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ELECTRICITY SUPPLY AND MANUFACTURING SECTOR OUTPUT IN NIGERIA

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ABSTRACT

This study investigated the impact of electricity supply on manufacturing output in Nigeria using data from 1980 to 2019. By augmenting the endogenous growth model production function with key variables affecting manufacturing sector output, such as exchange rate and technology, which previous studies failed to capture. The result of the autoregressive distributed lag (ARDL) model revealed that electricity supply has a negative and insignificant relationship with the manufacturing sector output. Conversely, technology has a positive and significant relationship with manufacturing sector output in the short run. Thus, it was recommended that an adequate and stable supply of electricity and deploying modern technology should be on the front burner of the country's development policy. This steady supply will not only enhance the growth of the manufacturing sector but also lead to inclusive growth in terms of reducing poverty and unemployment in the Nigerian economy and promoting rapid economic growth.

Contribution/ Originality: This study contributes to the extant literature on the electricity supply-manufacturing sector output nexus in Nigeria using the autoregressive distributed lag (ARDL) model and introducing technology as a policy variable to drive growth in the sector. The empirical evidence revealed that technology could be deployed to increase manufacturing output in the short run.

1. INTRODUCTION

The manufacturing sector is a significant component of the industry since activities in the sector influence economic productivity. The sector is crucial for economic sustainability due to its productive capacity to meet aggregate demand in the economy. The manufacturing sector plays a catalytic role in a modern economy and has many dynamic benefits crucial for economic transformation. In a typical advanced country, the manufacturing sector is a leading sector in many respects. It is an avenue for increasing productivity related to import substitution and export expansion, creating foreign exchange earning capacity, and raising employment and per capita income in the domestic economy. Furthermore, it makes investment capital faster than any other economic sector while promoting broader and more effective linkages among different sectors leading to economic growth. In terms of contribution to the gross domestic product (GDP), the manufacturing sector is dominant and has accelerated the pace of Nigeria's economic growth (Anyanwu, 2000).

In recognition of these potential roles of the sector, successive governments in Nigeria have continued to articulate policy measures and programmes to achieve improved incentives and a good enabling environment for the manufacturing sector to thrive to contribute effectively to economic growth and development (Fakiyesi, 2005). It is a fact the manufacturing sector performs better in the presence of a vibrant energy sector; hence, a stable supply of electricity is a catalyst for manufacturing sector growth. Adequate electricity supply is essentially required for the growth of the manufacturing sector and the industrial sector in general. But, the case is different in Nigeria since the inadequate supply of electricity hampered the growth of the manufacturing sector and the contributions of the sector to the total GDP. The manufacturing sector's share of the overall gross domestic product (GDP) fell from 7.84 per cent between 1971 and 1980 to 7.33 per cent between 1981 and 1990. This percentage declined to 4.87 and 3.84 per cent between 1991 and 2000 and 2001 and 2010, respectively. Similarly, the manufacturing sector contributed 9.4 per cent of GDP on average between 2011 and 2019 (CBN, 2019).

According to KPMG (2021), In 2020, Nigeria's average generation and transmission were 4,000 Mega Watts (MW) (although the generation occasionally hit the 5,000 MW mark), with average access of 3,000 MW being distributed to electricity consumers across the country. Infrastructural deficits largely impacted this performance in the electricity value chain. It is believed that the current electricity supply is grossly inadequate to cater to the power needs of manufacturers and the populace in general (Henry, Ndem, Ujong, & Ihuoma, 2021; KPMG, 2021).

Furthermore, World Bank (2021a) asserts that only 57 per cent of Nigerians have access to electricity compared to 100 per cent in Mauritius and Tunisia, 99.8 per cent in Egypt, 99.1 per cent in Algeria, 99 per cent in Morocco and Seychelles, 96.1 per cent in Cape Verde, 90.7 per cent in Gabon, 84.3 per cent in Ghana and 84.2 per cent in South Africa These facts make Nigeria the country with the world's most significant energy access deficit (World Bank, 2021b). The lack of electricity supply has hampered business growth in the manufacturing sector, leading to yearly economic losses estimated at $26.2billion (N10.1 trillion), equivalent to about 2 per cent of World Bank (2021b) GDP. According to the 2020 World Bank Doing Business reports, Nigeria ranks 171 out of 190 countries in getting electricity and electricity access as a significant constraint to the country's manufacturing sector (World Bank, 2021b).

