



Impact of Foreign Direct Investment on the Manufacturing Sector Growth in Nigeria (1986 -2025)

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ABSTRACT

Background: Foreign direct investment (FDI) is the term that describes investment from one country into another country. Over the decades, the Nigerian government adopted several policies to attract FDI into the national economy. Despite the effort of government to attract foreign Direct Investment to boost its manufacturing sector, the sector's contribution to GDP remains low compared to other sectors. It is on this premise that the study investigated the impact of foreign direct investment on manufacturing sector in Nigeria.

Objective: This study investigated the impact of FDI inflow on the growth of the manufacturing sector in Nigeria.

Method: This study adopted ex-post facto research design. Data were sourced from CBN statistical bulletins. Analysis was done using autoregressive distributed lag (ARDL) model.

Results: The study found that foreign direct investment (FDI) has a larger impact on manufacturing output than manufacturing capacity utilisation rate and manufacturing exports respectively. The impact of foreign direct investment on manufacturing output was especially larger in the short run than in the long run in Nigeria.

Conclusion: The study concludes that manufacturing sector in Nigeria has been struggling to achieve significant growth owing to the fluctuations in FDI inflows in Nigeria.

Unique Contribution: This study provides a fresh insight into manufacturing sector as a key sector for economic diversification and as well provides insight into other factors such as domestic savings and investment affect manufacturing sector growth in Nigeria.

Key Recommendation: The study recommends that government should create more means of attracting FDI and provide the infrastructure required for quality investment.

Key Words: FDI, Manufacturing Sector and Manufacturing Output.



1. INTRODUCTION

Foreign Direct investment (FDI) is a key driver of the economy, especially in developing countries like Nigeria. It is defined as the an investment made by a company or individual from one country into business interests located in another country, with the intention of establishing a lasting interest and exercising significant influence or control (OECD,2023). Over the decades, the Nigerian government adopted several policies to attract FDI into the national economy. In the mid-80s, for instance, Ibrahim Babangida implemented the structural adjustment program (SAP) which aimed at liberalizing various sectors of the economy and consequently attracting foreign investors to the manufacturing industry. The policy although widely criticised, helped to attract FDI, which brought increase in the inflow of FDI from an estimated \$200m in 1970 to \$2b in 1994 (Chukwuka, 2012). Currently in Nigeria, Foreign Direct Investment (FDI) inflows have shown fluctuations indicating 19% decrease between Q1 2025(\$250m) and Q4 2024(\$310m).

Nigeria manufacturing sector is expected to grow by 3.1% in 2026 contributing to 10.2% to GDP, driven by policy reforms and tax laws execution. However, the sector faced challenges in 2025' with successive quarterly declines of up to 1.25% in real growth rate due to structural bottlenecks, high energy and logistics costs and expensive financing. Consequent on these, manufacturers recorded huge drop in patronage, turnover and profit as well as decline in production, layoffs of workers and factory closure (Nana, 2026). In its outlook for 2026, the Manufacturers Association of Nigeria (MAN) opined that the anticipated recovery would depend largely on the execution of incentives under newly enacted tax laws, the operationalization of the national single window project and effective implementation of the Nigeria industrial policy in alignment with the government's "Nigeria First" policy framework.

The Nigerian government adopted several policies to attract FDI into the national economy. Despite the effort of government to attract foreign Direct Investment to boost its manufacturing sector, the sector's contribution to GDP remains low compared to other sectors. Consistently, despite extensive research on FDI and economic growth, there are still gaps yet to cover. Most of the studies examined FDI's aggregate impact, neglecting manufacturing sector of the economy. Few studies covered post 2015 periods missing recent FDI trends. It is against this backdrop the study investigated the impact of Foreign Direct investment on manufacturing sector in Nigeria from 1986 to 2025. This study was guided by the following objectives:

- i To examine the impact of FDI inflows on manufacturing output in Nigeria.
- ii. To determine the impact of FDI on capacity utilisation rate of manufacturing sector in Nigeria
- iii. To examine the impact of FDI on manufacturing exports in Nigeria.

HYPOTHESES

The following hypotheses were stated in null form to guide the study:

1. FDI inflow has no significant impact on the manufacturing output in Nigeria.
2. FDI has no significant impact on capacity utilization rate of manufacturing sector in Nigeria. .
3. FDI inflow has no significant impact on manufacturing exports in Nigeria.



