

The Significance of Foreign Direct Investment to the Economic Development of Sub Saharan Economies

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Abstract

This paper attempts to evaluate the impact of Foreign Direct Investment on the economic development of forty three (43) countries in Sub Saharan Africa. The Auto Regressive Vector (VAR) model was employed to effectuate econometric estimations, using annual data obtained from the database of the World Bank: World Development Indicators-WDI, 2018 for the period spanning from 1997 to 2017. The findings show that FDI has a negligible impact on the economic development of the countries studied; whereas economic development has a positive and strong impact on FDI. It is therefore recommended that: first African countries should develop value chains and attract FDI geared towards the transformation of their natural resources; and second they should improve pro-industry elements like adequate electricity supply, good transportation network, reduce corruption, and boost technological development to harness and accelerate their economic transformation.

Keywords: Foreign Direct Investment, Economic Development, Sub Saharan Economies

1. Introduction

The transformation of a country from the state of under development to a developed nation, with high living standards, long life expectancy and appreciable literacy levels is an immense task, requiring among other things, huge resources, numerous investments, innovations and technological development, and high and sustainable economic growth.

Unfortunately, the resources needed to carryout growth stimulating and development enhancing investments are very often beyond those available, thereby creating a resource gap. This is very peculiar in developing countries, especially in Africa.

Therefore, African economies must first of all fill the resource gap to sufficiently invest in their economies, so as to produce high value added products, create more jobs, alleviate poverty and improve the living standards of their citizens. Secondly, external or foreign capital is highly needed to fill the resource gap because of the relatively weak financial strength of the continent (Asiedu *et al.*, 2012).

Today, one of the means to obtain complementary resources to cover the resource gap, increase investments and achieve high economic growth and development is through the attraction of Foreign Direct Investment (FDI). This is because of their potential in transferring technology, creating highly remunerated jobs, raising tax revenues for host countries, improving human capital, etc. It is for these reasons that, in recent years, the vast majority of the fast growing economies relied heavily on FDI to stimulate and also sustain their rapid economic transformation (Sun, 2006).

Indeed, FDI, more than ever is regarded as an engine of economic development given that it brings in additional capital, technology and innovation to the host country that would eventually enable it to improve its production and competitiveness (Ibi, 2006). For example, foreign firms, in view of optimizing their production could train the employees of their suppliers on efficient supply means, in order to reduce cost and time in the delivery of inputs. This would enable domestic suppliers to learn new and/or efficient ways to supply their customers and become more competitive.

Moreover, FDI is expected to provide access to foreign markets for the host country firms. This facilitates and/or even accelerates the integration of the host country into the global economy. When local firms have access to the world market, they will be more versed with international trade norms. As such, they will easily improve the quality of their produce to the required international standards. By so doing, they can become more competitive, gain more market shares, increase their production, enjoy economies of scales, export more and bring home more foreign earnings.

Regarding the essential role played by FDI in transforming economies, many developing countries in general and Africa in particular are increasingly seeking such investments (Sun, 2006). To this effect, they put in place incentives to attract more foreign investments that are today increasingly searching for optimum production sites. FDI flows across the globe in recent years exceeded USD 800 billion dollars; which is quite substantial compared to last decades (UNCTAD, 2017).

However, most of the FDI went to developed and emerging economies with relatively advanced manufacturing sectors that could yield more profits. It was in this light that FDI flows to Asia were expected to reach USD 515 billion in 2017. But FDI flows to Africa in the same year were projected to reach USD 65 billion, the least on the globe.

Despite the small amount of FDI flows to Africa compared to the rest of the world, it is principally goes to a few rich resource countries. For instance, during the period 1991-1994, only 21 per cent of FDI flows to Sub Saharan Africa went to countries that were not major exporters of oil or minerals. Between 1970 and 2008, South Africa and Nigeria who are richly endowed with natural resources attracted about 46 percent of FDI flows to Africa (Asiedu et al., 2012). This concentration of FDI in the extractive sector in Africa is partly accounted for by poor infrastructure, political upheavals, corruption, power shortages, and insufficient skilled labor (Michael et al., 2001).

