448667	-0.169961	0.8663
CEXP	0.514947	0.661989	0.777878	0.4434
FSD	-1.307308	0.255601	-5.114645	0.0000
CIT	5.083362	1.102551	4.610544	0.0001
INTR	-12111.20	34987.52	-0.346158	0.7319
INFL	967.6860	7845.437	0.123344	0.9027
R-squared	0.980157	Mean dependent var		3195422.
Adjusted R-squared	0.975747	S.D. dependent var		4200522.
S.E. of regression	654158.9	Akaike info criterion		29.80133
Sum squared resid	1.16E+13	Schwarz criterion		30.11558
Log likelihood	-499.6226	Hannan-Quinn criter.		29.90850
F-statistic	222.2790	Durbin-Watson stat		1.163157
Prob (F-statistic)	0.000000			

Source: Output data from E-views 10.0

4.5 Granger Causality Test Result

To ascertain whether or not fiscal policy tools have the potential to stimulating manufacturing sector performance in Nigeria, the granger causality approach was employed. From the result in Table 6, we found a two-way causal relationship between capital expenditure and manufacturing sector performance; fiscal deficit and manufacturing sector performance; and companies' income tax and manufacturing sector performance at a 5% level of significance. This implies that capital expenditure, fiscal deficit, and companies' income tax have a significant effect on manufacturing sector performance on one hand, while on the other hand, manufacturing sector performance significantly affects capital expenditure, fiscal deficit, and companies' income tax. No significant effect of recurrent expenditure on manufacturing sector performance owing to the absence of either a one-way or two-way causal relationship between recurrent spending and manufacturing sector performance. Concerning the control variables, it is evident that interest rate and inflation

rate have no significant effect on manufacturing sector performance as there is no either unidirectional or bidirectional causal relationship between interest rate, inflation rate, and manufacturing sector performance at a significance level of a 5%. However, Table 6 portrays that it is manufacturing sector performance that determines/influences the interest rate charged by commercial banks in Nigeria.

Table 6: Granger Causality Result on Fiscal Policy tools and Manufacturing Sector Performance

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
REXP does not Granger Cause MSCRGDP	33	2.74235	0.1081	No Causality
MSCRGDP does not Granger Cause REXP		1.78266	0.1919	No Causality
CEXP does not Granger Cause MSCRGDP	33	4.75054	0.0373	Causality
MSCRGDP does not Granger Cause CEXP		5.28323	0.0287	Causality
FSD does not Granger Cause MSCRGDP	33	20.5504	0.0000	Causality
MSCRGDP does not Granger Cause FSD		6.58915	0.0155	Causality
CIT does not Granger Cause MSCRGDP	33	13.6888	0.0009	Causality
MSCRGDP does not Granger Cause CIT		5.49777	0.0259	Causality
INTR does not Granger Cause MSCRGDP	33	0.07220	0.7900	No Causality
MSCRGDP does not Granger Cause INTR		5.26819	0.0289	Causality
INFL does not Granger Cause MSCRGDP	33	0.25714	0.6158	No Causality
MSCRGDP does not Granger Cause INFL		0.86842	0.3588	No Causality

Source: Output data from E-views 10.0

5. Discussion of Findings

5.1. Recurrent Expenditure and Manufacturing Sector Performance

In Table 5, a negative insignificant relationship between recurrent expenditure and manufacturing sector performance provides evidence that government spending via consumption, increase in salaries and wages of workers, social transfers, etc. do not contribute or affect manufacturing sector performance in Nigeria. This would be attributed to the fact Nigeria as a country to a very large extent relies on importation for virtually all her needs. This supports the findings of Okpe (2018) and Njoku, Okezie, and Idika (2014). On the other hand, it disagrees with the results of Falade (2020) and Falade and Oladiran (2015) who found the presence of a positive relationship between recurrent expenditure and manufacturing sector performance. To further affirm the result of the negative relationship between recurrent expenditure and manufacturing sector performance, the granger causality output in Table 6 shows that recurrent expenditure has no significant effect on the performance of the manufacturing sector. This is on the argument that causality does not flow from recurrent expenditure to manufacturing sector performance at a 5% level of significance.

5.2. Capital Expenditure and Manufacturing Sector Performance

Capital expenditure has a positive relationship with manufacturing sector performance in Nigeria as expected. The positive relationship between capital expenditure and manufacturing sector performance is in tandem with the empirical findings of Falade (2020), Imide (2019), Okpe (2018), Okpala (2018), Falade and Oladiran (2015), Nwanne (2015), Njoku, Okezie, and Idika (2014),

Akpo, Hassan, and Friday (2015) and Ehinomen, Akindola, and Adeleye (2017). Furthermore, the granger causality test in Table 6 unveils that capital expenditure of the government has a significant effect on manufacturing sector performance because causality runs from capital expenditure to manufacturing sector performance at a significant level of 5%. This portrays that when government invests in basic infrastructures such as power, roads, water, etc., the output of the manufacturing sector would in no small measure improve. Manufacturing firms in the country have complained bitterly of the poor state of power supply in the country which has resulted in high operating costs.