The epileptic electricity supply and its impact on manufacturing sector output in Nigeria have attracted considerable research, albeit with different conclusions. Some studies have shown that the relationship is positive and significant (Akinbola, Zekeri, & Idowu, 2017; Ekene & Mbobo, 2019; Ibrahim, Mukhtar, & Gani, 2017; Onwe & King, 2020; Ugwoke, Dike, & Elekwa, 2016) some revealed that it is positive and insignificant (Agbede & Onuoha, 2020; Chinedum & Nnadi, 2016; Kassim & Isik, 2020) and others showed that the relationship is negative (Asaleye, Lawal, Inegbedion, & Omowumi, 2021; Lawal & Owoicho, 2021). Against this backdrop, this study contributed to the existing debate by investigating the impact of electricity supply on manufacturing sector output in Nigeria. This study added to the extant literature in two ways; (1) debate on the problems of low productivity in the country's manufacturing sector due to poor electricity supply, (2) how to use technology to drive industrial growth. To our knowledge, no study on electricity supply-manufacturing output nexus used technology as a policy variable to drive growth in the manufacturing sector. The paper is structured into five sections. After this introductory section, section two reviews related literature on electricity supply and manufacturing sector productivity. The methodology is discussed in the third section. Section four comprises the presentation of results and discussion of findings, and finally, section five draws conclusions based on the results and recommends the way forward.

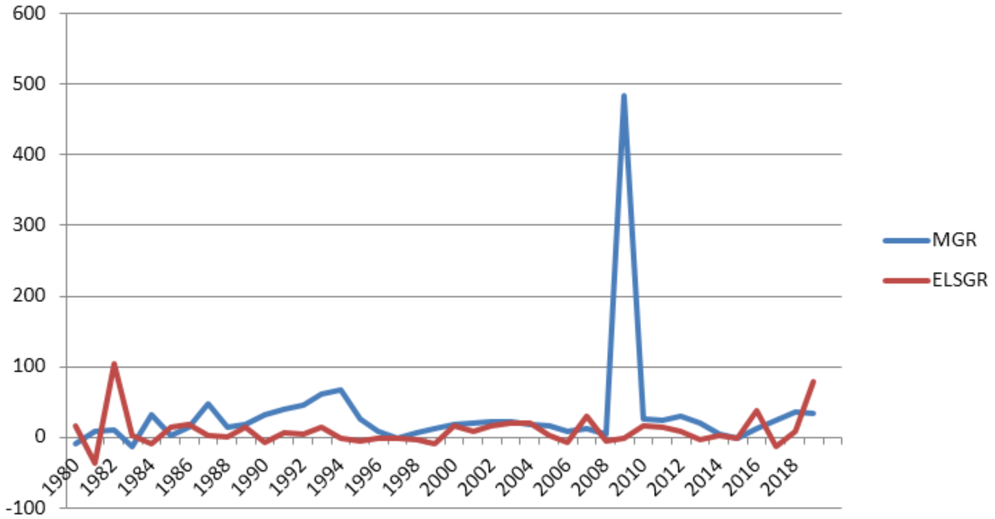

Figure 1. Trend of manufacturing outputs and electricity supply growth rates (1980-2019).
Source: World Bank (2021a) World Development Indicators.

2. LITERATURE REVIEW

The trend of manufacturing outputs and electricity supply growth rates between 1980 and 2019 is shown in Figure 1. It is revealed that the manufacturing outputs growth rate reached its peak in 2009 while the growth rate of electricity supply peaked in 1982. From the figure, when the growth rate of manufacturing outputs reached its peak in 2009, the growth rate of electricity supply was negative that year. The upsurge in the growth rate of manufacturing outputs in 2009 may be that manufacturers and people in business used alternative sources of power supply in their companies which assisted in increasing the growth rate of manufacturing outputs in the country that year. Overall, the trends of manufacturing outputs and electricity supply growth rates were unstable during the evaluation period.

