Impact of Capital Inflows on Manufacturing Exports and Economic Growth: An Empirical Evidence from Nigeria

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Abstract

A lot of studies have examined the relationship between capital inflows and economic growth in Nigeria; Most of these studies examined either oil export, non-oil export or total exports, without specific emphasis on manufacturing export; given that manufacturing export is fundamental to economic growth. In this case, we examined the dynamic impact of capital inflows on manufacturing exports and economic growth in Nigeria between 1981 and 2017 using annual data. Data collected were analyzed using Autoregressive Distributed Lag (ARDL) econometric techniques and the results revealed that capital inflows have significant and positive impact on economic growth (t= 4.42884, p< 0.005) both in the short and long run; and positive but statistically insignificant impact on manufacturing exports (t= 0.73, p> 0.05). Therefore, the study concluded that capital inflows have significant impact on economic growth but no impact on the manufacturing exports in Nigeria; and we recommend that the government and monetary authorities’ in Nigeria should formulate economic policies that will promote manufacturing exports through adequate and efficient infrastructural facilities that would encourage the needed capital inflows to the manufacturing sector and increase the production of goods for local consumption and export.

Keywords: capital inflows, manufacturing export, economic growth, impact
1. Introduction

Foreign Direct Investment (FDI) is an investment made (inform of transfer of resources such as capital, technology and management) to acquire a lasting interest in an enterprise (at least 10 percent of voting stock) operating in an economy other than that of the investor (IMF, 2015). FDI provides the much needed resources for investment, increases industrial competition in the host country; aids local firms to become more productive through efficient technologies and investment in human capital. Thus, it is an engine of growth (Blostrom, Lipsey and Zejan, 1996). Similarly, Foreign Portfolio Investment (FPI) is conceptualized as the transfer or acquisition of financial assets by way of investment by resident individuals, enterprises and institutions in one country in securities of another directly or indirectly in the assets of the companies through financial markets. It is a passive form of investment in the securities (such as stocks and bonds) of another country (UNCTAD, 1999; Adeleke, Olowe and Fasesin, 2014).

The rationale for encouraging or attracting foreign investors to invest in developing countries is to fill the domestic capital formation gap to speed up economic growth which requires certain minimum level of foreign capital (Mieir, 1964; Brewer, 1991; Digiovianni, 2005).

Nigeria is ranked among the first five recipients of capital inflow in Africa (about 70% of capital inflow to West Africa and 11% of Africa’s total capital inflows went to Nigeria). Also, African Economic Outlook indicated that Nigeria recorded over US$6.4billion of both FDI and FPI in 2013; this is second to South Africa (UNCTAD, 2007; Akanyo and Ajie, 2015).

In modern economy, manufacturing sector has dynamic benefits that are crucial for economic growth and development. In Nigeria, manufacturing sector has evolved overtime and this covers a wide range of economic activities; oil refining, cement, food, beverages and tobacco, textile, apparel and footwear, pulp and paper products, chemical and pharmaceutical products, non-metallic products, plastic and rubber products, electrical and electronics, basic metal, iron and steel, motor vehicles and assembly and other sub-sectors (CBN, 2015).

Furthermore, exportation has long been considered as a part of the factors that improve economic growth and development. There are numerous countries (Nigeria inclusive) that have embraced the export-led growth strategy as a tool for economic development. There are claims that export growth promotes overall economic growth and there exist a strong relationship between these two variables and that exports expansion contributes to the rate of economic growth. Therefore, the interlink or connection among these three variables; capital inflows, manufacturing exports and economic growth is due to the fact that, export is expected to promote economic growth through specialization which in turn boosts productivity, especially if the country has access to new technologies and better management practices through FDI and other capital inflows that can be associated with growth of manufactured exports in developing economies both at micro and macro levels (Aitken, Hanson, and Harrison, 1997; Berg and Krueger 2002; and Fischer, 1993; Fakiyesi and Akpan, 2005; Usman and Salami, 2008).