2.0: LITEERTURE REVIEW

2.1: Conceptual Review

2.1.1: The Concept of Foreign Direct Investment.

Foreign Direct Investment (FDI) is a crucial economic growth and development driver, especially in emerging economies. According to OECD (2023), Foreign Direct Investment is defined as the as “an investment made by a firm or individual in one country into business interests located in another country, typically involving a controlling ownership stake or significant influence over management”. Consistently, International Monetary Fund (IMF) defined Foreign Direct Investment as “a cross-border investment in which a resident in one economy (the direct investor) establishes a lasting interest in an enterprise resident in another economy (the direct investment enterprise). The notion of lasting interest means a long-term relationship where the direct investors has a significant influence on the management of the enterprise, reflected by ownership of at least 10% of the share of the enterprises, or equivalent in voting power or other means of control. André (2008) sees FDI as an investment made to acquire lasting interest in enterprise operating outside of the country of the investor. He added that the parent enterprise and a foreign affiliate form together a transnational or multinational corporation. Policy makers believe that FDI produces positive effects on host economies. Some of these benefits are the form of externalities.

2.1.2 Concept of Manufacturing Sector

Manufacturing sector is a sub-set of the industrial sector which involves the conversion of raw materials into finished consumer, intermediate or producer goods. Manufacturing, like other industrial activities, creates avenues for employment, help to boost agriculture, help to diversify the economy, while helping the nation to increase its foreign exchange earnings, enabling local labor to acquire skills. Adebayo (2010) defines manufacturing sector as those industries which are involved in the manufacturing and processing of items and indulge in either creation of new commodities or in value addition. Manufacturing sector can also be referred to as an avenue for increasing productivity in relation to import replacement and export expansion, creating foreign exchange earning capacity, raising employment and per capita income which causes unrepeatable consumption pattern. Manufacturing sector is involved in the process of adding value to raw materials by turning them into product.

2.2 EMPIRICAL REVIEW

To study foreign Direct and manufacturing sector in Sub –Saharan Africa, Nsofor, Obani and Agu (2024) explored the influence of Foreign Direct Investment (FDI) on the growth trajectory of the manufacturing sector in Sub-Saharan Africa. The research employed the panel Autoregressive Distributed Lag (ARDL) estimation technique. The findings reveal that FDI and Trade Openness (TOP) have positive impact on the manufacturing sector's growth in the long run, while Gross Fixed Capital Formation (GFCF) has a negative influence. However, these effects are not observed in the short run. The study concluded that the impacts of FDI, TOP, and GFCF are not significant in the short run. The study recommended that policies should be geared



towards improving the investment climate to attract FDI and promoting trade openness to stimulate the growth of the manufacturing sector.

In the same vein, Adekunle (2023) studied FDI and manufacturing sector performance with the objective of evaluating the impact of FDI on manufacturing sector's performance in Nigeria. The study used autoregressive distributed lags model to analyze the collected data. It was found that FDI has impact on manufacturing sector performance and that macroeconomic factors have a favorable impact on FDI. The study also found a long-run relationship between FDI and manufacturing capacity utilization. It was recommended that the government should take action to promote trade openness in order to draw in more FDI.

In a related study on FDI and industrial performance, Ojo et al (2023) studied assessment of foreign direct investment and industrial performance with the objective of finding impact of FDI on industrial performance in Nigeria. The study used ARDL technique and found that foreign direct investment has a negative and significant impact on manufacturing output in Nigeria in the long and positive on manufacturing output in the short run. It was recommended by the study that Nigeria should focus on foreign direct investment that has an immediate impact on the manufacturing subsector, and also, any FDI with close substitute should be discouraged using fiscal policy. A study was carried out by Okolie, and Chigozie (2015) on foreign direct investment flow and manufacturing sector performance in Nigeria using OLS and Vector Error Correction Model (VECM). The result showed that FDI has a positive effect on manufacturing sector in the long-run and suggested that government action should be geared towards maintaining and sustaining policies that will help encourage FDI inflows especially in the long run.