2.1. Empirical Review

There are myriads of the empirical literature on the electricity supply-economic growth nexus. Without being exhaustive, few studies on the sectoral impact of electricity supply on manufacturing sector output are summarized below. Chinedum and Nnadi (2016) examined the relationship between electricity supply and the manufacturing sector's output in Nigeria using time series data spanning the period between 1981 and 2013. The data were analyzed using Johansen cointegration and vector error correction model (VECM) tests, and the results revealed a long-run relationship between electricity and manufacturing output in Nigeria. However, it also identified that electricity supply has an insignificant relationship with the manufacturing sector in Nigeria.

Ugwoke et al. (2016) investigated the effect of electricity supply on industrial output in Nigeria using data from 1980 to 2014. The study used the error correction model as its estimation technique. The result showed that electricity supply and trade openness negatively impact industrial output. Therefore, the study recommended that government should grant tax relief to manufacturers for privately generated power.

Similarly, Akinbola et al. (2017) used the Johansen cointegration technique and vector error correction model (VECM) to study the nexus between power supply and industrial development in Nigeria using data from 1981 to 2010. The result revealed a positive nexus between power supply and industrial development. Furthermore, it was concluded that increased electricity consumption during the study leads to increased industrial output in the long run. Thus, it was recommended that more investment in the energy sector is required in addition to improved budgetary allocation.

Ibrahim et al. (2017) analyzed Nigeria's symmetric relationship between electric consumption, manufacturing output and financial development. The study employed the granger causality and variance decomposition (VDC) technique and used data from 1981 to 2015. The result revealed causality between the manufacturing sector's power utilization and economic growth. It also showed that variation in industrial output responds to shocks in the electricity supply chain than its shocks. The study concluded that electricity supply is a driver of growth in the manufacturing sector.

Ekene and Mbobo (2019) used the ordinary least squares (OLS) technique to examine the effect of power outages on manufacturing sector performance in Nigeria using data from 1980 to 2018. The result showed that electricity supply exerts a positive-significant impact on manufacturing output. It was recommended that the exchange rate be stabilized to avoid shocks affecting the prices of imported equipment used by energy-generating agencies. Similarly, Iwashokun (2019) employed the autoregressive distributed lag (ARDL) and Toda-Yamamoto techniques to appraise various sources of energy supply and manufacturing output in Nigeria using data from 1981 to 2016. The result showed that hydroelectricity, gas and coal have a positive-significant link with manufacturing output in the short and long runs. In addition, the result also showed that all the energy sources investigated granger caused manufacturing output.

Onwe and King (2020) studied the relationship between electricity consumption and manufacturing sector output in Nigeria. The study employed the autoregressive distributed lagged model (ARDL) and data from 1981 to 2019. The result revealed that electricity consumption (supply) positively impacts manufacturing output in the short run but negatively in the long run. Therefore, the study concluded that electricity consumption affected manufacturing sector output in Nigeria and recommended an urgent need to present a national economic plan to increase energy supply to the manufacturing sector.

Agbede and Onuoha (2020) also employed the autoregressive distributed lag model to investigate the relationship between electricity consumption (supply) on industrial output in Nigeria using data from 1981 to 2017. The result revealed that electricity supply and one period of lagged electricity generation positively affect industrial output. The study recommends conscious power sector reforms to meet the industrial sector's demand.

Kassim and Isik (2020) employed ordinary least square (OLS) and the Granger causality techniques to investigate the link between energy consumption (supply) and industrial growth in Nigeria for the period spanning from 1985 to 2017. The result showed a positive-insignificant relationship between electricity consumption and industrial sector growth. In addition, the result revealed unidirectional causality from growth to electricity consumption. The study concluded that inadequate electricity supply severely affects the performance of the industrial sector and the overall economy.

Adelegan and Otu (2020) analyzed the impact of energy consumption on industrial output in Nigeria. The study employed the autoregressive distributed lag (ARDL) technique and data from 1980 to 2018. The result revealed a direct-significant relationship between gas, electricity, and petroleum product consumption on industrial output in the long and short runs. However, the relationship between electricity consumption and industrial output was negative and insignificant in the short run. Therefore, it was recommended that the government invest in alternative energy sources and harness the abundance of natural gas.

In Cameroon, Amadu and Samuel (2020) used the fully modified ordinary least square technique to evaluate the long-run effect of power supply on manufacturing sector performance using data from 1977 to 2014. The result revealed a strong positive correlation between power supply and manufacturing sector output in the long run. Thus, it was recommended that the government increase investment in the power sector and offer incentives to encourage private investment.

