Effect of Foreign Direct Investment on Economic Growth in Nigeria

Emmanuel Isaac John

Department of Banking and Finance, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka, Nigeria

Email address: Johnemmanuel904@gmail.com

To cite this article:

Received: August 13, 2016; Accepted: November 19, 2016; Published: December 20, 2016

Abstract: There have been controversies regarding the effect of foreign direct investment on the growth of the host country’s economy. While some researchers suggest a positive effect, others found a negative effect. It is against this backdrop that this study examined the effect of foreign direct investment on economic growth in Nigeria. The study covered the period 1981 to 2015. The study used secondary data derived from the Central Bank of Nigeria statistical bulletin and publications of the National Bureau of Statistics. The study employed multiple regression technique and Gretl 1.9.8 econometric software was used for the analysis. The results showed that foreign direct investment has a positive and significant effect on gross domestic product. It was also found that exchange rate has a positive but not significant effect on gross domestic product. Thus, the study concluded that foreign direct investment has a positive effect on economic growth in Nigeria as opposed to the findings and belief of some researchers and other stakeholders that foreign direct investment has a negative effect on the growth of the economy. It was recommended that government should improve the state of infrastructures in the country in order to encourage meaningful investments in the economy. Also, the Central Bank of Nigeria should come-up with policies that will help to stabilize the Naira exchange rate vis-à-vis the major currencies of the world, like the United States Dollar. This will boost the investors’ confidence in the economy.

Keywords: Foreign Direct Investment, Exchange Rate, Economic Growth, Nigeria

1. Introduction

Many policy makers and academics argue that foreign direct investment (FDI) can have robust positive effects on a host economy’s development. In addition to the direct capital financing it supplies, FDI can be a source of valuable technology and know-how and enhances linkages with local firms, which can help to boost growth in an economy. Based on these arguments, industrialized and developing countries have offered incentives to encourage foreign direct investments in their economies (Melnyk, Kubatko and Pysarenko, 2014). Foreign Development Investors are mostly invited by transition and developing countries in a hope that through this international activity, the positive experience from developed countries will come to their domestic economies (Silvio, and Ariel, 2009). Thus, as foreign direct investment flow increases in an economy, export volume of that economy increases (Pulatova, 2016).

For a developing country like Nigeria, foreign direct investment is considered as a way of transferring technology and capital from other developed and even developing countries to the domestic economy. According to Yu, Ning, Tu, Younghong and Tan (2011) FDI is considered to be one of the major channels of technological transfer. Melnyk, Kubatko and Pysarenko (2014) believe that when foreign direct investment comes to a domestic country (in specific business), that firm receives a competitive advantage due to the usage of new knowledge, experience, ways of production and management. Adding that current successful economic growth of developing countries is explained by “catch up effect” in technological development with developed countries. Lahiri and Ono (1998) observe that higher efficiency of foreign firms may help lower prices and hence increase consumers’ surplus. Furthermore, FDI raises employment by either creating new jobs directly or using local inputs, thus, creating more jobs indirectly. According to Koojareonprasit (2012), FDI is an important factor which contributes to economic growth through technology transfer. Capital accumulation and augmentation of human capital
Foreign direct investment is an investment made by an individual or a company (investor) in a country which is not the country of origin of the investor, in the form of either establishing business or acquiring business assets in the country.

Oseghale and Amonkhienan (1987) found that FDI is positively associated with GDP, concluding that greater inflow of FDI will spell a better economic performance for the country. Ayanwale and Bamire (2001) assessed the influence of FDI on firms’ level productivity in Nigeria and report a positive spillover of foreign firms on domestic firms’ productivity. In addition to the direct capital financing it supplies, FDI can be a source of valuable technology and know-how while fostering linkages with local firms, which can help jumpstart an economy (Melnyk, Kubatko and Pysarenko, 2014).