In spite of the small amount of FDI flowing to Africa and its concentration in the primary sector, it is very volatile. This is because investing in the primary sector is very much conditioned by commodity prices. For example, the weak commodity prices in recent years and slowing economic growth caused a fall in FDI flows to Africa by 14 per cent between 2010 and 2016 (UNCTAD, 2017).

Also, FDI inflows to Cameroon, for the same reasons, declined from USD 726 million in 2014 to USD 627 million in 2015; and to USD 128 million in 2016. This makes the African continent vulnerable to external crises that arise from the frequent fluctuations of commodity prices on the world market. Such crises usually have long lasting devastating effects on the continent's economies because of their weak and fragile nature.

Worse, the extraction of the natural resources causes environmental degradation, particularly through deforestation and destruction of biodiversity, among others. Such patterns of environmental destruction have been driven by increased economic activities, of which FDI has become an increasingly significant contributor (Sunday and Anthony, 2017).

Also, foreign companies in Africa send home most of the profits they make on the continent. This significantly contributes in sweeping out the highly needed financial resources needed for Africa's development. To this effect, what is the impact of FDI on the economic development of countries in Sub Saharan Africa?

The rest of the work is organized as follows: section 1 looks at the related literature review, section 2 presents the methodology, section 3 presents and discusses the findings, and section 4 concludes the study.

2. Literature review

It is often argued that the inflow of additional capital, transfer of technology, the accumulation of human capital, etc. positively affect economic growth and development of the recipient country. The positive, strong and sustainable economic growth would on its part improve the economic development of an economy (Tsai, 1985). This suggests that economies registering relatively high FDI inflow could have higher growth rates and eventually attract more foreign investments.

Therefore, FDI inflow accelerates growth which subsequently attracts more FDI, thereby creating a circle that drives up the production and distribution of wealth in the host economy. More production would in no doubt increase employment and raise income levels of the citizens. This would enable them to satisfy their basic needs related to nutrition, education and health. Hence, improving living standards and setting the pace for economic development and prosperity.

Foreign investments could also be very essential in improving production efficiency as they are embedded with advanced technologies and knowledge that are primordial in shifting upwards the host country's production frontier (Yao and Wei, 2007). This dual role played by FDI in improving production makes it a powerful driver of economic growth with a potential to helping developing and emerging economies to grow substantially, and eventually catch up with the world's most advanced countries.

High growth rates resulting from industrial production enable countries to increase and even double their GDP per capita. For instance, the acceleration of the industrial revolution in the 19th century enabled Britain to double its per capita income in about 60 years (World Bank, 2017), resulting to an increase in the purchasing power of the British as well as their consumption. But today, with high levels of technological developments and innovations with strong potentials to harness and enhance manufacturing, more people could be brought out of poverty in a shorter period.

Foreign investments to the agricultural sector - the backbone of most developing countries, can increase the production of food for people and raw materials for local industries through large scale cultivation. This would overcome the problem of food shortages faced by developing countries as well as the insufficient supply of essential inputs to local firms involved in the transformation of raw materials like cocoa, rubber, maize, fruits, etc. to finished products with high value added. Agro-FDI can lead to the development of domestic value chains which would facilitate the uptake of business models approach to the international market after the coverage of the local markets (Dike, 2018).

Nonetheless, agri-FDI oriented towards the exploitation of resources for the supply of firms abroad will be detrimental to the host country if local industries are deprived of essential raw materials. This could result to an increase in the importation of raw materials by local firms to cover up the supply gap. As such, the production cost of local firms as wells as the prices of their products might rise, thereby compromising their competitiveness on the international market.