Lawal and Owoicho (2021) used the vector error correction model (VECM) Johansen cointegration technique to probe the impact of electricity consumption on manufacturing sector performance in Nigeria using data from 1981 to 2019. The result revealed a negative relationship between electricity consumption and manufacturing output. The study concluded that poor electricity supply had hampered growth in the manufacturing sector. Thus, it was recommended that alternative sources of energy should be prioritized in addition to maintaining the existing facilities.

Asaleye et al. (2021) investigated the long-run effect of electricity consumption (supply) on manufacturing sector performance (output) in Nigeria. The study used the canonical cointegration regression technique and data from 1981 to 2019. The result showed that electricity consumption and credit to the manufacturing sector negatively impact output. The study concluded that electricity supply as an input in manufacturing had not improved performance in the sector. It was recommended that a framework to promote energy efficiency in the sector should be implemented by maximizing output and minimizing waste.

2.2. Theoretical Framework

Specifically, the endogenous growth theory was adopted as the theoretical framework for the study. The endogenous growth theory posits that output is a function of capital and labour. The theory holds that policy measures influence a country's growth rate in the long run. This theory implies that openness, competition, change and innovation should be included as part of policy instruments to promote growth. Thus, policies introduced in Nigeria's power sector can go a long way in boosting the growth of the country's power sector, leading to a steady supply of electricity, hence an increase in manufacturing outputs in the country.

3. METHODOLOGY

The time-series data were adopted in this empirical work. To avoid spurious regression analysis, the Augmented Dickey-Fuller (ADF) unit root test was adopted to determine the level of integration or stationarity of the time series data. Given the different levels of stationarity of the variables, the Autoregressive distributed lag model (ARDL) test was carried out to determine the existence of a long-run relationship among the variables in the model.

3.1. Model Specification

From the theoretical framework of this study, our model is expressed as:

$$Y = f(K, L) \tag{1}$$

Where:

Y = output.

K= Capital.

L= Labour.

Augmenting the model to accommodate other key variables that affect manufacturing output in Nigeria, we have;

$$MOU = f(ES, K, L, IR, ER, TURT) \tag{2}$$

Where

MOU = manufacturing sectors output.

ES = electricity supply.

K = gross fixed capital formation.

L = labour force.

IR= inflation rate.

ER= exchange rate.

TURT= technology.

Thus, taking the log of Equation 2 and transforming it into an econometric regression model to be estimated, we have Equation 3.

$$LogMOU_t = \beta_o + \beta_1 LogES_t + \beta_2 LogGFCF_t + \beta_3 LogLF_t + \beta_4 IR_t + \beta_5 ER_t + \beta_6 LogTURT_t + \mu_t \tag{3}$$

Where: Log(MOU_t) = natural log of manufacturing sector output at time t; Log(ES_t) = natural log of electricity supply at time t; Log($GFCF_t$) = natural log of Gross fixed capital formation at time t; Log(LF_t) = natural log of labour force at time t; (IR_t) = inflation rate at time t; (ER_t) = exchange rate at time t; Log($TURT_t$) = technology at time t; u_t = Error term or residual term. The data were collected from the CBN (2019) and World Bank (2021a) which covers 1983 to 2019.

Table 1. Pairwise correlation result.

Variables	MOU	ELS	ER	GFCF	IR	LF	TURT
MOU	1.000						
ES	0.886	1.000					
ER	0.855	0.920	1.000				
GFCF	0.986	0.864	0.856	1.000			
IR	-0.236	-0.268	-0.344	-0.234	1.000		
LF	0.767	0.934	0.929	0.767	-0.341	1.000	
TURT	-0.174	-0.178	-0.302	-0.185	0.245	-0.239	1.000

Notes: MOU = manufacturing sector output; ES = electricity supply; ER = exchange rate; GFCF = gross fixed capital formation; IR = inflation rate; LF = Labour force; TURT = technology.