2.3 THEORETICAL FRAMEWORK

2.3.1 Monopolistic Power Approach

Kindleberger (1969), by extending the work of Hymer, put forward his theory of FDI on the basis of monopolistic power. Kindleberger argued that advantages enjoyed by Multinational Companies (MNCs) could be useful only in the case of market imperfection. The advantages described by him might be in the form of superior technology, managerial expertise, patents etc. These advantages generally encourage a firm to invest in a foreign country in order to fully exploit them instead of sharing them with potential competitors in the foreign market. The greater the chances of earning monopoly profits, the higher the encouragement among firms to invest directly. Although, Kindleberger described various forms of advantages generally enjoyed by a firm over the host country firms, he failed to describe which advantage a firm should focus on. Further, a firm can exploit its monopolistic advantages abroad only if the host country's policy allows it to do so. Generally, in the name of national interest, the host Government would be unwilling to permit free entry of foreign firms into the country. The theory is relevant to the study because multinationals Corporations (MNCs) with foreign Direct Investment might gain monopolistic power in Nigeria's manufacturing sector potentially crowding out local firms. Consistently, MNCs advantages in terms of technology and capital could limit competition thereby affecting local industry growth.



3.0 METHODOLOGY

This study adopted ex-post facto research design. Data were sourced from CBN statistical bulletin. To ensure the stationarity of the variables of the study, unit root test was carried out using Augmented Dickey-Fuller (ADF). Analysis of data was done using autoregressive distributed lag (ARDL) model. The model for the study was specified thus:

Model for Objective One

Model one is an ARDL model specified to capture objective one of this study (impact of foreign direct investment on manufacturing output). The functional relation is presented as follows:

$$MOG = g(FDI, GFCF, POPG, NXP).$$

where:

MOG = manufacturing output growth

FDI = foreign direct investment

GFCF = gross fixed capital formation, proxy for domestic investment

POPG = population growth rate, a proxy for labour force growth

NXP = non-oil exports.

Model for Objective Two

This model is also an ARDL model specified to capture the impact of FDI on manufacturing capacity utilization. The relationship can be mathematically written as:

$$MCU = f(FDI, GFCF, POPG, MOG).$$

where:

MCU = manufacturing capacity utilization rate

FDI = foreign direct investment

GFCF = gross fixed capital formation, domestic investment

POPG = population growth rate, a proxy for labour force growth

MOG = manufacturing output growth

Model for Objective Three

Objective three is to examine the impact of FDI on manufacturing exports. ARDL model is as well used to capture this objective. The fictional form of the model is specified as:

$$MEX = f(FDI, GFCF, POPG, EXR)$$

where:

MEX = manufacturing export

GFCF = gross fixed capital formation

POPG = population growth rate

EXR = exchange rate



4. RESULTS

Unit root test was carried out using the Augmented Dickey-Fuller test. Augmented Dickey-Fuller test result showed that gross fixed capital formation, population growth rate and manufacturing capacity utilization rate are stationary at their level forms. The respective test statistic at their level forms is greater than the 5 per cent critical value in absolute terms. But manufacturing output growth, foreign direct investment, exchange rate, non-oil exports and manufacturing exports variables are not stationary at their level forms. The level form test statistics respectively is less than the critical value at 5 per cent level in absolute terms. In this regard, these variables were differenced once and tested again in a model with trend and lag length of 2. The variables became significant at 5 per cent at the 1st difference. The Augmented Dickey-Fuller test statistics at the 1st difference is respectively greater than the 5 per cent critical value in absolute terms. This means that manufacturing output growth, foreign direct investment, exchange rate, non-oil exports and manufacturing exports are integrated of order 1, while gross fixed capital formation, population growth rate and manufacturing capacity utilization rate are integrated of order 0, using the Augmented Dickey-Fuller unit root test.

