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Article

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Re-Investigating Foreign Direct Investment and Poverty Alleviation: Does Status Quo Still Hold within ECOWAS Sub-Region?

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Abstract: The focus of this study is to examine the relationship between FDI inflows and poverty alleviation in 16 ECOWAS countries between 1990 and 2017. FDI Data and other macroeconomic data were collected from UNCTAD investment report and WDI respectively. Consequently, different panel techniques were employed for the analysis of the study. The findings that originated from this work established the following among others that FDI inflows contributed significantly to poverty alleviation in ECOWAS countries. Also, the spillovers of FDI projects contributed an impressive rate at which poverty is been alleviated in this economic bloc Therefore, as a result of these important findings, this paper makes the following recommendations for the policy makers, investors, financial institutions regulators and future researchers as follows: firstly, the policy makers in ECOWAS countries should embark on policy measures that will further facilitate the sporadic inflows of FDI in this economic bloc. Also, FDI projects could be a viable means of achieving sustainable development goal of poverty eradication in ECOWAS region. Because whenever poverty alleviation is the target of the policy makers in ECOWAS countries, manipulating FDI inflow in appropriate direction, its spillover effects will diffuse to the reduction of poverty in the long run.

Keywords: FDI; Poverty Alleviation; ECOWAS Countries

JEL Classification: F21; F23

1. Introduction

In the last few years, foreign direct investment inflows in Africa has been erratic in nature. From 2015 to 2016, FDI inflows decreased from $61 billion to $59 billion, which is about 3.2% decline (UNCTAD, 2018). The inflows of FDI have been unevenly distributed across the African regions, with five countries (Angola, Egypt, Nigeria, Ghana and Ethiopia) accounting for the dominating shares of 57% of total FDI inflows in Africa 2016.

Meanwhile, West Africa sub region has been the most popular destination of FDI inflows in the continent. UNCTAD records show that ECOWAS countries received 55.4%, 74.5% and 91.5% of the continent`s total FDI inflows in 1971, 1973 and 1975 concurrently. In the 1990s, the highest proportion of the total FDI inflows in the continent still went to this region. From 1971 to 2010, the

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ECOWAS sub region acquired the highest proportion of FDI inflows in Africa which is 31.3 %. Meanwhile, North Africa accounted for 29.1% which made the two region to account for over 60% of total FDI inflows to the entire continent (UNCTAD, 2018).

However, the spillover effects of FDI as a weapon for poverty alleviation in developing economies cannot be undermined. It has been argued in the literature that the spillover effects of FDI can be divided into two parts which are horizontal spillover and vertical spillover effects. The horizontal spillover effects emanate from non-market and non-contractual transactions in a situation whereby domestic firms take advantage of resources from foreign firms especially in an intra-industry setup (Meyer, 2004). Meanwhile, horizontal spillover effects are the products of technological transfer from foreign firms to local firms which are operating under the same frequency but at different levels of technological sophistication (Falore and Winkler 2012).

Consequently, the Millennium Development Goal (MDG) targeted at reducing extreme poverty and hunger in developing economies by 2015 has been achieved at the global level. However, some countries are still lagging behind with high degree of poverty in which ECOWAS countries are not insulated (United Nations, 2015). Despite the fact that ECOWAS sub region has attracted substantial quantum of FDI in the time past, there have not been serious efforts to investigate the impact of this variable on poverty alleviation in this sub region which calls for this study at the moment. In addition, previous studies on FDI and poverty nexus in Africa are controversial in terms of the results and policy implications. See Soumare (2015), Ucal (2014), Bharadwaj (2014), Fowowe and Shuaibu (2014), Gohou and Soumare (2012). As a result of this, further efforts are needed in the recent time to disentangle the possible diffusion of FDI spillovers to poverty alleviation on a regional basis because of the heterogeneity effects that are peculiar with each region of Africa. In view of the above, this study has been designed to examine the impact of FDI on poverty alleviation in ECOWAS countries from 1990 to 2017. In addition to introduction, the rest of the paper has been organized in the following ways: section two reviews the related literature meanwhile section three presents the research methodology, discusses and summarizes the estimated results with the policy recommendation.