4. RESULTS AND FINDINGS

4.1. Correlation Analysis

Information in Table 1 indicates that manufacturing sector output (MOU) correlated negatively with technology (TURT) and inflation rate (IR). However, manufacturing sector output (MOU) correlated positively with electricity supply (ES), exchange rate (ER), gross fixed capital formation (GFCF) and labour force (LF). Similarly, ES correlated negatively with TURT and IR. But, ES correlated positively with MOU, ER, GFCF and LF. ER correlated negatively with TURT and IR. But, ER correlated positively with MOU, ELS, GFCF and LF. In the same vein, GFCF correlated negatively with TURT and IR. However, GFCF correlated positively with MOU, ES, ER and LF. There was a positive correlation between IR and TURT, but IR correlated negatively with MOU, ES, ER, GFCF and LF. Furthermore, LF correlated negatively with IR and TURT but positively correlated with MOU, ES, ER, and GFCF. Finally, TURT correlated negatively with MOU, ES, ER, GFCF and LF, but it correlated positively with IR.

Table 2. Augmented dickey-fuller (ADF) test of unit roots.

Variables	Level	First Difference	ADF Critical 5 %	Order of Integration	Remark
MOU	4.763	-3.023	-2.957 -2.964	I(1)	Integrated of order one
ES	1.231	-9.278	-2.941 -2.941	I(1)	Integrated of order zero
ER	1.805	-4.409	-2.939 -2.941	I(1)	Integrated of order one
GFCF	1.909	-2.986	-2.964 -2.968	I(1)	Integrated of order one
LF	1.174	-4.115	-2.941 -3.558	I(1)	Integrated of order one
IR	-1.342	-5.892	-2.948 -2.948	I(1)	Integrated of order one
TURT	-4.577	N.A	-2.939	I(0)	Integrated of order zero

Notes: MOU = manufacturing sector output; ES = electricity supply; ER = exchange rate; GFCF = gross fixed capital formation; IR = inflation rate; LF = Labour force; TURT = technology; N.A = not available.

4.2. Unit Root Tests for the Variables

From Table 2, relationship index between tests of unit roots, only technology (TURT) was stationary at the level because its ADF computed value of -4.576936 is greater than the ADF critical values of -2.938987 at 5 per cent in absolute terms. The other variables, namely, manufacturing sector output (MOU), electricity supply (ES), exchange rate (ER), gross fixed capital formation (GFCF), labour force (LF) and inflation rate (IR), were all found to be stationary at the first difference since their ADF computed values of (-3.023), (-9.278), (-4.409). (-2.986), (-4.115) and (-5.892) are all greater than the ADF critical values at the 5 per cent level.

4.3. 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 most significant lag length that variables would be lagged. Several lag selection criteria were adopted for the lag length selection, 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 3. In addition, the lag length of two (2) was selected based on the Akaike information criterion and Schwarz information criterion.

Table 3. Lag length selection criteria.

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-2690.763	NA	1.09e+53	141.988	142.289	142.095
1	-2417.823	430.958	8.67e+47	130.201	132.615	131.059
2	-2297.405	145.769*	2.65e+46*	126.442*	130.967*	128.052*

Notes: * indicates lag order selected by the criterion; LR = sequential modified LR test statistic (each test at 5% level); FPE = Final prediction error; AIC = Akaike information criterion; SC = Schwarz information criterion; HQ = Hannan-Quinn information criterion.

Table 4. Bounds tests for cointegration.

Model Specification	Period	Optimal Lag	F-Statistics
MOU = f (ES, K, L, IR, ER, TURT)	*1983-2019*	*Sample Size= 38*	5.698
Critical Value Bounds	*10% (Signif)*	*5% (Signif)*	*1% (Signif)*
I(0) Bound (K=6 variables)	2.254	2.685	3.713
I(1) Bound (K=6 variables)	3.388	3.960	5.326

Notes: K= number of explanatory variables; Signif. = significance level; n = number.

4.4. Cointegration Test

The bounds test for cointegration in Table 4 indicates that the computed F-statistic of 5.698 is greater than the lower and upper bounds critical values of 2.685 and 3.960, respectively, at the 5 per cent significance level, using Pesaran, Shin, and Smith (2001). Therefore, the null hypothesis of no cointegration is discarded, meaning that there is evidence of a long-run relationship among MOU, ES, ER, GFCF, LF, IR and TURT.

Table 5. Estimates of the short run coefficients.