Moreover, FDI may adversely affect growth prospect of the recipient economy if it leads to substantial outflows of financial capital in the form of remittances of profits or any other concessions that can deprive the host country of financial resources it could obtain from foreign investments (Sunday and Anthony, 2017).

Exporting huge financial resources from FDI host countries, especially in Sub Saharan Africa could be a hard blow to them, given that the resources could be saved in banks, and thereafter borrowed and reinvested in the host country. Africa suffers this effect of FDI seriously to the point of being regarded as a capital exporter, whereas it needs alot of resources for its development. For instance, over the period 1970-2008, capital flight (including illicit capital) was much larger than foreign aid and FDI combined (Asiedu et al., 2012). This is a paradox that is accentuated by foreign investments. Africa needs enormous financial resources to fund its development projects, bring out its population from poverty, and also service and pay back its debts; but it is exporting cash.

Bearing in mind the capital deficiency observed in developing economies and the benefits accruable from the activities of multinational corporations, especially in creating employment, raising incomes and reducing poverty, FDI is regarded as an essential tool for improving growth and living standards (Sunday and Anthony, 2017). FDI generates direct and indirect employment in the host country. Those employed by foreign firms earn relatively high wages and spend part of their income on consumer goods and services. As such, the demand for other goods produced in the economy would rise, leading to a strong and widespread multiplier effect in the economy. When employment and earnings are high, savings rise. As such, banks would have more liquidity to

lend. Therefore, other economic agents, notably enterprises can easily be granted loans by financial institutions to invest and boost their production.

Considering Africa's low income and domestic savings level, its resource requirements and limited ability to domestically raise funds, the bulk of its finance for the future would have to come from abroad, mostly in the form of FDI (Ibi, 2006).

In this regard, FDI would serve as a stimulus for economic activities. When there is an improvement in economic performance of an economy, income would rise, poverty would reduce and standards of living would rise. Multinational corporations play a non negligible role in employing local labor, and transferring technology to the host country (Asiedu, 2004).

Thus, FDI is considered to be essential for every economy and the poor in particular (Dollar and Kraay, 2000). Therefore, alleviating poverty and enhancing prosperity requires increased private investment, including FDI in low-income countries. Deploying FDI in developing countries, especially in African countries, would provide the critically needed support for economic development by bringing in capital, creating employment, transferring technology and innovations (World Bank, 2017).

Moreover, FDI increases and broadens the tax base for host countries governments. The collected tax revenue could be used to provide social services like healthcare, education, social housing, electricity and portable water. This would improve the population health, increase access to education and training, and ameliorate the well being of the citizens. To this effect, people would be more productive, as individuals in good health learn better and perform better at their job sites. Thus, FDI plays an essential role in alleviating poverty, particularly in countries where it increases investments to improve social welfare (Michael *et al.*, 2001).

In the face of insufficient resources needed to finance long-term development in Africa and the need to achieve the Sustainable Development Goals, attracting FDI has assumed a greater pride of place, more than ever in the strategies for economic renewal being embarked upon by policy makers at all levels. Among different types of private cross-border financial flows, FDI is most available to poor countries and least likely to saddle taxpayers in poor countries with unbearable debt service obligations (Ibi, 2006). Thus, FDI is very essential in harnessing and enhancing development (Michael *et al.*, 2001).

Also, FDI increases capital accumulation in the recipient economy, improves efficiency of local firms via contract and demonstration effects, and their exposure to fierce competition, technological change, and increases human capital accumulation and boosts exports (Sunday and Anthony, 2017). In deed, recent evidence shows that human capital accounts for a large share of income variations between countries globally (World Bank, 2017).

Towards the end of the 20th century, many countries, including Botswana, Chile, China, Ireland, Japan and Thailand managed to double per capita income in just about 10 years. Such rapid growth is now possible for those developing economies that are able to import and imitate technical and organizational innovations from the

world's leading countries. Rapid growth of this nature makes it possible to propel people from poverty to a reasonably comfortable life within a single life span (World Bank, 2017).