Error Correction Estimates of the ARDL Model

The dependent variable is mog - log of manufacturing output growth				
Mog	Coefficients	Standard Errors	t-Statistics	P-value
Ect	-0.8707	0.2058	-4.23	0.000
Long-Run				
Fdi	0.6870	0.2498	2.75	0.011
Gfcf	0.5886	0.2336	2.52	0.021
POPG	0.0022	0.0094	0.23	0.819
Nxp	0.5162	0.2518	2.05	0.042
Short-Run				
Mog	0.1206	0.5045	2.39	0.030
Fdi	0.5982	0.2666	2.24	0.034
Gfcf	0.5125	0.2109	2.43	0.023
POPG	0.0019	0.0009	2.23	0.036
Nxp	0.4494	0.4393	1.02	0.317
Constant	5.6614	2.0266	2.79	0.010
R2		0.7496		
Adjusted R-Squared		0.6328		
F-statistics		13.56 (0.0000)		
Durbin-Watson d-statistic (5, 37)		1.6351		
Breusch-Godfrey LM Chi-square Statistics		1.279 (0.2580)		

The variables in small case letters are logged variables. The capital lettered variable, POPG is not logged because it was already (taken) in rate.

Source: Author's computation

The error correction coefficient (or the adjustment coefficient) has the expected negative sign and its significant lies between the usual range of 0 and 1. Specifically, the speed of adjustment



is -0.8707 per annum, meaning that about 87.07 per cent of the errors generated in each year is automatically corrected by the system in the subsequent years. That is, the variables of the model adjust to equilibrium in the long run with an adjustment speed of 87.07 per cent per annum. The convergence process is indeed high.

The result showed a coefficient of foreign direct investment of 0.6870 with t-statistics of 2.75 in the long run. Since the t-value of 2.75 is greater than 2 in an absolute sense, the hypothesis that foreign direct investment has no significant impact on the manufacturing sector output growth at the 5 per cent level is rejected. This is confirmed by the probability value of 0.011. In specific terms, a percentage increase in foreign direct investment will, in the long run, lead to an increase in manufacturing sector output by 0.69 per cent. A similar result was found for foreign direct investment in the short run. The short-run foreign direct investment coefficient and t-statistic values were respectively 0.5982 and 2.24. Since the t-value of 2.24 is greater than 2 in an absolute sense, the hypothesis that foreign direct investment has no significant impact on manufacturing sector output at the 5 per cent level of significance is clearly rejected in the short run. The significant probability value of 0.034 means that there is a significant error in rejecting the null hypothesis.

5.0 DISCUSSIONS

The positive effect of foreign direct investment on manufacturing output in the short and long runs implies that when there is large inflow of foreign direct investment attracted by appropriate domestic macroeconomic policy, manufacturing activity would increase in the manufacturing sector compared to when there are no foreign direct investment inflows, therefore, there would be an outward shift of manufacturing sector products in the economy. This means that an increased inflow of foreign direct investment makes manufacturing output to increase both in the short and long periods. This will lead to an improvement in the performance of the manufacturing sector as well as the entire economy. This supports the claim that foreign direct investment contributes to the growth of business activity. Investment, on the other hand, is new capital accumulation in business (both private and state-owned). It is the value of machinery, plants, and buildings that are bought by firms for production purposes. The long and short runs positive effect of gross fixed capital formation means that domestic investment enlarges the production base (installed capital), increasing production capacity; modernizes production processes, improving cost-effectiveness; reduces the labour needs per unit of output, thus potentially producing higher productivity; and allows for the production of new and improved products, increasing value added in production and output.

The positive and statistically insignificant coefficient of population growth in the long run and the statistically significant coefficient in the short run mean that, except in the short run, population growth rate does not make a meaningful difference in the country's manufacturing output growth in the long run. This may be because the effect will require the development and use of technologies and production systems that increase input-use efficiency, which happens only in the short run because lack of maintenance of production machinery to match the increasing population growth rate and poor research and development in the long run. The positive non-oil exports coefficient implies that exports have a knock-on effect on the manufacturing industry. The success of non-oil exports will help the local manufacturing sector with firms benefiting from increasing spending.



The positive effect of the foreign direct investment on manufacturing capacity utilization rate means that increase foreign direct investment would reduce liquidity challenges besetting the economy and the manufacturing sector will stay afloat as capacity utilization will raise both in the long and short runs. The positive and statistically significant long and short runs coefficients of gross fixed capital formation imply that when investment funds increase, it will make it easier for firms to make investments in modern machines, information technology and human resources development which are critical in reducing production costs, raising productivity and improving competitiveness. With investment financial easing, industries are able to acquire modern technologies. Consequently, the equipment frequently upgrades and this increases capacity utilization rates. Also, the positive and statistically significant effect of manufacturing output on manufacturing capacity utilization rate means that an increase in manufacturing productivity will induce many manufacturers to borrow and therefore, capacity utilization will also increase in the long and short runs. The positive population growth rate coefficient implies that population growth rate is followed by labour force growth, which results to increase in manufacturing utilization rate. Also, any increase in the manufacturing capacity utilization rate has the prospects of increasing the manufacturing capacity utilization rate further.

