Journal DOI: 10.36713/epra1013|SJIF Impact Factor (2021): 7.473 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 9 | Issue: 6| June 2022 -Peer-reviewed Journal

FOREIGN DIRECT INVESTMENT AND EDUCATION IN NIGERIA: A QUANTILE ANALYSIS

Kabiru Alhaji [1*], Suwaiba A Bello [2], Shehu Mohammed [3], Suwaiba Attahiru [4]

[1,2and3] *Department of Economics, Shehu Shagari College of Education, Sokoto.*
[4] *Department of Business Education, Shehu Shagari College of Education, Sokoto.*

[*] ***Corresponding Author***

Article DOI: https://doi.org/10.36713/epra10705
DOI No: 10.36713/epra10705

ABSTRACT

This study examines the impact of education on foreign direct investment inflow to Nigeria. The study used time series data from Nigeria from 1999–2020 on ordinary least square and quantile analysis techniques. The results obtained show that education enhances FDI inflow in Nigeria both within the mean and outside the mean of data. The study recommends that policymakers coordinate their FDI and education policies to maximize economic benefits.

KEYWORDS: ***foreign direct investment, Education, Quantile analysis and Nigeria.***

INTRODUCTION

Significant economic growth appears to have been facilitated by foreign direct investment (FDI) in a number of emerging nations. By acquiring and disseminating technical, managerial, and organizational skills through on-the-job training, FDI helps the recipient countries' human resources by providing them with new financial and technological resources (Agbola, 2013). Given the advantages of FDI, developing nations have developed a number of policies, including FDI promotion, trade facilitation, the provision of subsidies, and export development zones, to help FDI flow into their countries. Other elements, such education level, which frequently serves as a proxy for human capital, can also aid to draw FDI from abroad (Pantelopoulos, 2021; Wilhelms & Witter, 1998). Even while the literature examines the role of education, the mean result of the data, which is typically not distributed normally, received more attention. Thus, more research is required to understand the connection between FDI and education outside mean of data. Additionally, to enable comprehension of non-normally distributed results.

Therefore, the purpose of the present study is to examine how education affects foreign direct investment in Nigeria. This work added to the corpus of knowledge and helped shape policy. First, the study adds to the body of knowledge already available on foreign direct investment and education. The study differs from prior studies in that it uses OLS and quantile approaches to analyse the effect of education on FDI at both the mean and outside mean levels. Second, based on the empirical results, this study also acts as a reference for policy actions.

LITERATURE REVIEW

Foreign direct investment (FDI) is broadly regarded as beneficial for a country's overall growth. There are many positive effects of FDI on both the home (outward FDI) and host (inward FDI) economies. FDI flows are considered as long-term investments and thus are less volatile than portfolio investment flows. Accordingly, policymakers around the world seek to enhance the flows of FDI due to the many positive effects on countries' especially recipient countries'– development, such as job creation, an increase in local firms' productivity and knowledge transfer to the small firm sector. Additionally, and mainly in developed economies, FDI boosts the skills of the local labour force through managerial training and the absorption of new technologies (Pantelopoulos, 2021).

Tavares and Teixeira (2006) examined whether human capital was a relevant determinant of FDI. Their analysis was based on primary data gathered through a large-scale questionnaire survey of firms in Portugal and

on the controls of the firms' structural characteristics (i.e. size, age and industry) and strategic variables (i.e. R&D and export intensities): (i) the number of 'top skilled' workers over total employment, with top skills being measured by the number of engineers and (ii) the number of 'top educated workers over total employment, with top education represented by the number of workers with 12 or more years of formal education. Their results suggest that human capital exerts a positive and significant influence on FDI attraction. A cross-country analysis by Nunnenkamp and Spatz (2002) showed that a highly skilled labour force is crucial. Examining an unprecedented number of both FDI host and FDI source countries, the authors suggested that foreign investors were more likely to favour locations where education-related gender disparities were small. Nonnemberg and Mendonca, (2004) examined 33 countries for the period 1975–2000, including transition economies, and found that, among other factors, the level of schooling of the labour force was significant. The level of labour qualification was found to be a crucial parameter of inward FDI in achieving economic growth. Khan (2007) examined the nexus between human resource development, economic competitiveness, and globalization in the South Asian context. He stressed that multiple education helped governments, enterprises, and individuals to seize the new opportunities created by globalization. Furthermore, educated, and creative people have been increasingly affecting the capacity of countries in the region to compete in the world market and thus attract FDI flows.

Miningou and Tapsoba (2020) opined that the external efficiency of the education system is important for FDI inflows. Improving the external efficiency of the education system can play a role in attracting FDI especially in non-resource rich countries, nonland locked countries and countries in the low and medium human development groups.