2. Review of Empirical Literature

This section presents the past empirical studies about the link between FDI and poverty alleviation in developing countries in particular and the world as a whole.

2.1 Relationship between FDI Inflows and Poverty Related Variables in Developing Countries

Aderemi *et al.* (2019:2) investigated how China affected Africa through FDI inflows from 1990 to 2018. The study showed evidence that FDI inflow from chia contribute to a significant impact to the rate at which Africa grows. Aderemi *et al.* (2020) applied ARDL and ECM in examining the factors that drive foreign direct investment inflows in China. The study identified the Chinese large market size and aggressive growth rate of the economy as the major driving variables responsible for FDI inflows in the second world largest economy. Olaoye *et al.* (2020) assessed nexus between FDI and energy consumption with evidence from Nigeria. It could e established that energy consumption caused an insignificant adverse effect on FDI inflow in the country.

Mahmood and Chaudhary (2012) examined the link between FDI and poverty reduction in Pakistan between 1973 and 2003 with the aid of Autoregressive Distributed Lag (ARDL) approach. The authors discovered that FDI led to poverty deduction in the country within the studied periods. Similarly, Zaman et al (2012) found out the same results while employing Ordinary Least Squares (OLS) in a related study in Pakistan between 1985 and 2011. However, Ali and Nishat (2010) discovered a contrary result with application of Autoregressive Distributed Lag (ARDL) on time series data of Pakistan between 1973 and 2008. In another study, Ucal (2014) appraised the spillover effects of FDI on poverty level in 26 developing countries with the application of unbalanced panel analysis between 1990 and 2009. It was concluded from the study that FDI has a negative impact of FDI on poverty in the selected countries. In the same vein, Fowowe and Shuaibu (2014) utilized Generalized Methods of Moments (GMM) to estimate the effect of FDI on poverty in Africa from 1981 to 2011. The paper concluded by establishing that FDI led to the alleviation of poverty in Africa.

Furthermore, Bharadwaj (2014) investigated the relationship between globalization and poverty in 35 developing economies between 1990 and 2004 with the application of a panel regression. The author discovered that globalization reduced poverty in the selected countries. While examining the nexus between FDI and poverty in 52 countries in Africa between 1990 and 2007, Gohou and Soumare (2012) adopted a panel data analysis alongside 2-stage least square regression for the control of endogeneity. The authors discovered that a strong and significant positive linkage between FDI and poverty reduction in the countries selected for the study. In another study, Reiter and Steensma (2010) employed unbalanced panel data analysis to estimate the nexus between human development and FDI inflows in 49 developing countries from1980 to 2005. It was established from the study that FDI, human development and poverty reduction have a strong and positive relationship. In the same vein, Soumare (2015) utilized a dynamic panel data regression and Granger-causality approach to investigate the linkage between FDI and welfare in Northern Africa between 1990 and 2011. The study submitted that there was an existence a positive and strong relationship between net FDI inflows and welfare improvement in the Northern Africa sub region.

However, Huang et al. (2010) applied unbalanced panel data analysis to investigate the relationship between FDI inflows and poverty reduction in 12 Eastern and Latin American economies from 1970 to 2005. It was discovered from the study that FDI inflows have a negative relationship with poverty reduction in those countries. Akinmulegun (2012) adopted a Vector Autoregression to analyze how FDI inflows have impacted welfare in Nigeria between 1986 and 2009. The author concluded that FDI inflows led to an insignificant impact on welfare. In a similar study in Nigeria, Israel (2014) used results from the assessment of the impact of FDI and poverty reduction to establish that FDI inflows have a positive impact on poverty reduction in Nigeria within 1980 and 2009. Meanwhile, Ogunniyi and Igberi (2013) used the Ordinary Least Squares to assert that FDI inflows have an insignificant impact on poverty reduction in Nigeria between 1980 and 2012.