In the last decade, Nigeria has enjoyed increased international capital inflows as one of the highest recipients of capital inflows from the rest of the world. However, capital inflow especially FDI is not seen to have improved the manufacturing sector and economic growth in
Nigeria and this calls for serious concern because Nigeria is yet to experience real inclusive economic growth despite these huge domestic and foreign resources (Akinlo, 2004; Okodua, 2009; CBN, 2010; Iwayemi, 2012; Umoh, Jacob, and Chuku, 2012; Ugwuegbe, Okore, and Onoh, 2013; Adejumo, 2013; Aga, 2014; Adofu, Taiga, and Tijani, 2015; Mohammed and Mahfuzul, 2016). These results may be products of undervaluation of what constitute capital inflows and this study takes a broader look at the composition or what constitute the capital inflows in terms of its wideness and depth. Also, the role of capital inflows in the manufacturing export promotion through economic growth still remains controversial as most of the studies failed to consider the role of various components of capital inflows on economic growth in Nigeria (Joseph, Olayiwola, and Yinusa, 2019).

Furthermore, studies have examined the relationship between capital inflows and economic growth; as well as the relationship between manufacturing sector and economic growth in Nigeria but they all ignored the role of manufacturing export in the relationship between capital inflows and economic growth (Obiechina and Ukeje, 2013; Olorunfemi, Obamuyi, Adekunjo and Ogunleye, 2013; Adegboye, Ogbebor, and Eghariba, 2014; Olaleye, 2015; Chigbu, Ubah and Chigbu, 2015; Akanyo and Ajie, 2015; Okafor, Ezeaku and Eje, 2015; Okafor, Ugwuegbe and Ezeaku, 2016; Adofu, Taiga and Tijani, 2016; Okon and Saliu, 2017). More also, a lot of studies have been conducted outside Nigeria on capital inflows, export and economic growth (Gillian, 2011; Guru-Gharana, 2012; Berth, 2013; Haseeb, Hartani, Bakar, Azam, and Hassan 2014; Tasos, 2014; Etale and Etale 2016; Mohammed and Mahfuzul, 2016) but most of these studies either examined oil export, non-oil export or total exports, without any emphasis on the impact of capital inflows on manufacturing export (Joseph et al., 2019). Thus, this study is examining the impact of capital inflows on manufacturing export and economic growth in Nigeria between 1981 and 2017.

The remaining parts of the paper is organized as follows; section two presents the literature review, section three: Model Specification, variable Measurement and Data Sources. The results of analysis of impact of capital inflows and discussion of findings are presented in section four; and finally, section five concludes the paper with policy recommendation.

2. Literature Review

There are quite a number of empirical studies that have tried to evaluate the link among capital inflows, manufacturing exports and growth in different countries of the world. According to Etale, and Etale (2016), the relationship among FDI, export and economic growth in Malaysia between 1980 and 2013 through a causality analysis showed that there is a significant bidirectional long run relationship between FDI inflow per capita and GDP per capita. On the other hand, there is a unidirectional relationship from exports to GDP per capita and the study recommended that policy makers should encourage greater export opportunities and investments in the export sector. Mohammed and Malfuzul (2016) carried out a study on FDI, trade and growth for Bangladesh and their VECM analysis showed a long-term relationship between these variables. Also, trade and foreign investment variables have
significant impacts on the growth rate of GDP per capita. Bertha (2015) examined long run causality relationship between FDI, exports and economic growth for Tanzania from 1980-2010 using Johansen test of co-integration, VAR model and Granger causality test; that there was a single co-integrating vector; unidirectional causality relationship with direction from FDI and exports to GDP growth rate and exports in line with the export-led growth hypothesis.

In Nigeria, Obiechina and Ukeje (2013) investigated the causal long run relationship as well as the effects of capital flows, foreign exchange rate, export and trade openness on economic growth between 1970 and 2010. Using Engle-granger 2-step procedure, all the variables have significant impacts on economic growth in the short run except FDI; the pairwise causality test revealed the existence of unidirectional causality between economic growth and FDI while there was unidirectional and bidirectional causality among some of the variables.

Acaravci and Ozturk (2012), examined the long-term relationship between FDI, export and economic growth in new EU countries (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) between 1994 and 2008. using the ARDL and Granger causality, they found long-term cointegration in the Czech Republic, Slovakia, Poland and Latvia among the three variables and concluded that FDI seemed to be more important in driving economic growth than export in these countries while there is no long term and causality relationship between FDI and economic growth in Turkey between 1980 and 2012 (Aga, 2014). Likewise, Miankel, Thangavelu, and Kalirajan (2009) in their comparative causality analysis among GDP, export and FDI for six countries (India, Pakistan, Malaysia, Thailand, Chile and Mexico) concluded that in south east Asia; it is GDP growth that attracts FDI in India in the long run and GDP growth promotes export growth in Pakistan, while there is a bi-directional relationship between GDP growth and FDI in Thailand.