However, the special merits of FDI and particularly the kinds of incentives offered to foreign firms in practice have begun to be questioned (Alfaro, 2003). Fueling this debate is that empirical evidence for FDI generating positive spillovers for host countries is ambiguous at both the micro and macro levels. In support of this fact, Hanson (2001) argues that evidence that FDI generates positive spillovers for host countries is weak. Although the theoretical work on FDI points to advantages, conceivably, spillovers could nevertheless be small. On the other hand it could be that we are looking in the wrong places (Alfaro, 2003). Akinlo (2004) found that foreign capital has a small and not statistically significant effect on economic growth in Nigeria.

Theoretical Review

This research work is anchored on endogenous growth theory credited to Romer (1986). Helpman (2004) argues that endogenous growth theory emphasized two critical channels for investment to affect economic growth: Firstly, through the impact on the range of available products, and secondly, through the impact on the stock of knowledge accessible for research and development. Economic models of endogenous growth have been applied to examine the effect of FDI on economic growth through the diffusion of technology (Khaliq and Noy, 2007; Barro, 1990; Barrel and Pain, 1997). FDI can also promote economic growth through creation of dynamic comparative advantages that leads to technological progress (Khaliq et al, 2007; Borenstein, Gregorio and Lee, 1998). Romer (1990) and Grossman and Helpman (1991) have worked on Romer’s (1986) model and assume that endogenous technological progress is the main engine of economic growth. Romer (1990) argues that FDI accelerates economic growth through strengthening human capital, the
most essential factor in Research and Development effort. Grossman and Helpman (1991) emphasize that an increase in competition and innovation will result in technological progress and increase in productivity and, thus, promote economic growth in long run.

In contrast to all these positive conclusions, Reis (2001) formulated a model that investigates the effects of Foreign Direct Investment on economic growth when investment returns may be repatriated. She states that after the opening up to FDI, domestic firms will be replaced by foreign firm in the Research and Development sector. This may decrease domestic welfare due to the transfer of capital returns to foreign firms. Furthermore, Firebaugh (1992) lists several additional reasons why FDI inflows may be less profitable than domestic investment and may even be detrimental. According to the study, the country may gain less from FDI inflows than domestic investment, because of multinationals are less likely to contribute to government revenue; FDI is less likely to encourage local entrepreneurship; multinationals are less likely to reinvest profits; are less likely to develop linkages with domestic firms; and are more likely to use inappropriately capital-intensive techniques. FDI may be detrimental if it crowds out domestic businesses and stimulates inappropriate consumption pattern.

**Empirical Review**

Uwubanmwen and Ogiemudia (2016) examined the effect of foreign direct investment on economic growth in Nigeria using annual time series data covering the period 1979 to 2013. The data were analyzed using Error Correction Model. The results reveal that FDI has both immediate and time lag effect on Nigeria economy in the short run but has a non-significant negative effect on the Nigeria economy in the long run.

Pulstova (2016) studied the effects of foreign direct investment and firm export on economic growth in Uzbekistan. The study covered the period 1990 – 2014 and descriptive method was adopted. He found that an increase in FDI may cause firms to increase their export of products.

Munth, Khan, Haider and Ahmad (2015) studied the impact of foreign direct investment on economic growth of Pakistan covering the period 1995 to 2011. The data were sourced from World Bank, Economy of Pakistan Books, Index Monde and Economic Survey of Pakistan. Regression analysis was used in the study. They found that FDI impacts positively on economic growth of Pakistan.

Agrawal (2015) assessed the relationship between foreign direct investment and economic growth in the five BRICS economies, namely, Brazil, Russia, India, China and South Africa over the period 1989 – 2012. Cointegration and Causality analysis were applied. The results indicate that foreign direct investment and economic growth are cointegrated at the panel level, indicating the presence of long run equilibrium relationship between them. Results from causality tests indicate that there is long run causality running from foreign direct investment to economic growth in these economies.