The positive and statistically significant effect of foreign direct investment on manufacturing exports in the long and short runs means that foreign direct investment promotes exports of the domestic country (Nigeria), and this is by augmenting domestic capital for exports, helping to transfer technology and new products for exports, facilitating access to new and large foreign markets, providing training for the local workforce, and upgrading technical and management skills. Also, the positive and statistically significant effect of gross fixed capital formation on manufacturing exports in the long and short runs means that domestic investment in the form of the gross fixed capital formation increases the level of production, therefore, the composition of export changes. The statistically insignificant exchange rate coefficient in the long run and the statistically significant coefficient in the short run imply that exchange rate is mainly a short-run macroeconomic policy variable. The positive long-run coefficient of exchange rate implies that when there is a large devaluation of Nigerian naira, the domestic products could become less expensive relative to foreign goods and services and, therefore, there will be a shift of global demand away from foreign products towards domestic ones. This means that large devaluation of the currency makes manufacturing exports to increase.

The contribution of foreign direct investment on the performance of the manufacturing sector is mainly in its contribution to manufacturing output growth than manufacturing capacity utilization rate and manufacturing exports respectively. This means that within the manufacturing sector performance measures such as manufacturing output growth, manufacturing capacity utilization rate and manufacturing exports, the impact of foreign direct investment is more on manufacturing output growth in the long and short runs.

This study is in line with the of Nsofor, Obani and Agu (2024) on the influence of Foreign Direct Investment (FDI) on the growth trajectory of the manufacturing sector in Sub-Saharan which finding revealed positive effect of FDI on manufacturing sector's growth. Conversely, there is disagreement in the location of the studies. While this study has its focus in Nigeria, Nsofor et al (2024) focused on sub-Saharan Africa.



CONCLUSION

Based on the findings, the study concludes that the effect of foreign direct investment varies across countries because of the differences in the type of foreign direct investment, firm characteristics, economic conditions and policies in the FDI receiving country. For some countries, the effect was negative while for others the effect was positive. Some studies in most cases have provided ambiguous results – indicating negative and positive depending on the source of FDI, firm characteristics, economic conditions and policies. This study has shown that the effect of foreign direct investment is positive and significant on manufacturing output growth in the long and short runs. Other factors such as domestic investment, population growth rate and non-oil exports also explain manufacturing output growth in Nigeria. Also, this study has shown that the FDI effect is positive on the manufacturing capacity utilisation rate in the long and short runs. Therefore, FDI does play a significant role in manufacturing capacity utilisation rate in Nigeria. Other factors such as domestic investment, manufacturing output growth and population growth rate also determine the manufacturing capacity utilization rate. In the long and short runs, the FDI coefficient was positive in the manufacturing exports model, therefore, FDI is also a significant determinant of Nigeria's manufacturing exports. The exchange rate and population growth rate coefficients were not statistically significant in the manufacturing exports model, therefore, these variables do not play a significant role in manufacturing exports in Nigeria. In all, the effect of FDI is larger on manufacturing output growth than on manufacturing capacity utilisation rate and manufacturing exports respectively in the long and short runs in Nigeria. There is scope for increasing the attractiveness of the Nigerian market to both potential investors and to firms that, until now, haven't considered cross-border investment in Nigeria.

Ethical clearance

Ethical consent was sought and obtained from the participants used in this study. They were made to understand that the exercise was purely for academic purposes, and their participation was voluntary.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Authors' Contributions

Dr. Uzoma Ogbonna and conceived the study, including the design, Dr. Chioma Ibiham collated the data, and Eke Omoke Enyi handled the analysis and interpretation, while Dr. uzoma Ogbonna handled the initial manuscript. All authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

Data availability statement

The datasets on which conclusions were made for this study are available on reasonable request.



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