However, most of the studies (as indicated above) revealed a significant long run relationship among capital inflows, exports and economic growth but these studies either examined oil export, non-oil export or total exports, without any emphasis on manufacturing export. Also, studies that examined the relationship between capital inflows and economic growth; as well as the relationship between manufacturing sector and economic growth in Nigeria all ignored the role of manufacturing export in the relationship between capital inflows and economic growth.

3. Methodology, Variable Measurement and Data Sources

3.1 Model Specification

To examine the dynamic relationship among capital inflows, manufacturing exports and economic growth in Nigeria, Autoregressive Distributed Lag (ARDL) model developed by Pesaran and Shin (1999) and extended by Pesaran, Shin and Smith (2001) was adopted.

Therefore, the ARDL model is expressed in equations 1, 2, 3 and 4 as follows:

\[
\Delta \ln \text{RGDP}_t = \alpha + \sum_{j=1}^{p} \beta_j \Delta \ln \text{CINF}_t + \sum_{j=1}^{p} \delta_j \Delta \ln \text{HC}_t + \sum_{j=1}^{p} \gamma_j \Delta \ln \text{GCF}_t + \sum_{j=1}^{p} \phi_j \Delta \ln \text{FSD}_t + \sum_{j=1}^{p} \eta_j \ln \text{RGDP}_{t-j} + \lambda_1 \ln \text{RGDP}_{t-j} + \lambda_2 \ln \text{HC}_{t-j} + \lambda_3 \ln \text{HC}_{t-j} + \lambda_4 \ln \text{FSD}_{t-j} + \mu_t \quad \ldots \quad (1)
\]
\[ \Delta \ln \text{MEXP}_t = \alpha + \sum_{j=0}^p \beta_j \Delta \ln \text{CINF}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{HC}_{t-j} + \sum_{j=0}^p \psi_j \Delta \ln \text{GCF}_{t-j} + \sum_{j=0}^p \xi_j \Delta \ln \text{FSD}_{t-j} + \sum_{j=0}^p \lambda_j \Delta \ln \text{MEXP}_{t-j} + \sum_{j=0}^p \chi_j \Delta \ln \text{CINF}_{t-j} + \sum_{j=0}^p \delta_j \Delta \ln \text{HC}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{FSD}_{t-j} + \mu \ldots (2) \]

\[ \Delta \ln \text{RGDP}_t = \alpha + \sum_{j=0}^p \beta_j \Delta \ln \text{FDI}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{FPi}_{t-j} + \sum_{j=0}^p \psi_j \Delta \ln \text{CBB}_{t-j} + \sum_{j=0}^p \delta_j \Delta \ln \text{HC}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{GCF}_{t-j} + \sum_{j=0}^p \xi_j \Delta \ln \text{FSD}_{t-j} + \mu \ldots (3) \]

\[ \Delta \ln \text{MEXP}_t = \alpha + \sum_{j=0}^p \beta_j \Delta \ln \text{FDI}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{FPi}_{t-j} + \sum_{j=0}^p \psi_j \Delta \ln \text{CBB}_{t-j} + \sum_{j=0}^p \delta_j \Delta \ln \text{HC}_{t-j} + \sum_{j=0}^p \phi_j \Delta \ln \text{GCF}_{t-j} + \sum_{j=0}^p \xi_j \Delta \ln \text{FSD}_{t-j} + \mu \ldots (4) \]

Where \( \Delta \) is change and \( p \) is lag length which will be selected optimally, \( \beta, \chi, \delta, \phi, \) and \( \Upsilon \) are short run coefficients, while \( \lambda_1 - \lambda_4 \) are long run coefficients in equations 1 and 2 respectively. Also, \( \delta, \lambda, \phi, p, \psi, \xi, \eta \) are short run coefficients while \( \beta_1 - \beta_2 \) are long run coefficients in equations 3 and 4 respectively.

### 3.2 Measurement of Variable and Sources of Data

The data for the empirical analysis in this study covers the period of 1981-2017 making a total of 37 years. The data are annual time series which is secondary in nature and were sourced from the Central Bank of Nigeria (CBN) statistical bulletin (data on RGDP, GCF, FSD), World Bank, World Development Indicator (WDI) (data on MEXP, HC), and the International Monetary Fund, International Monetary Statistics, (data on FDI, FPI, and CBB).