Nonetheless, the link between growth and employment creation in developing countries is less direct than in the developed world because of the high dependence of the former on the production and export of primary commodities which have little value added compared to industrial production. Also, the growth performance of the developing economies is highly subjective to the fluctuations of the internationally determined prices of primary commodities they export (UNCTAD, 2012).

In many developing countries, the informal sector is quite large, and small-scale self-employment is rather common. Formal employment in the manufacturing sector accounts for a relatively small share of total remunerative occupations than in most developed countries making the contribution of FDI generated jobs and revenue increases to have a very little impact on their economies, especially when the foreign investments are in the sourcing sector (World Bank, 2017).

In general, FDI has many effects which vary significantly from one country to another and from one sector to another. At the level of the firm, several studies provided evidence of technological spillover and improved plant productivity. At the macro level, FDI flows to developing countries tend to crowd in other investments and are associated with an overall increase in total investment (Loesse, 2010).

Basically, the amount of FDI contribution in enhancing growth and harnessing economic development is conditioned by the absorptive capacity of its recipient country. Countries with embryonic technological bases, frail industries, considerably large informal sector, and weak financial sector would in no doubt reap insignificant benefits from foreign investments.

FDI can be an important vehicle for the transfer of technology and innovation, an enhancer of interactions between local and foreign firms, a production booster, a growth accelerator and a catalyst of economic growth. However, this can only be possible when the host country has a minimum threshold of human capital and absorptive capacity (Borensztein et al., 1998). Without the minimum absorptive capacity, substantial inflow of capital (financial resources) would yield undesired effects such as inflation and the deterioration of commercial balance, among others (Claire, 2004).

3. Methodology

3.1. Data and variables

This study used annual data obtained from the database of the World Bank: World Development Indicators-WDI, 2018 for the period spanning from 1997 to 2017. This period is chosen because of the availability and continuity of data for the forty three (43) countries in Sub Saharan Africa under study. The countries are: Angola, Benin, Burkina Faso, Burundi, Cape Verde, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Ivory Coast, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Mali, Mauritania, Mauritius Island, Mozambique,

Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Soudan, South Soudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

The explained variable is economic development. It is composed of GDP per capita (constant LCU); life expectancy at birth, total (years); literacy rate, adult total (% of people ages 15 and above) and CO2 emissions (metric tons per capita). The explanatory variable is foreign direct investment, net inflows (% of GDP). Control variables are gross capital formation (constant LCU), gross domestic savings (constant LCU), and wage and salaried workers, total (% of total employment) (modeled ILO estimate).

3.2. Model

In order to evaluate the impact of FDI on the economic development of the selected countries, the Auto Regressive Vector (VAR) model was employed. The model is more suitable for this study because it allows the interaction of all variables in a regression without distorting the structure of estimations. As such, it permits the interaction and analyses of diverse variables with different effects (Akinlo, 2017), as is the case in this study. Also, VAR models can better eliminate serial correlation in the errors of a temporal series than the Least Ordinary Squares due to their dynamic nature.

3.3. Specification of the model

The VAR model can be stated as follows:

$$PVAR: Y_{it} = \theta_0 + \theta(l)Y_{it} + \mu_i + \varepsilon_{it} \quad (1)$$

Where:

$i = 1, 2, 3, 4, \dots, 8$ and $t = 1, 2, 3, 4, \dots, T_i$;

Y_{it} is a (8x1) matrix of endogenous variables;

θ_0 stands for the vector of the constant (8x1);

$\theta(l)$ denotes the polynomial matrix of 7 VAR lags variables, that could be written as follows : $\theta(l) = \beta_1 l + \beta_2 l^2 + \beta_3 l^3 + \dots + \beta_p l^p$ (2).

Where:

β_i is the (8x8) matrix of variables' coefficients;

μ_i denotes the specific effect of individual countries;

ε_{it} stands for the vector of independently identically distributed (iid) normalcy.