According to Kyaw (2003) when domestic firms improve the overall skills of their workforce (through a combination of valuable training opportunities and incentives offered to workers), they can increase the impact of FDI on the volume of investment in a country. These findings also support the positive relationship between education and FDI. Shatz (2003) also focused on education as a determinant of FDI. The main finding was that better educated workers attracted more FDI. However, other studies in the literature, have reported that there is no significant relationship between the average years of schooling and FDI inflows (Miningou and Tapsoba, 2020). The emphasis in the reviewed literature was on the mean results, ignoring the data that was outside the mean, which is what this study was trying to address.

METHODOLOGY, VARIABLES, DATA ANALYSIS, EMPIRICAL RESULTS

Following the work of (Kabiru et al., 2022; Miningou & Tapsoba, 2020a; Pantelopoulos, 2021) this study adopted the following functional model.

$$FDI_t = F\ (EYS, GDPG, MRT) \quad (1)$$

The function of the FDI is transformed into econometric model as:

$$FDI_t = \alpha_0 + \alpha_1 EYS_t + \alpha_2 GDPG_t + \alpha_4 MRT_t + e_{it} \quad (2)$$

where FDI is foreign direct investment inflow, EYS is the expected year of schooling. The GDPD is representing Gross domestic product growth and the MRT represent mineral rent in Nigeria.

DATA

The data for the study is a time series data of Nigeria from 1999-2019. The data of FDI-inflow (% of GDP), GDP-growth, mineral rent % of GDP are from world development indicators (World Bank, 2020). The data for EYS is sourced from (AfDB 2020). Nigeria is the largest economy in Africa and one of the major recipients of FDI in Africa. The country also has the largest education institutions in Africa. A comprehensive descriptive statistic for annual data set used in this study is shown in Table 1.

Table 1: Descriptive statistic.

Variables	Descriptions	Values
FDI	Mean	3.234
	Std. Dev	2.071
	Min	-0.3
	Max	13.6
EYS	Mean	9.176
	Std. Dev	2.65521
	Min	3.9
	Max	16.3
GDPG	Mean	6.13

	Std. Dev	3.36233
	Min	-5.6
	Max	16.3
MRT	Mean	3.071
	Std. Dev	3.90221
	Min	1
	Max	20.4

ESTIMATION PROCEDURE

Unit root, Ordinary Least Square (OLS), and Quantile tests are all part of this research work. The OLS regression enables us to determine whether the FDI and independent variable have a linear relationship. It also checks to determine if the link holds up when more factors are incorporated into the regression. The extent of the relationship is also revealed by OLS. Then again, quantile regression makes it possible to comprehend outcomes that are non-normally distributed and that have non-linear relationships with the predictor variable. It does this by enabling the understanding of relationships between variables outside the data's mean.

All variables are put through a unit root test to confirm the level of stationarity and integration. The results of the unit root testing utilizing ADF Fisher and Philip are shown in Table 2. The outcome indicates that the integration variables' order is the mixture of I(0) and I(1).

Table 2: Unit root test

Variables	ADF		PP	
	Level	1st Diff	Level	1st Diff
FDI	-3.463(1)	-5.214(1) ***	5.332(1) ***	0.171(1)
EYS	-2.634(1) **	-6.314(0) ***	4.242(1) ***	1.247(1) **
GDPG	-1.105(1)	-3.212(1) ***	4.343(0) ***	0.311(1) *
MRT	-2.821(1) *	-5.513(1) ***	5.141(1) ***	2.334(1) ***

Notes: *, ** and *** denote significant at 1%, 5% and 10%, respectively.

Table 3 OLS's regression have shown that the impact of Education on FDI inflow in Nigeria is positive and significant at 5 percent level. This shows that education facilitate FDI inflow in Nigeria, this may be attributed to the development of human capital in the country. The findings agrees with the Miningou and Tapsoba (2020); Pantelopoulos (2021) that education is an important determinant of foreign direct investment. Also, the market size represented by GDPG appeared to be positive and significant at 1% level. This is in line with the expectation of the study and findings of (Mah, 2010; Suleiman, Kaliappan and and Ismail, 2015; Kabiru, Shehu and Sharehu, 2022). The factor variable representing mineral resources (MRT) also shows positive and significant sign. Meaning that mineral rent is important determinant of FDI in Nigeria. The finding is in line with the (Kabiru, Shehu and Sharehu, 2022). Mineral resources are the key variables attracting FDI inflow in Sub-Saharan Africa (Suleiman, Kaliappan and Ismail, 2015).

Extensively, the quantile estimation is taken by having different level of quantiles, which are classified as lower, medium, and upper, representing 25^{th}, 50^{th} and 75^{th} quantiles for the foreign direct investment values. The results are reported in Table 3. For example, the result confirms the positive effect of education (represented by EYS) on FDI throughout the quantiles. However, the effect is more significant at the higher quantile than the lower quantile. The impact of GDPG on FDI inflow is also positive and significant at the different quantile, with best significance level at the highest quantile. Similarly, the impact of mineral rent on FDI is positive and significant. But the significant level is higher at Q75 followed by Q50 and then the lowest quantile. The outcome confirms positive and significant result on all the variables across different quantiles. However, the result shows that level of significance differs across the lower, medium and upper quantile.