Melynik, Kubatko and Pysarenko (2014) examined the impact of foreign direct investment on economic growth in post-communist transition economies. The study used neoclassical growth theory to analyze the effect of FDI on economic growth. They found a significant FDI influence on economic growth of host countries. They concluded that in addition to the direct capital financing it supplies, FDI can be a source of valuable technology and know-how while fostering linkages with local firms, which can help to jumpstart an economy. Based on these arguments, industrialized and developing countries have offered incentives to encourage foreign direct investments in their economies. The study recommended that transition and developing economies should pay more attention to the business climate and positive institutional changes.

Otto and Ukpere (2014) assessed foreign direct investments and economic development and growth in Nigeria over a 41 year period. They observed that there is a positive relationship between foreign direct investments and economic growth in Nigeria. They suggested that policies are required which will facilitate foreign direct investments into Nigerian economy.

Koojaroenprasit (2012) explored the impact of foreign direct investment on economic growth of South Korea using secondary data for the period 1980–2009. Multiple regression analysis was employed in the study. This study found that there is a strong and positive impact of FDI on South Korean economic growth. Furthermore, the study indicated that human capital, employment and export also have positive and significant impact, while domestic investment has no significant impact on South Korean economic growth. He argued that the interaction effects of FDI- human capital and FDI-export indicated that the transfer of high technology and knowledge has an adverse impact on South Korean economic growth.

Roman and Padureanu (2012) found that FDI and capital endowments are positively correlated with GDP in Romania, but what was not expected was the fact that the human capital was negatively correlated with GDP evolution. As the authors stated, the last fact is explained by the reduction of Romanian population in 1995-2004.

Pelinescu and Dulescu (2009) found that direct FDI influence is still at a low level, but the indirect influence, through the increase in productivity and competitiveness is more evidenced in Romania.

Jyun-Yi and Hsu (2008) analysed the effect of FDI on economic growth for 62 countries over the period 1975-2000. It was found that FDI did not accelerate growth in all sampled countries. The authors used the LS approach for panel data estimations. Moreover, using the GMM method (controlling for endogeneity and nonspherical errors), it was found that FDI did not have any positive effect on growth. The results of the threshold regression controlled for the amount of GDP, initial human capital, some social and institutional parameters do represent positive influence of FDI on economic growth. It was stated that recipient countries can learn and as a result benefit from foreign investors.

Stanisic (2008) did not find any positive correlation
between FDI inflows and economic growth rate in Eastern European transition countries. However, he gave an assumption that this particular region is in the middle of the transitional process and FDI influence is not definite.

Ayanwale (2007) examined FDI and economic growth in Nigeria using secondary data sourced from the Central Bank of Nigeria, International Monetary Fund and Federal Office of Statistics. The period of analysis was 1970-2002. An augmented growth model was estimated via the ordinary least squares and the 2SLS method to ascertain the relationship between the FDI, its components and economic growth. Results suggest that the determinants of FDI in Nigeria are market size, infrastructure development and stable macroeconomic policy. Openness to trade and available human capital, however, are not FDI inducing. He observed that FDI in Nigeria contributes positively to economic growth. He stressed that although the overall effect of FDI on economic growth may not be significant, the components of FDI do have a positive impact. He added that FDI in the communication sector has the highest potential to grow the economy and is in multiples of that of the oil sector. The manufacturing sector FDI negatively affects the economy, reflecting the poor business environment in the country. According to him, the level of available human capital is low and there is need for more emphasis on training to enhance its potential to contribute to economic growth.

Khaliq and Noy (2007) studied the impact of foreign direct investment on economic growth using detailed sectoral data for FDI inflow to Indonesia over the period 1997–2006. The sectors examined are: farm food crops, livestock product, forestry, fishery, mining and quarrying, non-oil and gas industry, electricity, gas and water, construction, retail and wholesale trade, hotels and restaurants, transport and communications, and other private and services sectors. According to their findings, in the aggregate level, FDI is observed to have a positive effect on economic growth. However, when accounting for the different average growth performance across sectors, the beneficial impact of FDI is no longer apparent. When examining different impacts across sectors, estimation results show that the composition of FDI matters for its effect on economic growth with very few sectors shows positive impact of FDI and one sector even showing a robust negative impact of FDI inflows (mining and quarrying).