The non restricted VAR model takes the following form:

$$Y_{i,t} = \begin{bmatrix} Lgdp_{i,t} \\ Lfdi_{i,t} \\ Lco2_{i,t} \\ Lgcf_{i,t} \\ Lgds_{i,t} \\ Lleb_{i,t} \\ Llra_{i,t} \\ LWSW_{i,t} \end{bmatrix}, \theta_0 = \begin{bmatrix} \gamma Lgdp \\ \gamma Lfdi \\ \gamma Lco2 \\ \gamma Lgcf \\ \gamma Lgds \\ \gamma Lleb \\ \gamma Llra \\ \gamma LWSW \end{bmatrix}, \theta(l)Y_{it} = \begin{bmatrix} \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} \end{bmatrix} \begin{bmatrix} Lgdp_{i,t} \\ Lfdi_{i,t} \\ Lco2_{i,t} \\ Lgcf_{i,t} \\ Lgds_{i,t} \\ Lleb_{i,t} \\ Llra_{i,t} \\ LWSW_{i,t} \end{bmatrix} + \varepsilon_{it} = \begin{bmatrix} \varepsilon Lgdp_{i,t} \\ \varepsilon Lfdi_{i,t} \\ \varepsilon Lco2_{i,t} \\ \varepsilon Lgcf_{i,t} \\ \varepsilon Lgds_{i,t} \\ \varepsilon Lleb_{i,t} \\ \varepsilon Llra_{i,t} \\ \varepsilon LWSW_{i,t} \end{bmatrix} \quad (3)$$

Where:

$Lgdp_{i,t}$ is the log of GDP per capita (constant LCU);

$Lfdi_{i,t}$ stands for the log of FDI net inflows (% of GDP);

$Lco2_{i,t}$ denotes the log CO2 emissions (metric tons per capita);

$Lgcf_{i,t}$ represents the log of Gross capital formation (% of GDP);

$Lgds_{i,t}$ is the log of Gross domestic savings (% of GDP);

$Llra_{i,t}$ stands for the log of Literacy rate, adult total (% of people ages 15 and above);

$Lleb_{i,t}$ is the log of life expectancy at birth, total (years);

$LWSW_{i,t}$ denotes the log of wage and salaried workers, total (% of total employment) (modeled ILO estimate).

From what precedes, the general form of the VAR model could be stated as follows:

$$\begin{bmatrix} Lgdp_{i,t} \\ Lfdi_{i,t} \\ Lco2_{i,t} \\ Lgcf_{i,t} \\ Lgds_{i,t} \\ Lleb_{i,t} \\ Llra_{i,t} \\ LWSW_{i,t} \end{bmatrix} = \begin{bmatrix} \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \end{bmatrix} + \begin{bmatrix} \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \end{bmatrix} \begin{bmatrix} Lgdp_{i,t-p} \\ Lfdi_{i,t-p} \\ Lco2_{i,t-p} \\ Lgcf_{i,t-p} \\ Lgds_{i,t-p} \\ Lleb_{i,t-p} \\ Llra_{i,t-p} \\ LWSW_{i,t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon Lgdp_{i,t} \\ \varepsilon Lfdi_{i,t} \\ \varepsilon Lco2_{i,t} \\ \varepsilon Lgcf_{i,t} \\ \varepsilon Lgds_{i,t} \\ \varepsilon Lleb_{i,t} \\ \varepsilon Llra_{i,t} \\ \varepsilon LWSW_{i,t} \end{bmatrix} \quad (4)$$

To estimate the model, the number of lags has to be determined. So, the unit root test has to be effectuated before determining the number of lags to be used in estimating the model.

3.3. Estimation techniques

3.3.1. Unit root test

This test is done to make sure that the model comports neither seasonality nor tendency, and no factor changes in time.

The Augmented Dickey Fully test of Fisher will be used to effectuate the unit root test because it avoids errors of data in the estimations and equally allows for a Meta analyses (Dike, 2018). The hypotheses of estimation are:

Ho: All panels contain unit roots;

Ha: At least one panel is stationary.