Dependent Variable: Manufacturing Sector Output				
Variables	**Coefficient**	**Std. Error**	**T-statistic**	**Prob.**
D(MOU(-1))	0.557	0.079	7.058	0.000
D(ES)	347.855	122.136	2.848	0.011
D(ES(-1))	61.416	130.084	0.472	0.643
D(ER)	-8.662	1189.696	-0.007	0.994
D(ER(-1))	2707.881	1324.730	2.044	0.057
D(GFCF)	0.400	0.012	34.706	0.000
D(GFCF(-1))	-0.306	0.042	-7.327	0.000
D(IR)	-1896.206	1132.155	-1.675	0.112
D(IR(-1))	-1220.804	1173.680	-1.040	0.313
D(LF)	0.099	0.044	2.239	0.039
D(LF(-1))	-0.282	0.049	-5.659	0.000
D(TURT)	723.602	237.903	3.042	0.007
D(TURT(-1))	-340.723	218.789	-1.557	0.138
ECM (-1)	-0.403	0.050	-8.022	0.000

Notes: Std. Error = standard error; Prob. = probability; ECM = error correction mechanism.

4.5. ARDL Short-run Dynamic Estimates

The short-run coefficients of the equation are presented in Table 5. As shown, the estimates of the present value of electricity supply (ES) is statistically significant at 5 per cent, implying that ES seem to impact significantly on manufacturing sector output in the short-run under the evaluation period. Also, the One-year lag value of exchange rate, present and one-year lag value of gross fixed capital formation, present and one-year lag value of labour force, and the present value of technology impact significantly on manufacturing sector output in the short run. The present and one-year lag values of electricity supply (ES) all have positive coefficients indicating that in the short run, one unit increases in the present and one-year lag values of electricity supply (ES) will increase manufacturing output by 347.8549 and 61.41616, respectively. Similarly, the one-year lag value of exchange rate, present values of gross fixed capital formation, labour force and technology all have positive relationships with manufacturing outputs in the short run. In contrast, the current value of exchange rate, the one-year lag value of gross fixed capital formation, the present and one-year lag values of the inflation rate, the one-year lag value of labour force, as well as one-year lag value of technology all have negative relationships with manufacturing outputs in the short run. Furthermore, the coefficient of ECM has the correct sign, which is negative and statistically significant at a 5 per cent level. The ECM result indicates a slow speed of adjustment of about 40.28 per cent from the short to the long run.

Table 6. Estimates of the long run coefficients.

Dependent Variable: Manufacturing Sector Performance				
Variable	**Coefficient**	**Std. Error**	**T-statistic**	**Prob.**
ES	-1026.637	948.507	-1.082	0.294
ER	-5042.353	8933.809	-0.564	0.579
GFCF	0.659	0.106	6.199	0.000
IR	1911.549	6553.865	0.292	0.774
LF	0.097	0.098	0.993	0.334
TURT	2785.305	1882.801	1.479	0.157
C	-2896776.0	2481133.0	-1.168	0.259

Notes: Std. Error = standard error; Prob. = probability; C = constant.

4.6. ARDL Long-Run Estimates

The long-run coefficients of the equation are presented in Table 6. The GFCF, LF, and TURT estimates have the expected signs, while ER, ES and IR do not conform to the theoretical economic expectation. Only GFCF is statistically significant at the five per cent level depicting that only exports GFCF seems to impact significantly on long-run manufacturing sector output in Nigeria. Observably, electricity supply (ES), our variable of interest and a key factor contributing to manufacturing sector output, has a negative coefficient. The coefficient of ES indicates that in the long run, a one-unit increase in ES reduces manufacturing sector output by -1026.637. This outcome is due to the poor supply of electricity in Nigeria, which slows down the production process in the manufacturing sector. Thus, making manufacturing firms rely on alternative power sources such as generators, which goes a long way to reduce profits, hence outputs of the manufacturing sector. This finding conforms to that of Chinedum and Nnadi (2016), whose study revealed that electricity has an insignificant impact on manufacturing output in the long run. However, the finding is not in line with the study of Adelegan and Otu (2020), which indicated that electricity supply significantly impacts manufacturing output in the long run. Also, the finding disagrees with that of Ekene and Mbobo (2019) and Onwe and King (2020), who concluded that electricity supply relates positively to manufacturing output. Similarly, exchange rate (ER) has a negative coefficient. This result implies that a unit increase in ER reduces manufacturing sector output by -5042.353. The case of exchange rate could be that the naira's depreciation has made the imported capital goods needed by manufacturing firms expensive and unaffordable. This situation causes businesses in the country to perform below their capacities, leading to a decrease in productivity, income and investments in our manufacturing firm, resulting in a reduction in manufacturing output. On the other hand, gross fixed capital formation (GFCF), inflation rate (IR), labour force (LF) and Technology (TURT) have positive coefficients. This result indicates that a one per cent increase in GFCF, IR, LF and TURT increases manufacturing sector output by 0.659335, 1911.549, 0.097119, and 2785.305, respectively in the long run.