Alfaro, Chanda, Kalemli-Ozcan and Sayek (2006) examined how foreign direct investments promote economic growth: Exploring the effects of financial markets on linkages. They found that a) holding the extent of foreign presence constant, financially well-developed economies experience growth rates that are almost twice those of economies with poor financial markets, b) increases in the share of FDI or the relative productivity of the foreign firm leads to higher additional growth in financially developed economies compared to those observed in financially underdeveloped ones, and c) other local conditions such as market structure and human capital are also important for the effect of FDI on economic growth.

Titarenko (2006) supports the idea of crowding out effect of domestic investments by FDI in Latvia. Also the analysis showed that positive influence of FDI is not greater than Latvian investment. The influence of FDI on the economy depends on which sector (manufacturing, agriculture etc.) FDI flows are directed. Alfaro (2003) examined the effect of foreign direct investment on growth in the primary, manufacturing and service sectors. An empirical analysis using cross-country data for the period 1981-1999 suggests that total FDI has an ambiguous effect on growth. He found that foreign direct investments in the primary sector, however, tend to have a negative effect on growth, while investment in manufacturing has a positive effect. According to the researcher, evidence from the service sector is ambiguous.

Aitken and Harrison (1999) in their study also found a negative influence of FDI on productivity of domestic firms in manufacturing industry in Venezuela. According to the study, evidence from the foreign investments in service sector is ambiguous. Agriculture and mining sectors do have little spillover potential for economy and as a result FDI inflows are of little efficiency.

3. Methodology

This study employed ex-post-facto research design in conducting the research and analyzing the data collected.

The study used secondary data collected from Central Bank of Nigeria statistical bulletin and publications of the National Bureau of Statistics. The model for this study is specified as follows:

\[ \text{GDP} = \gamma (\text{FDI}, \text{EXR}) \]

\[ \text{GDP} = \alpha_0 + \alpha_1 \text{FDI} + \alpha_2 \text{EXR} + e \]

Where:
- GDP = Gross Domestic Product
- FDI = Foreign Direct Investments
- EXR = Exchange Rate
- e = Error Term
- \( \alpha_0 \) = Intercept
- \( \alpha_1 - \alpha_2 \) = Regression Coefficients
- Gross Domestic Product is the dependent variable and proxy for economic growth; Foreign Direct Investment is the independent variable; Exchange Rate is the moderating variable.

The study employed multiple regressions in analyzing the data collected. The analysis was done with the help of Gretl 1.9.8 econometric software.

**Apriori Expectation**

Foreign direct investment is expected to have a significant positive effect on the growth of the host economy (the economy of Nigeria) due to the transfer of technology, expertise and improved management practices coupled with the contagion effect that will help to boost the performance of the local firms. This view is supported by the findings of Koojaroenprasit (2012); Melnyk et al (2014); Otto et al (2014); Ayanwale (2007) and Roman et al (2012) who all found a positive effect of FDI on the domestic economy.
4. Data Presentation, Result and Discussion

Table 1. Gross Domestic Product (GDP), Foreign Direct Investment (FDI) and Exchange Rate (EXR) in Nigeria (1981–2015).