Number of panels = 43.

The decision role to accept or reject hypothesis Ho or Ha is:

If p-value < 5%, accept Ho. If not, accept Ha

The choice of the hypotheses is effectuated based on table 1 below.

Table1: Summary of the unit test root

variables	Fisher(t-stat)	Levin, Lin and Chu (t-stat)	Im, Pesaran & Shin(W-sta)
Lfdi	-7.6634		
Lgdp	0.4383		
Lc02	-2.6933		
Lgcf	-6.8632		
Lgds	-2.9584		
Llra	-5.4356		
Lsw	-0.3411	-2.4507	2.6948
Lleb	-35.7999	-16.1577	-14.2607

Table 1 above shows that at least one panel is stationary given that the p-value < 5%. It also shows that the variables do not have the same order. Thus, the Granger co-integration is not necessary. To this effect, we proceed to the determination of the number of lags to be used in the estimation of the VAR model.

3.3.2. Choice of the number of lags

In order to carryout the estimations, the number of lags has be known. This is to minimize the logarithm of the variance of residues by taking into account an additive penalty based on the model size. To do so, the Akaike Infomation Criterion (AIC), Schwarz Criterion (SBIC) and Hannan-Quinn Criterion (HQIC) are used. The table below summarizes the estimations of the various information criteria.

Table 2: Summary of AIC, SBIC and HQIC

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	2.76089			0.00002*	.	495.646	-342.938	183.196
1	659.963	1314.4*	16	0.000	.	-255.985	-260.178	-257.548
2	662.192	4.4566	16	0.998	.	-256.877*	-261.07*	-258.439*

From table 2 above, it can be seen that, for the model to be significant and stationary, it has to be differentiated twice. Also, the variables CO₂ emissions, Foreign Direct Investment, gross domestic product, and gross capital formation would constitute the restricted model. The other variables were eliminated because of non co-linearity. The final model is presented as follows:

$$\begin{bmatrix} Lgdp_{i,t} \\ Lfdi_{i,t} \\ Lco2_{i,t} \\ Lgcf_{i,t} \end{bmatrix} = \begin{bmatrix} \theta_0 \\ \theta_0 \\ \theta_0 \\ \theta_0 \end{bmatrix} + \begin{bmatrix} \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \\ \beta_{i,t} & Y_{i,t} & \alpha_{i,t} & \gamma_{i,t} \end{bmatrix} \begin{bmatrix} Lgdp_{i,t-p} \\ Lfdi_{i,t-p} \\ Lco2_{i,t-p} \\ Lgcf_{i,t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon Lgdp_{i,t} \\ \varepsilon Lfdi_{i,t} \\ \varepsilon Lco2_{i,t} \\ \varepsilon Lgcf_{i,t} \end{bmatrix} \quad (5)$$

With P the number of lags = 2

Equation 5 above therefore stands for the final VAR model to be estimated. Its estimation would enable to capture the interaction between its variables and the evaluation of the impact of FDI on economic development. The impact of FDI on economic development would be verified based on hypotheses Ho and Ha below.

The acceptance or refusal of hypothesis Ho or Ha is based on the following:

Ho: $p > |z| < 0.05$, then FDI has an insignificant impact on economic development.

Ha: $p > |z| > 0.05$, FDI has a significant impact on economic development.

4. Results and discussions

For reasons of analyses, the results will be presented in two steps. The first will present the static results and the second will present the dynamic ones.

4.1. Static results

The static test highlights the impact of each variable on the economic development of all the countries under study. The least ordinary squares of a simple regression model on the panel were effectuated to verify this. Its results are presented in table 3 below.