Table 3: Results for OLS and Quantiles regression

Variables	OLS	Lower Quantile Q25	Medium Quantile Q50	Upper Quantile Q75
EYS	0.035 **	0.043 *	0.023 **	0.034 ***
GDPG	0.021 ***	0.024 **	0.022 ***	0.031 ***
MRT	0.014 ***	0.021 *	0.043 **	0.0321 ***
Constant	7.012 ***	8.254 **	5.571 ***	6.013 ***

Notes: *, ** and *** indicate the 1%, 5% and 10%, significance level, respectively. Three quantiles are selected (Q = 0.25, 0.50 and 0.75) and assigned into three categories of low (Q = 0.25), medium (Q = 0.50) and high (Q = 0.75), which correspond to various level of impacts. FDI is the depended variable.

CONCLUSION

Several empirical studies have highlighted the relationship between foreign direct investment (FDI) and education, but none of the existing studies has clearly tested the presence of this relationship across different quantiles. Using annual data from Nigeria over the 1999–2020 period and employing ordinary least square and quantile regression techniques, this paper examines the impact of education on FDI. The outcome of the empirical analysis presented in this study finds that education and FDI have a positive and significant relationship. An effective number of expected years of schooling leads to a relatively large increase in FDI inflow in Nigeria. The empirical findings presented in this paper support Kheng et al., (2016)'s policy recommendation. Specifically, as the inward FDI and education are central for economic development of host countries and both exert a positive and significant impact on each other, policy makers must coordinate their FDI and education policies to maximize the benefits to the society.

REFERENCES

1. *Agbola, F. (2013). Does human capital constrain the impact of foreign direct investment and remittances on economic growth in Ghana? Applied Economics, 45(19/21), 2853–2862. https://doi.org/doi:10.1080/00036846.2012. 676735*
2. *Kabiru, A., Shehu, M., & Sharehu, A. M. (2022). Dynamic Panel Approach On Foreign Direct Investment and Terrorism in West and Central Aafrica. EPRA International Journal of Economic and Business Review, 10(1), 7–14. https://doi.org/10.36713/epra2012*
3. *Khan, A. (2007). Foreign Direct Investment and Economic Growth: The Role of Domestic Financial Sector. (Finance Working Paper 22205).*
4. *Kheng, V., Sun, S., & Anwar, S. (2016). Foreign direct investment and human capital in developing countries : a panel data approach. Economic Change and Restructuring, 1(8). https://doi.org/10.1007/s10644-016-9191-0*
5. *Kyaw, S. (2003). Foreign direct investment to developing countries in the globalised world. In DSA Conference 2003.*
6. *Mah, J. S. (2010). Foreign direct investment inflows and economic growth of China. Journal of Policy Modeling, 32(1), 155–158. https://doi.org/https://doi.org/10.1016/j.jpolmod.2009.09.001*
7. *Miningou, É. W., & Tapsoba, S. J. (2020a). Education Systems and Foreign Direct Investment : Does Dxternal Efficiency Matter ? Journal of Applied Economics, 23(1), 583–599. https://doi.org/10.1080/15140326.2020.1797337*
8. *Miningou, É. W., & Tapsoba, S. J. (2020b). Education systems and foreign direct investment : does external efficiency matter ? Journal of Applied Economics, 23(1), 583–599. https://doi.org/10.1080/15140326.2020.1797337*
9. *Nonnemberg, J., & Mendonca, J. (2004). The Determinants of Direct Foreign Investment in Developing Countries. Institute of Applied Economic Research (IPEA), Directory of Macroeconomic Policy & Studies (DIMAC).*
10. *Nunnenkamp, P., & Spatz, J. (2002). Determinants of FDI in Developing Countries: Has Globalization Changed the Rules of the Game? Kiel Institute for the World Economy.*
11. *Pantelopoulos, G. (2021). Higher education , gender , and foreign direct investment : Evidence from OECD countries. Industry & Higher Education, 1(8). https://doi.org/10.1177/0950422221997274*
12. *Shatz, H. (2003). Gravity, education, and economic development in a multinational affiliate location. Journal of International Trade & Economic Development, 12(2), 117–150.*
13. *Suleiman, N. N., Kaliappan, S. R., & & Ismail, N. W. (2015). Determinants of foreign direct investment: Empirical evidence from Southern Africa Customs Union (SACU) countries. International Journal of Economics and Management, 9(1), 1–24.*
14. *Wilhelms, S., & Witter, M. (1998). Foreign direct investment and its determinants in emerging economies.*
15. *World Bank. (2020). World Development Indicators. Data Bank https://databank.worldbank.org/reports.aspx?source=2&series=*