2.2 Relationship between FDI Inflows, Economic Growth and other macroeconomic variables in Developing Countries

According to Jadhav and Katti (2012), the inflows of FDI BRICS countries were hindered by political chaos, voice, control of corruption and accountability but efficient governance and quality of regulatory facilitated the flows of FDI in BRICS economies. Meanwhile, Aderemi *et al*. (2019) concluded that foreign direct investment, growth rate and economic growth had a long run convergence and FDI granger caused economic growth in BRICS countries. But Jadhav (2012) posited that FDI flows to BRICS economies because of their rule of law, openness to trade ad huge market size. The author however, submitted that the availability of natural resources caused the reverse effect in these countries. Therefore, FDI inflows in these countries is more of marketing seeking oriented. In similar a study in East European countries, Hudea and Stancu (2012) submitted that FDI inflows and economic growth possessed both short run and long run positive relationship. Agrawal et al. (2011) adopted a modified growth model alongside Ordinary Least Square technique to assess the nexus between the growth of economy and FDI in China and India between 1993 and 2009. It could be deduced from the paper that the larger market size of the Chinese economy constituted a significant factor behind the reason why more foreign investors preferred China to India. Meanwhile, Vijayakumar *et al*. (2010) established that labor cost, market size, infrastructure, and gross capital formation were the main factors responsible for the FDI inflows in BRICS countries, but trade openness and inflation are insignificant factors causing FDI inflows in these countries. Azam (2010) concluded that foreign debt, size of market, local investment, infrastructural facilitilies amd openness to trde are the principal factors that determine FDI iflows in India, Indonesia and Pakistan. In another study, Chang (2007) proved that there was no existence of causal relationship between FDI inflows and the growth of Taiwan economy.

In conclusion, from the above reviewed literature the studies of FDI in developing countries are ongoing generally. In particular, studies on nexus between FDI and poverty reduction in developing economies are still controversial, and there is not yet a coclusive relationship in the literature. Hence, the importace of this work.

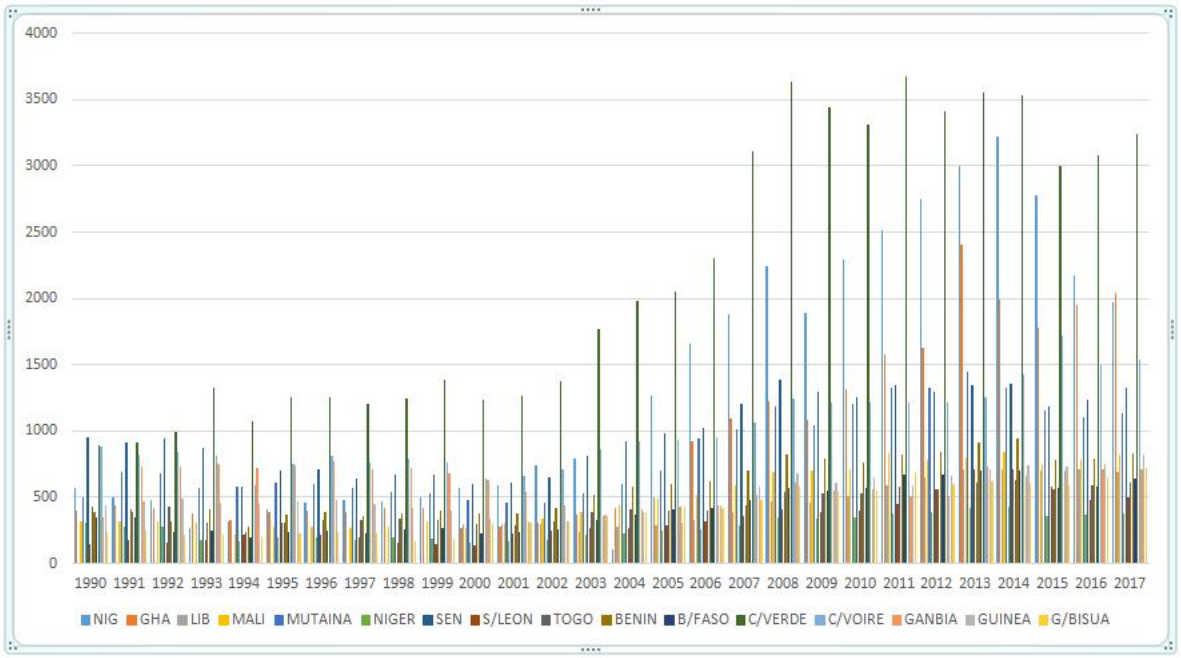

Figure 1. An Overview of Poverty Indicators in ECOWAS Countries

Source: Authors' Computation (2020)

