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THE IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN SUB-SAHARAN AFRICA

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Abstract

This paper examined the impact of foreign direct investment on economic growth in sub-Saharan Africa. The data used in the study was obtained from the World Bank Development Indication for the period, 1985-2017. Panel regression test was used for the analysis. The findings revealed that FDI had negative and significant impact on economic growth in SSA over the period cover by the study. Specifically, a 1 percent decrease in FDI as share of GDP reduces economic growth by 0.088. Exchange rate (EXR) and trade openness (OPN) exert positive and significant impact on economic growth in Sub-Sahara African. The study implies that FDI has not helped in the growth of sub-Sahara African economy. We recommend that governments of sub-Sahara African countries should make their environment conducive to foreign investors by tackling insecurity. The study further suggests that SSA countries should endeavor to attract domestic investment.

Keywords: Foreign Direct Investment, Economic Growth, Sub-Saharan Africa

1. Introduction

Non-Organization for Economic Co-operation and Development (OECD) financier countries such as China, India, and the Gulf states have recently provided fund for Sub-Sahara African's infrastructural development order than the normal official development assistance (Foster, Butterfield, Chen & Pushak, 2009). This is so because the region is believed to have serious financial constraints which have been recognized globally in the outlook of achieving the Millennium Development Goals. Besides, Sub-Sahara African countries suffer from many weaknesses which have slowed down the growth of the region. Among the weaknesses are sectoral dominance driven mainly by extractive industries, low export and inability to diversify their production base. The resource gap which has resulted in continual financial constraints exposed many African and Sub-Sahara African (SSA) countries' heavy reliance on external sources of fund like foreign direct investment and foreign aid to support other means of capital flows.

Notwithstanding, SSA has received the total of 0.43 trillion and 1.071 trillion USD in FDI and official development assistance respectively since 1970. It amounts to 39% of entire finance inflow in developing countries collectively between 2013 and 2017, which make it the major base for external resource flow for developing economies (UNCTAD, 2018). However, global FDI declined by 16% to $1.23 trillion in 2014 down from $1.47 trillion in 2013. FDI was projected to rise by 11% to $1.4trillion in 2015, $1.5trillion in 2016 and further increase to $1.7trillion in 2017. However, FDI witnessed global increase by 38% to $1.76 trillion in 2015, the highest since the global economic financial crisis. UNCTAD optimistic prediction on FDI rise to $1.8trillion in 2017 and $1.85trillion in 2018 was unattained as global FDI fell by 2% to $1.75 trillion in 2016 and by 23% to $1.43 trillion in 2017**.** Inward FDI in developing countries was at its highest at $681 billion with Africa recording $54 billion.

Among the top 10 FDI recipients in the world, 5 are developing economies. Sub-Sahara Africa's FDI inflows are only 2% of the world total, so small compared to other regions. Europe leads with nearly 40% in terms of its share of Sub-Sahara Africa's FDI stock, that of U.S. was around 12.5% followed by China's share of about 7.5% Sub-Sahara Africa's cumulative FDI inflows (World Investment Report, 2015). Inflows into Africa were disproportionately distributed; Egypt, Ghana, Nigeria, Angola and Ethiopian alone accounts for 57% of the total

FDI. Following investor's loss of interest in Sub-Saharan Africa as a result of restrained commodity prices, its inflows reduced by 7 per cent, to $45 billion.

FDI is attracted in a country through the activities of the Multi-National Companies (MNCs) by establishing local companies through foreign associates. The mode and nature of FDI into a country depends on the motive of the MNCs which could be efficiency-seeking, strategic asset-seeking, resource-seeking and market-seeking**.** The inflow into Africa is mainly resource-seeking driven by extractive industries.

Sub-Saharan Africa has had diverse growth trend defined by country specific, resource strength and demographic dividend (IMF, 2015). The diversity in growth is seen in resource intensive and non-resource intensive country and from oil importing and exporting countries on the other hand. For example, in the case of Zambia, natural resource sector contributes over 50% to the economy with mining sector accounting to 86% of total FDI both in stock and flow. Thus it was argued that natural resource countries fail to achieve export lead growth and other forms of growth due to volatile and susceptible to falling oil prices in countries like Nigeria, Angola, Cameroun, and Equatorial Guinea which lead to considerable decline in oil revenues. As a result, private consumption, inflation and export revenue were seriously affected (Arnsdof, 2015).