### 4. Data Analysis and Discussion of Results

#### 4.1 Unit Root Test

We used Augmented Dickey Fuller (ADF) and the Phillips Perron (PP) tests to check the unit root properties of the variables included in the model estimation.

The results of the ADF and PP tests presented in table 1 and 2 showed that LNFPI, LNCBB and GCF were stationary at levels I(0), while LNRGDP, LNFDI, LNMEXP, LNHC and FSD were stationary at first difference I(1). There is high level of consistency in the results of the Augmented Dickey Fuller and the Phillips-Perron tests respectively. Considering the unit root properties of the series, the Autoregressive Distributed Lag (ARDL) technique is suitable for model estimation because of its potency in dealing with series integrated of order zero I(0) and one I(1). We opted for the (constant and no trend) in the ARDL model because both ADF and PP tests were consistent in their results. Besides, the unit root test under constant could not establish any evidence of high order of integration i.e. I(2) or more I (d).
Table 1. ADF Unit Root Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>1st Difference</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNRGDP</td>
<td>0.0972</td>
<td>-3.2292**</td>
<td>I(1)</td>
</tr>
<tr>
<td>LNFDI</td>
<td>-2.7141***</td>
<td>-7.2727*</td>
<td>I(1)</td>
</tr>
<tr>
<td>LFPI</td>
<td>-5.6116*</td>
<td>-6.3324</td>
<td>I(0)</td>
</tr>
<tr>
<td>LNCBB</td>
<td>-5.7763*</td>
<td>-9.9875</td>
<td>I(0)</td>
</tr>
<tr>
<td>GCF</td>
<td>-4.5449**</td>
<td>-5.0847</td>
<td>I(0)</td>
</tr>
<tr>
<td>LNMEXP</td>
<td>-1.2509</td>
<td>-7.8269**</td>
<td>I(1)</td>
</tr>
<tr>
<td>LNHC</td>
<td>0.6116</td>
<td>-5.6277**</td>
<td>I(1)</td>
</tr>
<tr>
<td>FSD</td>
<td>-0.6058</td>
<td>-5.2589*</td>
<td>I(1)</td>
</tr>
<tr>
<td>CINF</td>
<td>-3.0285**</td>
<td>-9.0889</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

Note: ** *** denotes 1%, 5% and 10% levels of significance respectively.
Source: Author’s Compilation, using Eviews

Table 2. PP Unit Root Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>1st Difference</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNRGDP</td>
<td>1.2122</td>
<td>-3.0445</td>
<td>I(1)</td>
</tr>
<tr>
<td>LNFDI</td>
<td>-2.6808***</td>
<td>-7.4009*</td>
<td>I(1)</td>
</tr>
<tr>
<td>LFPI</td>
<td>-8.6083*</td>
<td>-21.5892</td>
<td>I(0)</td>
</tr>
<tr>
<td>LNCBB</td>
<td>-5.7762**</td>
<td>-31.9149</td>
<td>I(0)</td>
</tr>
<tr>
<td>GCF</td>
<td>-4.5449*</td>
<td>-3.7781</td>
<td>I(0)</td>
</tr>
<tr>
<td>LNMEXP</td>
<td>-1.2158</td>
<td>-7.8269**</td>
<td>I(1)</td>
</tr>
<tr>
<td>LNHC</td>
<td>-0.4789</td>
<td>-7.6354**</td>
<td>I(1)</td>
</tr>
<tr>
<td>FSD</td>
<td>-0.6905</td>
<td>-5.3248</td>
<td>I(1)</td>
</tr>
<tr>
<td>CINF</td>
<td>-3.0434**</td>
<td>-9.1615</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

Note: ** *** denotes 1%, 5% and 10% levels of significance respectively.
Source: Author’s Compilation, using Eviews

4.2 ARDL Co Integration and Long Run Form

To examine the dynamic relationship among capital inflows, manufacturing export and economic growth in Nigeria, the ARDL results for the analysis are presented below.