4.7. Diagnostic Tests

Table 7 presents the residual normality test. The Jacque Bera's statistics value of 1.770 and probability value of 0.413, greater than 0.05 levels, the study accepts the null hypothesis, which specified that the residual is normally distributed.

Table 7. Residual normality test.

Specification	Statistics	Probability	Conclusion
Jarque-Bera Normality Test	1.770	0.413	Evidence of Normality

Notes: H_0: Residual is multivariate normal; H_1: Residual is not multivariate normal.

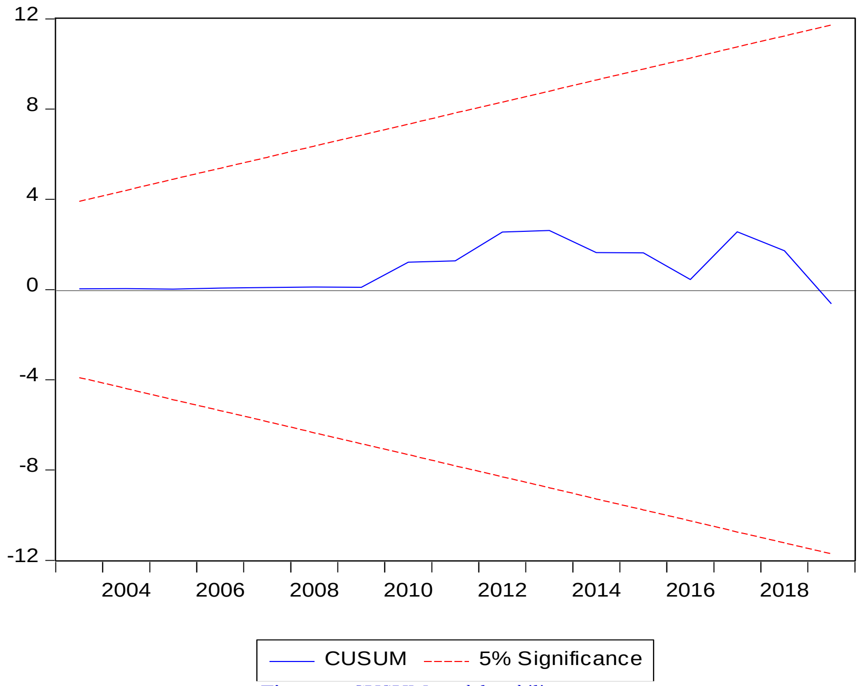

Figure 3. CUSUM model stability test.

4.8. Stability Test

Figure 3 presents the model stability test using the CUSUM residual test. It can be seen that the result of the CUSUM stability test indicates that the model is stable. The model is stable because both the CUSUM lines fall in-between the two 5 per cent lines.

5. CONCLUSION

This research empirically investigated how electricity supply impacted manufacturing sector output in the Nigerian economy using time series data covering1980 to 2019. Time-series data were presented and analyzed using the Augmented Dickey-Fuller (ADF) unit root and the autoregressive distributed lag model (ARDL). The study found evidence of a long-run relationship between electricity and manufacturing output in Nigeria. It also revealed that electricity supply negatively and statistically significantly affects Nigeria's manufacturing sector output under the evaluation period. Therefore, for the manufacturing sector to act as the engine of growth in the Nigerian economy and increase its outputs, we strongly recommend that a stable supply of electricity and deploying modern technology should be on the front burner of the country's development policy. This steady power supply will not only enhance the growth of the manufacturing sector but also lead to inclusive growth in terms of reducing poverty and unemployment in the Nigerian economy and promoting rapid economic growth and development.

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