Table 3: Least ordinary squares simple regression table of all variables

lngdp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lnco2	.3294022	.0576668	5.71	0.000	.2163773 .4424272	
lnfdi	.0236569	.0194475	1.22	0.224	-.0144595 .0617734	
lngcf	-.1837964	.0762974	-2.41	0.016	-.3333364 -.0342563	
lngds	.0303916	.0493645	0.62	0.538	-.0663609 .1271442	
lnleb	.8378915	.1937015	4.33	0.000	.4582436 1.217539	
lnlra	.0764734	.0932349	0.82	0.412	-.1062635 .2592104	
lnsw	-.0735099	.1395416	-0.53	0.598	-.3470064 .1999866	
_cons	9.049063	.8235649	10.99	0.000	7.434905 10.66322	
sigma_u	2.2568547					
sigma_e	.10373528					
rho	.99789172	(fraction of variance due to u_i)				

The results in table 4 above show that the variables foreign direct investment, gross domestic savings, and literacy rate have a positive impact on economic development; meanwhile the variable waged of salaried workers has a negative impact on economic development. The variables gross capital formation, CO₂ emission and life expectancy at birth are not significant, and therefore have no impact on economic development of the countries in Sub Saharan Africa.

4.2. Dynamic results

These results show the global impact of FDI on economic development of the countries in Sub Saharan Africa under study. The results are presented in the following table.

Table 4: Dynamic results showing the impact of FDI on economic development

lngdp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
lnco2	.8694233	1.303781	0.67	0.505	-1.68594 3.424787
lnfdi	-.0212919	.0303682	-0.70	0.483	-.0808125 .0382286
lngcf	.0194242	.1934357	0.10	0.920	-.3597028 .3985512
lngds	.159101	.7528688	0.21	0.833	-1.316495 1.634697
lnleb	2.111885	3.235751	0.65	0.514	-4.230072 8.453841
lnlra	-.4191424	.9930063	-0.42	0.673	-2.365399 1.527114
lnsw	-1.846609	2.723213	-0.68	0.498	-7.184009 3.490791
_cons	11.51805	2.904585	3.97	0.000	5.825162 17.21093

The results in table 4 above reveal that FDI has a negligible impact on the economic development of the countries in Sub Saharan Africa, as shown by the P-value which is almost null. However, it is realized that it is economic development that has a positive and strong impact on FDI. These findings underscore that economies

which are relatively more developed and industrialized tend to attract more FDI and reap their benefits significantly.

5. Conclusion

Today, one of the ways to obtain additional capital to fund economic activities is through the attraction of Foreign Direct Investment. Therefore, evaluating the contribution of FDI to the economic development in Sub Saharan Africa is very important in crafting and implementing policies that would enable the countries to attract more FDI and benefit substantially from it. It is in this light that this work focused on evaluating the impact of FDI on the economic development of forty three (43) countries in Sub Saharan Africa.

The Auto Regressive Vector (VAR) model was employed to evaluate the impact of FDI on economic development of the forty three (43) countries under study, for the period spanning from 1997 to 2017.

The findings of the study show that the impact of FDI on the economic development of the countries studied is negligible as shown by the P-value of the VAR model which tends towards zero.

Moreover, the results reveal that it is economic development that has a positive and strong impact on FDI. From the findings, it can be affirmed that countries with relatively more developed absorptive capacities benefit more from FDI; meanwhile those with fragile economies that are heavily dependent on exporting raw materials benefit less from FDI. As such, a substantial part of foreign investments are mainly directed to sourcing activities with the goal of supplying manufacturing corporations offshore. This deprives the few infant industries that transform natural resources like cocoa, rubber, and timber of essential inputs. The situation is even accentuated by the weak absorptive capacity of most of the economies on the continent.

In this regard, African economies should develop value chains and attract FDI geared towards the transformation of their natural resources so as create and distribute more wealth that would boost growth and stimulate economic development. Also, other pro-industry elements like adequate electricity supply, good transportation network, skilled labor, technological development, fight against corruption, transparency, etc. should be improved to harness and accelerate their economic transformation.

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