4.2.1 Relationship between Capital Inflows and Economic Growth: Long Run Coefficients of ARDL (1, 1, 2, 2, 1)

Table 3 shows the relationship between CINF and RGDP. The long run estimates in table 3 revealed that capital inflows and human capital have positive and statistically significant relationship with economic growth (t= 4.42884, p< 0.005) and (t=9.68166, p< 0.005) respectively. Also, the results signify a percentage increase in capital inflow and a percentage
increase in human capital which increases economic growth in Nigeria by 11 and 22 percentages respectively. It should be noted that, the positive effect of capital inflows on economic growth is expected because it means more technology, capital, managerial expertise and skills flowed into the economy and these have a positive effect on the productivity, thereby increasing the economic growth of Nigeria. This finding is consistent with the work of Okafor et al (2016); Adegboye et al (2014); Chigbu (2015), they found that the inflow of foreign capital has positive effect on the economy but contrary to the finding of Obeichina (2013) who found a negative relationship between capital inflows and economic growth. This finding is also in line with the finding of Gillian (2011) who found out that capital inflows impacted positively on the growth of South African economy. Meanwhile, financial sector development has a positive and statistically insignificant relationship with economic growth while gross capital formation has a negative and statistically insignificant relationship with economic growth.

Table 3. ARDL (1, 1, 2, 2, 1) Long Run Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINF</td>
<td>0.11223</td>
<td>0.02534</td>
<td>4.42884**</td>
<td>0.0002</td>
</tr>
<tr>
<td>LNHC</td>
<td>0.22605</td>
<td>0.02334</td>
<td>9.68166**</td>
<td>0.0000</td>
</tr>
<tr>
<td>GCF</td>
<td>-0.01724</td>
<td>0.01158</td>
<td>-1.48876</td>
<td>0.1507</td>
</tr>
<tr>
<td>FSD</td>
<td>0.02230</td>
<td>0.01473</td>
<td>1.51402</td>
<td>0.1443</td>
</tr>
<tr>
<td>C</td>
<td>5.23946</td>
<td>0.63439</td>
<td>8.25899</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Author’s compilation, using Eviews

4.2.2 Relationship between Manufacturing Exports and Capital Inflows: Long Run Coefficients of ARDL (1, 1, 2, 2, 1)

Table 4 shows the results of the relationship between manufacturing exports and capital inflows in Nigeria by using the ARDL results of CINF, LNHC, GCF, FSD on manufacturing exports (MEX). The long run estimates showed that CINF has a positive relationship with manufacturing exports although not statistically significant (t= 0.73, p> 0.05). That is, a unit increase in capital inflows leads to 0.08% increase in manufacturing exports. In the long run, all the variables are positively related CINF, LNHC, and FSD having 0.34, 0.87 and 0.15 respectively but not statistically significant and the implication for this is that, none of the variables affect manufacturing exports in Nigeria. Hence, there is need for policy options to be devised on the aforementioned empirical results so as to facilitate the relationship among the variables of interest. This result confirmed the empirical work of Ekienabor et al (2016) but gross capital formation is negatively related (-0.25) to manufacturing exports although all of them are not statistically significant.
Table 4. ARDL (1, 1, 2, 2, 1) Long Run Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINF</td>
<td>0.34</td>
<td>0.46</td>
<td>0.73</td>
<td>0.47</td>
</tr>
<tr>
<td>LNHC</td>
<td>0.87</td>
<td>0.70</td>
<td>1.23</td>
<td>0.22</td>
</tr>
<tr>
<td>GCF</td>
<td>-0.25</td>
<td>0.29</td>
<td>-0.87</td>
<td>0.39</td>
</tr>
<tr>
<td>FSD</td>
<td>0.15</td>
<td>0.40</td>
<td>0.39</td>
<td>0.69</td>
</tr>
<tr>
<td>C</td>
<td>-7.80</td>
<td>12.19</td>
<td>-0.63</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Source: Authors compilation, using Eviews

5. Conclusion and Policy Recommendation

The empirical findings above revealed that capital inflows have a positive and significant relationship with economic growth both in the short and long run. This means that capital inflows greatly impact economic growth in Nigeria. Similarly, capital inflows positively affect manufacturing exports but no significant relationship exists between them. Thus, the study concluded that capital inflows have significant impact on economic growth but no impact on the manufacturing exports in Nigeria over the period of the study and recommended that the government and monetary authorities’ in Nigeria should formulate economic policies that will promote manufacturing exports through adequate and efficient infrastructural facilities that would encourage the needed capital inflows to be channeled into manufacturing sector and increase the production of goods for local consumption and export.

References


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