However, various theories have been used to explain the flow and expansion of FDI in liberalized economies. Aliber (1970) used exchange rate theory to explain the strength of a countries currency as a major force behind FDI flow. Vernon, (1974) explained that locational decisions and activities of multinational enterprises in the host country are responsive to production cost and market size of the host countries. In search of additional profit and risk reduction, the activities of the MNCs are diversified. Eclectic theory by Dunning (1973) uses ownership, location and internalization (OLI) advantage to explain differences between countries in their involvement in international investment.

While literature abounds with evidence of positive growth effects of FDI (Adam & OseiOpoku, 2015; Waqas, 2016), few studies exist on the impact of FDI in SSA confirming the existence of knowledge gap. Previous related studies were mainly on country specific (Asafu-Adjaye, 2016; Siddiqui & Ahmed**,** 2017) while some were based on sector specific (Siddiqui & Ahmed**,** 2017; Hussain, 2017; Azeroual, 2016). Against this backdrop, we carry out this study with the objective of finding out the impact of FDI on the growth of SSA economy.

2. Literature review

FDI in general is becoming an increasingly important catalyst for growth particularly in developing countries. FDI involves the incorporation of the domestic economic system with global markets. It is a way of moving technology and capital across the globe by a corporation that operates in more than one county. It is proficient through opening up of the domestic economic sector in addition to domestic capital for foreign investors to set up business within the economy. It enhances economic growth through knowledge and technological transfer of foreign firms that improve aggregate productivity. As economies expand and business operations continue to advance between nations, with developing countries possessing sufficient raw materials for industries abroad, foreign investment is certain as industries in developed countries sought to establish in less developed economies (Hanafy, 2015). According to Tanaka (2009), globalization and liberalization has transformed the world economy by allowing cross-border inward flows in form of foreign direct investment in various countries across the globe leading to increased global flows at a pace faster than international trade and income in recent years.

FDI is transmitted to economic growth through the proficiency of the productive sectors, hence confirming Alfaro (2003) assertion that the growth effect depends on the sector receiving the investment. Nguyen (2011) contends that though FDI and export are related, the extent to which the relationship spurs growth depends on whether FDI is market-seeking or efficiency-seeking. Helpman and Kruman (1995) stressed that export oriented FDI can improve growth if the host country makes a proper choice of place and aim at the type of activities to embark on. Mpanju (2012) opine that increase in export increases factors of production because of its impact on economies of scale and other positive factors such as improved skill, transfer of technology, managerial skill and increase production. Ncunu (2011) believes that stronger export sector creates job, accesses modern technologies and results in positive effects on the balance of payments. Strauss (2015) holds that the ability of the host country to adapt new technologies and skills into their existing processes helps the host country to exploit foreign direct investment potentials. Alfaro (2003) emphasized on the importance of country's absorptive capacity for such investments to sustainable development and the ability to convert them into effective and productive investment that lead to capital formation and job creation in the country. Aitken and

Harrison, (1999) retaliates that through modernization and increase competition of the local markets, FDI hasten economic growth and results in an increased government focus on policies to encourage inflows into their countries.

Various empirical studies exist on the impact of foreign direct investment on economic growth. Adams (2009) established that foreign direct investment has positive effect on economic growth in Sub-Sahara African countries for the period 1990-2003.

The study of Trojette (2016) on five regions; SSA, MENA, Europe, Asia and America with a generalized-method-of moment (GMM) panel estimator for the period of 30 years revealed that with government stability and the respect of law and order, FDI enhances economic growth in SSA.

Uremadu, Umezurike and Odili (2016) found that foreign direct investment has positive and significant impact on gross domestic product in Nigeria both in the long run and short run with annualized data from 1981-2013, employing ordinary least square technique and vector error correction model.

Jugurnath, Chuckun and Fauzel (2016) took a panel study of 32 Sub-Sahara African countries to analyze the impact of FDI on the economic growth during the period 2008-2014. Static panel regression techniques and dynamic panel estimates were used to assess the causal relationship between independent variables. FDI had a positive and significant impact on economic growth.