Figure 1 above shows the household consumption per capita in the following ECOWAS countries: Nigeria, Ghana, Liberia, Mali, Mauritania, Niger, Senegal, Serial Leone, Togo, Benin, Burkina Faso, Cabo Verde, Cote d`ivoire, the Gambia, Guinea and Guinea Bissau. From the figure above, it could be deduced that Cabo Verde is the country with highest level of the household consumption per capita virtually from 1990 to 2017. In Mauritania, the household consumption per capita was very impressive between 1990 and 1999 as the second best country after Cabo Verde. However, in 2000, Nigeria overtook Mauritania to become the second country with the highest household consumption per capita in ECOWAS countries. Similarly, in 2007, Ghana came to limelight as well. From 2007 to 2016, Nigeria and Ghana were the 2nd and 3rd countries with the highest household consumption per capita in ECOWAS respectively. However, in 2017, Ghana overtook Nigeria to become the second country with lowest poverty level in ECOWAS countries. On the other hand, the countries with lowest household consumption per capita on average are Serial Leone and Niger simultaneously.

3. Methodology

This study makes use of data which originated from secondary sources. The scope of the data ranges from 1990 to 2017. Meanwhile, data for inflows of FDI were extracted from UNCTAD investment report of the World Bank. Data on GDP per capita and GDP per capita growth were extracted from World Bank Development Indicators.

3.1 Model Specification

$$FDI = F(PVT, PVTR) \quad (1)$$

Log linearizing model one leads to model two as follows;

$$LnFDI_{it} = \propto_i + \beta 0 LnPVT_{it} + \beta 1 PVTR_{it} + U_{it} \quad (2)$$

Where FDI stands for foreign direct investment inflows. This is measured in the millions US dollars in constant prices. PVT represents the level of poverty and gross domestic product per capita which is in US dollars is used to proxy it. This is used to measure the household consumption per capita in the countries under study. In the same vein, PVTR is used to denote poverty rate and is measured by GDP per capita growth rate which is in percentage.

U captures error term. Moreover, i accommodates sixteen countries selected for the panel analysis, which are Nigeria, Ghana, Liberia, Mali, Mauritania, Niger, Senegal, Serial Leone, Togo, Benin, Burkina Faso, Cabo Verde, Cote d`ivoire, Gambia, Guinea and Guinea Bissau. However, Saint Helena is excluded from the analysis due to the FDI data problem associated with this country.

t= 1990----------2017. $\propto$ ***is an intercept and*** $\beta 0$ ***and*** $\beta 1$ ***are slope parameters*** The estimation of model 2 would show the relationship between the FDI and poverty alleviation in ECOWAS as evidenced from the panel analysis.

3.2 Result and Discussion

Table 1. Descriptive Statistics of Annual Data Series (1990-2017)

Descriptive Statistics	LFDI	LPVT	PVTR
Mean	3578.107	1317.568	1.796429
Median	2239.000	768.1500	2.200000
Maximum	8915.000	3221.700	12.50000
Minimum	1003.000	107.3000	-4.500000
Std. Deviation	2493.419	976.4178	4.019414
Skewness	0.786992	0.488979	0.403936
Kurtosis	2.337514	1.718917	3.109240
Jargue-Bera	54.43785	48.48809	12.40570
Probability	0.000000	0.000000	0.002024
Sum	1602992	590270.4	804.8000
Sum. Sq. Deviation	2.78E+09	4.26E+08	7221.594
Observation	448	448	448

Source: Authors` Computation (2020)

Table 1 shows descriptive statistics of dataset to denote FDI, poverty level and poverty rate for the analysis. The number of observations for each of the data is 448, which implies that the data set is a balanced panel data analysis. FDI has the highest maximum and minimum values of 8915.000 and 1003.000 respectively. All the variables have a positive skweness with the values of kurtosis around 3. This shows that the variables partially agree with symmetrical assumption. In the same vein, mean values of FDI and GDP per capita are greater than their standard deviations. This implies that these variables are moderately dispersed from their mean. Meanwhile, the reverse is the case of GDP per capita growth.