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (N' Billion)</th>
<th>FDI (N' Billion)</th>
<th>EXR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>94.33</td>
<td>0.33</td>
<td>0.61</td>
</tr>
<tr>
<td>1982</td>
<td>101.01</td>
<td>0.29</td>
<td>0.67</td>
</tr>
<tr>
<td>1983</td>
<td>110.06</td>
<td>0.26</td>
<td>0.72</td>
</tr>
<tr>
<td>1984</td>
<td>116.27</td>
<td>0.36</td>
<td>0.76</td>
</tr>
<tr>
<td>1985</td>
<td>134.59</td>
<td>0.43</td>
<td>0.89</td>
</tr>
<tr>
<td>1986</td>
<td>134.60</td>
<td>0.15</td>
<td>2.02</td>
</tr>
<tr>
<td>1987</td>
<td>193.13</td>
<td>2.45</td>
<td>4.12</td>
</tr>
<tr>
<td>1988</td>
<td>263.29</td>
<td>1.72</td>
<td>4.54</td>
</tr>
<tr>
<td>1989</td>
<td>382.26</td>
<td>13.88</td>
<td>7.39</td>
</tr>
<tr>
<td>1990</td>
<td>472.65</td>
<td>6.69</td>
<td>8.04</td>
</tr>
<tr>
<td>1991</td>
<td>545.67</td>
<td>6.92</td>
<td>9.91</td>
</tr>
<tr>
<td>1992</td>
<td>875.34</td>
<td>14.46</td>
<td>17.30</td>
</tr>
<tr>
<td>1993</td>
<td>1,089.68</td>
<td>29.66</td>
<td>22.05</td>
</tr>
<tr>
<td>1994</td>
<td>1,399.70</td>
<td>22.20</td>
<td>21.87</td>
</tr>
<tr>
<td>1995</td>
<td>2,907.36</td>
<td>75.93</td>
<td>21.87</td>
</tr>
<tr>
<td>1996</td>
<td>4,032.30</td>
<td>111.30</td>
<td>21.87</td>
</tr>
<tr>
<td>1997</td>
<td>4,189.25</td>
<td>110.50</td>
<td>21.87</td>
</tr>
<tr>
<td>1998</td>
<td>3,989.45</td>
<td>80.70</td>
<td>21.87</td>
</tr>
<tr>
<td>1999</td>
<td>4,679.21</td>
<td>92.80</td>
<td>92.69</td>
</tr>
<tr>
<td>2000</td>
<td>6,713.57</td>
<td>116.00</td>
<td>102.11</td>
</tr>
<tr>
<td>2001</td>
<td>6,895.20</td>
<td>132.40</td>
<td>111.94</td>
</tr>
<tr>
<td>2002</td>
<td>7,795.76</td>
<td>225.20</td>
<td>120.97</td>
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<tr>
<td>2003</td>
<td>9,913.52</td>
<td>258.40</td>
<td>129.36</td>
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<td>2004</td>
<td>11,411.07</td>
<td>248.20</td>
<td>133.50</td>
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<tr>
<td>2005</td>
<td>14,610.88</td>
<td>3,432.50</td>
<td>132.15</td>
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<tr>
<td>2006</td>
<td>18,564.59</td>
<td>4,007.50</td>
<td>128.65</td>
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<td>2007</td>
<td>20,657.32</td>
<td>4,403.80</td>
<td>125.83</td>
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<tr>
<td>2008</td>
<td>24,296.33</td>
<td>6,041.80</td>
<td>118.57</td>
</tr>
<tr>
<td>2009</td>
<td>24,794.24</td>
<td>8,111.40</td>
<td>148.88</td>
</tr>
<tr>
<td>2010</td>
<td>54,612.26</td>
<td>9,088.80</td>
<td>150.30</td>
</tr>
<tr>
<td>2011</td>
<td>62,980.40</td>
<td>10,958.90</td>
<td>153.86</td>
</tr>
<tr>
<td>2012</td>
<td>71,713.94</td>
<td>11,917.40</td>
<td>157.49</td>
</tr>
<tr>
<td>2013</td>
<td>80,092.56</td>
<td>12,786.70</td>
<td>157.31</td>
</tr>
<tr>
<td>2014</td>
<td>89,043.62</td>
<td>14,706.40</td>
<td>158.55</td>
</tr>
<tr>
<td>2015</td>
<td>94,144.96</td>
<td>17,633.00</td>
<td>192.28</td>
</tr>
</tbody>
</table>

Source: CBN Statistical Bulletin 2015

The data presented in Table 1 showing gross domestic product, foreign direct investment and exchange rate for the period 1981 to 2015 was used for the analysis. The result of the analysis is presented in Table 2.

Table 2. Regression Results.