Asafu-Adjaye (2000) revealed that FDI has a positive long-run effect on the growth of Indonesian economy. Economic growth, defined as real GDP and real gross national income was used as dependent variable over FDI with data gathered from World Development Indicators covering the period, 1970-1996.

Similarly, Waqas (2016) employed Autoregressive Distributed Lag- Error Correction Model (ARDL-ECM) technique to find both the long run and short run effects of FDI on Gross Domestic Production of Pakistan over the period 1966 -2014. FDI has significant and positive impact on the economic growth of Pakistan in the short and long run.

Adams and OseiOpoku (2015) established in their study that the growth effect of FDI is stimulated in the presence of effective and quality regulations by examining the effect of foreign direct investment on economic growth. General Methods of Moments (GMM) estimation

technique was employed to analyze the data for 22 Sub-Sahara African countries spanning the period, 1980–2011. Findings reveal that FDI does not have an independent significant effect, but, their interaction has a significant positive effect on economic growth.

Ur Rahman (2014) employed multiple regression technique to examine the impact of foreign direct investment on economic growth of Pakistan with data covering 1981 to 2010. Multiple regression technique was used for analysis. The result indicates that there is a positive relationship between the FDI and GDP.

The study of Aveh, Krah and Dadzie (2013) which sought to account for the effect of FDI on economic growth in Ghana with a two stage least square econometrics analysis and time series data from 2004 to 2011found that FDI have insignificant positive effect on economic growth.

Saidi, Haouas and Ochi (2014) employed GMM panel regression to analyze the long run relationship of FDI with economic growth of 16 economies in MENA region. Data for the study span 1996-2012. The study proofs that FDI inflows and economic growth were positively correlated but with a weak significance over the period covered.

Rodríguez-Pose1 and Cols (2017) established in their study on 22 Sub-Sahara African countries that the ability of African countries to attract FDI in SSA is continuous. They found that quality of governance plays a significant and enduring role in the distribution of FDI in Sub-Saharan Africa growth.

3 Methodology and Data

The aim of our study is to analyze the impact of FDI on economic growth in sub-Saharan Africa for the period, 1985 - 2017. The Data for the study were obtained from World Bank's World Development Indicators covering 30 sub-Sahara African countries namely; Angola, Benin, Burkina Faso, Cameroon, Congo Democratic, Congo Republic, Cote d'Ivoire, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Malawi, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe. The method used in the analysis of our study is OLS panel regression. The fixed and random effect estimator were employed and Hausman test used to select the most appropriate model for the study.

We hypothesize that foreign direct investment does not have positive impact on the growth of sub-Sahara African economy. We adopted and modified the model of Uremadu, Umezurike and Odili (2016) in the study that examined the impact of FDI on the growth of the Nigerian economy specified as follows:

$GDPgr_t = a + FDIt + EXCHt + INFLRt + GNSt + OPNt + INTRt + e$ (1)

Where, GDPgr is gross domestic product growth rate; FDI is foreign direct investment; EXCH is exchange rate; INFLR is inflation rate; GNS is gross national savings; OPN is openness of the economy; INTR is interest rates; a, is constant and e is error term. We modified the above model to suit our model thus:

$$RGDP_{gr} = \beta_0 + \beta_1 FDI_{it} + \beta_2 EXR_{it} + \beta_3 OPN_{it} + \varepsilon_{it} \quad (2)$$

Where,

$RGDP_{gr}$ *= gross domestic product growth rate*

FDI = net foreign direct investment flow as a ratio of GDP

lnEXR = Natural log of exchange rate (import+export/gdp)

OPN = trade openness as a ratio of GDP

ε_{it} *= error term*

β_0 *= coefficient of independent variables*

Real Gross Domestic Product (RGDP) growth rate was used as a dependent variable and is the annual percentage growth rate of GDP at market prices based on constant local currency aggregated on constant 2010 U.S dollar, and FDI as independent variable. Our study made use of net FDI flow as independent variable. We used net FDI flow because it is a better representation of actual FDI flow in a country. It does not include divestment made by foreign investors**.** The study of Carbonell and Werner (2018), Almfraji, Almsafir and Yao (2014) also made use of net FDI flow**.** We assume trade openness and exchange rate as an important factor in FDI-induced growth, hence the justification of exchange rate and trade openness as control variables.