Table 2. Correlation between FDI, Poverty Level and Poverty Level Rate

Variables	LFDI	LPVT	PVTR
LFDI	1.00000	0.78078	0.15479
LPVT	0.78078	1.00000	0.10414
PVTR	0.15479	0.10414	1.000000

Source: Authors` Computation (2020)

FDI has a strong positive correlation with poverty level, though weak with the rate of poverty level. Whereas, the correlation between poverty level and the rate of poverty is weak. However, there is no presence of high correlation between the regressors. Therefore, there will be no multicollinearity problem in the model estimation.

Table 3. The Relationship between FDI Inflows and Poverty Alleviation in ECOWAS

Dependent variable: LFDI				
Variables	FE Estimation	RE Estimation	Pooled Estimation	Panel DOLS
LPVT	1.974097** (25.6)	1.974097** (25.6)	1.974097** (26.1)	1.868179** (15.9)
PVTR	46.08333* (2.46)	46.08333* (2.46)	46.08333* (2.51)	129.7265* (2.77)
R-squared	0.615090	0.615090	0.615090	0.752767
Adjusted R-squared	0.599872	0.613360	0.613360	0.655084

a. The asterix * indicates 5% level of significance, ** indicates 1% level of significance

b. *Figures in the parenthesis represent t- value*

c. *A constant term is included but not reported*

Source: Authors` Computation (2020)

In table 4, the panel data analysis of fixed effects method, random effects method, pooled estimation and panel dynamic ordinary least square for the ECOWAS countries were presented. It is worth of note that fixed effects, random effects and pooled techniques show similar result. The difference between the models emanated in their adjusted R square. However, the estimated results from panel dynamic ordinary least square show a clear difference in terms of the coefficients, t-values. The R square of this model shows that panel

DOLS is comparatively the best for this work among other estimated models in the table. In view of the above, the estimated results of the panel dynamic regression are discussed as follows; FDI inflows and GDP per capita have a significant positive relationship in the ECOWAS countries. A unit change in FDI inflows increases GDP per capita by 1.9 %. This implies that FDI inflows contribute to increment in household consumption per capita in these countries. In another words, FDI projects in ECOWAS countries has been contributing significantly to the alleviation of poverty in this economic bloc. It is paramount to stress that this finding is validated by the submissions of Soumare (2015) who carried out a similar study in North Africa and Fowowe and Shuaibu (2014), Gohou and Soumare (2012) in similar studies in SSA respectively. Ogunniyi and Igberi (2013), and Akinmulegun (2012) discovered a positive but insignificant relationship in Nigeria. However, Ucal (2014) and Ali and

Nishat (2010) discovered a contrary result in a panel analysis of 26 developing countries and Pakistan concurrently.

In the same vein, the dynamic estimated result shows a significant positive relationship between FDI inflows and GDP per capita growth. A unit change in FDI inflows contributes to about 1.29% increment in GDP per capita growth in the ECOWAS countries. This implies that the impact of FDI projects brings about 1.29% in the rate at which GDP per capita increases on annual basis in these countries. In other words, FDI projects in ECOWAS countries alleviate poverty at the rate less than 2% annually.

4. Conclusion and Recommendation

In this paper, an attempt has been made to examine the relationship between foreign direct investment and poverty alleviation in 16 ECOWAS countries between 1990 and 2017 with the application of different panel techniques. Consequently, the findings that originated from this work established the following among others that FDI inflows contribute significantly to poverty alleviation in ECOWAS countries. Also, the spillovers of FDI projects contribute an impressive rate at which poverty is been alleviated in this economic bloc.

Therefore, as a result of these important findings, this paper makes the following recommendations for the policy makers, investors, financial institutions regulators and future researchers as follows: firstly, the policy makers in ECOWAS countries should embark on further policy measures that will further facilitate the sporadic inflows of FDI in this economic bloc. Also, FDI projects could be a viable means of achieving sustainable development goal of poverty eradication in ECOWAS region comes 2030. Because whenever poverty alleviation is the target of the policy makers in ECOWAS countries, manipulating FDI inflow in appropriate direction, its spillover effects will diffuse to the reduction of poverty in the long run. This study could also serve as a viable platform for other researcher to build upon in the nearest future.

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