5.3. Fiscal Deficit and Manufacturing Sector Performance

Fiscal deficit as expected was found to have a significant negative relationship with manufacturing sector performance. There is no doubt the fiscal deficit crowds out private investments as investors would want to invest abroad. Economists have argued that increased fiscal deficit, especially in emerging economy encourages trade deficit. It reduces national savings which results in a decline in the amount of funds available to private borrowers. This eventually leads to high-interest rate which ultimately affects manufacturing sector performance. The evidence of a significant negative relationship between fiscal deficit and manufacturing sector performance aligns with the results of Falade (2020), Imide (2019), and Olatunde, and Temitope (2017). The granger causality test in Table 6 also points to the significant effect of fiscal deficit on manufacturing sector performance owing to the bidirectional causal relationship between fiscal deficit and manufacturing sector performance at a significant level of 5%. The level of fiscal deficit in Nigeria has been on the rise over the years, yet the impact of such huge borrowing has not been reflected in the quality of infrastructure in the country.

5.4. Corporate Income Tax and Manufacturing Sector Performance

There is also evidence of a significant positive relationship between the company's income tax and manufacturing sector performance. This affirms the studies of Ogu and Kem (2020), Andabai (2019), Aziz and Sharifuddin (2019), Oladipo, Iyoha, Fakile, Asaleye, and Eluyela (2019), Ewubare and Ozo-Eson (2019), Adefeso (2018), Ehinomen, Akindola, and Adeleye (2017) and Uwuigbe (2016). However, it contradicts the findings of Uffie and Aghanenu (2019) and Okpe (2018) that the company's income tax is significant and negatively related with the manufacturing sector performance. Traditionally, when government imposes a high tax rate, manufacturing firms' output would decline. However, the reverse is the case when manufacturing firms' are giving tax incentives. There is no doubt that in Nigeria, the tax system is not well structured like that of the U.S.A. and other European countries. There is no harmony on the taxes that should be collected by Federal, State and Local governments. Although, there is a law stating the types of taxes that should be collected by the three tiers of government (Federal, State, and Local) but in reality, there have been reported incidence of multiple taxations. This inconsistency in the tax system have greatly affected the manufacturing firms, and the impact is felt by the citizens in the form of high prices of commodities/goods produced locally.

5.5. Interest Rate, Inflation, and Manufacturing Sector Performance

Concerning the control variables, it was revealed that interest rate and inflation rate have a negative relationship with manufacturing sector performance. Apart from the fiscal policy aspect of the government, macroeconomic fundamentals such as interest rate and inflation have an adverse effect on the manufacturing sector performance in Nigeria. The interest rate charged by banks to access loans is one of the highest in the world. Commercial banks charge as high as 22% to lend to manufacturing firms. This makes it difficult for some small manufacturing firms to access loans from banks. Subsidies by the government to reducing interest rates for manufacturing firms are marred by politics and corruption. The high inflationary rate has resulted in a reduction in the purchasing power of money in the country. To buy basic commodities, be sure to carve out a substantial amount of your income. Interest rate's negative relationship with manufacturing sector output is in agreement with Okpe (2018), Olawale, Ijirshar, Tersugh, and Yahaya (2017), and Njoku, Okezie, and Idika (2014). But it refutes the results of Mensah, Ofori-Abebrese, and Pickson (2016), and Falade and Oladiran (2015). Inflation rate having negatively associated with manufacturing sector output would not affirm the works of Ajudua and Imoisi (2018) and Andabai (2019) who found that the inflation rate is positively related to manufacturing sector output.

6. Conclusion and Policy Implications

The contribution of the manufacturing sector to the growth and development of the economy cannot be underestimated. Developed countries of the world achieved their level of growth and development owing to the efficient and proper functioning of the manufacturing/industrial sector. Following the Keynesian Theory and the prevailing economic situation in Nigeria, this study concludes that fiscal policy tools of the government have the potential to stimulating manufacturing sector performance in Nigeria.

Concerning the result that emanated from this study, there is a need for the Federal, State, and Local governments to stop wasteful expenditure on unnecessary entertainment on a meeting, seminars, workshops, foreign trips, etc. to increase spending on basic industrial infrastructures, and of great importance is the power supply, which would help stimulate manufacturing sector performance. Governments at all levels should prioritize capital expenditure over recurrent expenditure to provide the pre-requisite infrastructure required in an emerging economy to boost industrial activities and improve manufacturing sector contribution to national output. Further external borrowing to finance annual budgets by the Federal Government should be deterred to help attract more investments in the manufacturing sector from both local and foreign investors. The government should continue to give tax incentives to manufacturing firms to cushion the effect of high operating costs occasioned by the poor state of infrastructure in the country. The issue of multiple taxations should be addressed by specifically and legally stating the taxes that should accrue to the Federal, State, and Local governments.

Author Contributions: This research was carried out in collaboration between all authors. Prof. Cyril Madubuko Ubesie was responsible for the study conceptualization, sourcing of relevant literature and writing the first draft of the manuscript. Ezechi Nwanekpe Cyracus critically reviewed it thereafter. Ebe Emmanuel sourced the data. Amalachukwu Chijindu Ananwude performed the analysis and interpreted the results. All authors read and approved the final version of the manuscript

Conflict of Interest: The authors declare no conflict of interest.

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