4. Results and Discussion

Table 1. Descriptive Statistics

	FDI	RGDPgr	OPN	LogEXR
Mean	2.945798	3.876581	68.96367	4.036896
Median	1.593587	4.177388	60.91646	5.639853

Maximum	50.00028	35.22408	178.9938	22.62881
Minimum	-28.62426	-50.24807	14.32573	-22.51778
Std. Dev.	5.186906	5.171654	30.44858	4.209128
Observations	982	983	961	981

The descriptive statistics shows the individual characteristics of our variables. Foreign direct investment relative to GDP averaged 2.94% with highest rate of 50.00%. Real gross domestic product growth rate on the average is 3.87% and maximum at 35.22%. On the other hand, the mean trade openness (OPN) in ratio of GDP and log of exchange rate (LogEXR) stood at 68.96% and 4.03, respectively.

Tests for Stationarity

Table 2. Panel unit root test

Variable	Levin, Lin & Chu t	Breitung t-stat	Im, Pesaran and Shin W-stat	ADF - Fisher Chi-square	PP - Fisher Chi-square	Order of Integration
FDI	-12.2343***	-9.53181***	-18.4494***	602.532***	5121.69***	I(1)
RGDPgr	-17.6594***	-15.7237***	-26.3556***	234.699***	1134.36***	I(1)
OPN	-11.7634***	-7.74049***	-14.3627***	303.678***	1444.11***	I(1)
LogEXR	-4.90606***	-5.26398***	-9.99570***	222.896***	578.106***	I(1)

***Significant at 1% and 5%

We used five test criteria to ascertain the stationarity of our variables as shown in Table 2 above. All our panel series are stationary after first differencing (i.e. at order one).

Panel regression result

Table 3: Fixed effects estimation results

Dependent Variable: RGDPgr

Variable	Coefficient	P-Value
FDI	-0.088226	0.0216***
Log(EXR)	0.278262	0.0000***
OPN	.036856	0.0010***
Intercept	0.397467	0.5919
Prob. (Hausman)	0.0008***	
R^2	0.110751	
Adjusted R^2	0.079447	
DW	1.844267	
F-statistic	3.537849	
Prob(F-statistic)	0.000000***	

*Significant at 1% level

In regression results in table 3 above, Hausman-test upholds that fixed effect model is more appropriate. The coefficient of foreign direct investment is negatively signed but the p-value is significant showing that FDI does not enhance economic growth in SSA; 1 percent decrease in

FDI as a share of GDP retards economic growth by 0.088. The probability of F-statistic reveals that the model is jointly significant at 1%. Carbonell and Werner (2018) found that FDI exerts negative effect on growth. Durham (2004) found that a negative impact of FDI was due to the low absorptive capacity of the host economy.

The results further show that the log of exchange rate is positive and highly significant in the growth of sub-Sahara African economy. Exchange rate (EXR) and trade openness (OPN) exert positive and significant effect on economic growth in Sub-Sahara African at 1% level.

Specifically, a unit increase in EXR results to 0.28 point rise in economic growth. The coefficient of trade openness in the regression line implies that a percentage increase in OPN increases economic growth in SSA by 0.036.

5. Conclusion and Recommendations

The FDI-induced growth strategy in Sub-Saharan Africa is a continuous process. For the region to generate enough FDI that will spur growth, SSA countries must be security conscious and environment-investment friendly. Almost all African countries have experienced one form of insecurity or some bitter power tussle, a condition not favorable to foreign investors.

Our result shows that FDI does not enhance the growth of sub-Sahara African economy. The coefficient of FDI is negatively signed but significant. Our results sustain that the effect of FDI on overall growth of SSA economy depends on exchange rate and openness of the economy to trade. It reveals the importance of cross border trade facilitated by exchange rate in FDI-induced growth.

The study suggests that governments of sub-Sahara African countries should maintain assured level of security to make the regions' business environment conducive to foreign investors. FDI is not the sole mover of the economy; SSA should take measures to increase domestic investment than totally relying on FDI

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