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Const</td>
<td>710.097</td>
<td>1454.42</td>
<td>0.4882</td>
</tr>
<tr>
<td>FDI</td>
<td>5.22866</td>
<td>0.297737</td>
<td>17.5613</td>
</tr>
<tr>
<td>EXR</td>
<td>20.762</td>
<td>22.7486</td>
<td>0.9127</td>
</tr>
</tbody>
</table>

Mean dependent var | 17827.15 | S.D. dependent var | 28029.36 |
Sum squared resid  | 1.01e+09 | S.E. of regression | 5620.971 |
R-squared         | 0.962319 | Adjusted R-squared | 0.959964 |
F(2, 32)          | 408.6223 | P-value(F)         | 1.65e-23 |
Log-likelihood    | -350.2937| Akaikes criterion  | 706.5874 |
Schwarz criterion | 711.2555 | Hannan-Quinn       | 708.1982 |
Rho              | 0.457824 |

Source: Gretl 1.9.8 econometric software

Model 1: OLS, using observations 1981-2015 (T = 35), Dependent variable: GDP

From the results of the regression analysis presented in Table 2, Foreign Direct Investment (FDI) has a positive effect on Gross Domestic Product (GDP). This is shown by a coefficient of 5.22866. The result shows that 1% increase in FDI will result in 5.22866 increases in GDP. The effect is statistically significant at 1%. This means that FDI has a positive and significant effect on economic growth in Nigeria.

The result is in line with the findings of Muntah, Khan, Haider and Ahmad (2015); Koojaroenprasit (2012); Melnyk et al (2014); Otto et al (2014); Ayanwale (2007) and Roman et al (2012) who all found that FDI has a positive effect on economic growth. However, the finding of this study is contrary to that of Aitken et al (1999) and Jyun-Yi et al (2008) who found a negative effect of FDI on economic growth. Alfaro (2003); Titarenko (2006) and Khalid et al (2012) are of the opinion that the effect of FDI on economic growth depends on the sector. While some sectors show a positive effect, others show a robust negative effect.

Exchange rate has a positive effect on GDP. However, the effect is not statistically significant. This means that exchange rate does not have a significant effect on economic growth in Nigeria.

R square shows that 96.2% of the changes in the dependent variable are explained by the independent variables in the model. This is closely followed by Adjusted R square of 95.9%. The F value is significant at 1%.

Hypotheses Testing

Hypothesis 1:
H0: Foreign direct investment has no significant positive effect on economic growth in Nigeria.
H1: Foreign direct investment has a significant positive effect on economic growth in Nigeria.

From the results of the analysis, foreign direct investment (FDI) has a positive and statistically significant effect on gross domestic product (GDP) which represents economic growth. Thus, the alternative hypothesis which states that foreign direct investment has a significant positive effect on economic growth in Nigeria is accepted. The null hypothesis is rejected. This agrees with the apriori expectation.

Hypothesis 2:
H0: Exchange rate has no significant positive effect on economic growth in Nigeria.
H1: Exchange rate has a significant positive effect on economic growth in Nigeria.

The results of the analysis indicate that exchange rate has a positive (not significant) effect on gross domestic product. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected.

5. Conclusion and Recommendations

This study therefore concluded that foreign direct investment has a positive effect on economic growth in Nigeria. This is against the belief of some stakeholders including researchers that foreign direct investment has a negative effect on the growth of the economy.
Based on the findings of this study, the following recommendations were given:
1. The government should improve the state of infrastructures in the country. This will encourage meaningful investments in the economy.
2. The Central Bank of Nigeria should come-up with policies that will help to stabilize the Naira exchange rate vis-à-vis the major currencies of the world, like the United States Dollar. This will boost the investors' confidence in the economy.

**Suggestion for Further Research**

This research report has cleared the controversies surrounding the effect of FDI on the economy of Nigeria. As opposed to some findings that FDI has a negative effect on the domestic economy, this study found a positive effect. However, further studies in this area should examine the different sectors of the national economy independently to ascertain the effect of FDI on each of the sectors.

**References**


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