Nexus Between FDI, ODA and Economic Growth in Developing African Countries: A Systems Approach

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Abstract

The aim of this paper is to investigate the deterministic relationships between foreign direct investment, official development assistance and economic growth for a selection of 20 African countries, under dynamic economic circumstances, over nineteen years presented by the periods before, during, and after the global financial crisis (2000-2018; 2000-2006; 2007-2010; 2011-2018) within the African context. We adopted the two-step system GMM model as an estimation technique to analyze economic data sourced from the World Bank's WDI database. We found that a positive deterministic relationship exists between FDI and economic growth in all the time periods (2000-2018) and for each individual period (2000-2006; 2011-2018) for the sampled countries. However, there is a negative relationship between FDI and economic growth during the global financial crisis (2007-2010) period. Further, no significant deterministic relationship exists between ODA and economic growth for the periods and countries under review. Based on our findings, we recommend that African countries should design investment strategies, favorable to both local and foreign investors and to move away from official development aid reliance.

Keywords: Economic Growth, Foreign Direct Investment, Official Development Assistance, Africa

JEL classification: F21, F35, G20, O55

1. Introduction

Scholars, business professionals, and the general public in Africa and abroad are torn between their divergent viewpoints on the foreign assistance contributions to the economic development,

growth, and prosperity of the African continent (Driffield and Jones, 2013; Nwaogu and Ryan, 2015). There is no consensus on researchers' findings on empirical studies, which only makes policy-making harder for nations (see for example Burnside and Dollar, 2000; Easterly, 2002; Blaise, 2005). It is only likely to cause even more uncertainty if international capital inflows are relied on as a financing vehicle for development, since this too is not a reliable source of growth in the African economic context. In a collaborative approach, African countries may both ensure future success and boost their autonomy by funding economic growth and development via a combinations of official development assistance (ODA) or private capital in the form of foreign direct investment (FDI) (Kelsall, 2008; Opoku et al., 2019).

Various political think tanks have responded to the conflicting viewpoints by supporting, increasing, and sustaining aid to poor nations (Burnside and Dollar, 2000; Riddell, 2007; Wright and Winters, 2010). Sachs et al. (2004) believed that foreign aid improves economic development and their conclusion was that ODA liberates African countries from the so called poverty trap. According to Teunissen and Akkerman (2006), many African nations are so impoverished that they are incapable of financing their own development and economic progress.

Easterly (2003) reasoned against the arguments of aid advocates, who said that assistance in Africa may bring increased economic development. Easterly (2003) further argued that FDI is a better choice than ODA in most instances because of the higher levels of return on investment (development) it yields. The perspective also asserts that FDI will bring long-term development in Africa that is sustainable (Kosack and Tobin, 2006). These discussions are vital since Africa, with its disadvantaged and impoverished nations, represents the world's most troubled areas, and finding a solution to some of their issues would affect development projects in the future (Taylor, 2016).

Over the past 50 years, Africa has failed to attract the necessary FDI to be able to create a long-term and medium-term economic growth rates that leads to sustainable development (Asiedu, 2004). Naudé and Kruggel (2007) found that the inability to attract FDI inflows to the continent is due to institutional flaws and environmental characteristics of many African governments, which comprise the unique high-risk profile for FDI especially when the continent wants to achieve the seventeen sustainable development goals (SDGs) proclaimed by the United Nations (UN General Assembly, 2015).

This increasing dependency on ODA and FDI has only exacerbated the continent's reliance on outside forces to promote economic development (Adoms, 2015). The majority of both FDI and ODA received by Sub-Saharan Africa (SSA) during the last 40 years has been intended to aid infrastructure development, healthcare, education, and power production (Prizzon et al., 2017). It should be apparent to the reader from the following literature review that, when well utilised, FDI may provide impoverished nations with significant resources and lead to beneficial improvements in the transfer of technology, skills, and other resources. FDI is credited with spurring job growth, and the reason why governments encourage foreign investment in their nations (Anyanwu, 2012). FDI has an upward impact on a country's economy and also stimulates its overall development. Thus, it is critical to prepare for a selection of economic development techniques, particularly for African nations, that will enable them to access as many avenues as possible to maximise their economies.

The significance in of this study lies in its contribution to the ongoing academic and policy debates surrounding the FDI-ODA nexus. On the one hand are proponents that believe that developing African countries are endowed with more than sufficient absorptive capacities in the form of natural resource endowment, abundant and skilled labour, growing basic infrastructure and developed financial markets, which would all serve to attract inward FDI flows to their respective economies. On the other hand, more advanced economies, particularly the developed

West and European countries, share a perspective that African countries are still under-developed and should continue to be aid-dependent. As such, this paper aims to provide scholarly clarity, supported by empirical evidence obtained on the following African countries, for the period 2000 to 2018: Botswana, Burkina Faso, Chad, Democratic Republic of the Congo, Cote d'Iviore, Egypt, Ghana, Kenya, Malawi, Mali, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Tanzania and Uganda. This period is significant in that, financial markets worldover were impacted by the global financial crisis (GFC), and we thus examined the FDI-ODA nexus pre- and post- the 2008 GFC, to assess its contribution to the phenomena under study. By confirming the deterministic relationships between FDI, ODA and economic growth, we contribute to the scholarly literature, as well as provide context to improve policy development and science based answers towards policy formulation in Africa. The reminder of the paper is structured as follows: Section 2 provides an overview of the relevant literature on the key concepts. The methodology is described in Section 3. Empirical findings of this study are reported and discussed in Section 4, while Section 5 provides the conclusion and policy implications.

2. Literature review

2.1. FDI and economic growth

The long-term economic development of a host nation, according to Romer (1986) and Lucas (1988), is dependent on FDI, which influences technology, skills, and training of the local workforce. The endogenous growth supporters, who held that technology advances will drive economic development, believed that this kind of growth takes place gradually.

In many developing nations, investment from other countries is seen as critical to the country's economic development, and policies are designed to encourage such investment. According to Adams (2009), SSA nations experience economic development because FDI introduces new technology and skills to improve local capital and efficiency. Further, Adams (2009) argued that FDI is an important but not sufficient condition for economic development. These results are consistent with both the contemporary and neoclassical schools of thought on endogenous growth. The United Nations Conference on Trade and Development (UNCTAD, 2017) believes that recent FDI inflows have caused global economic growth and development to rise significantly over the next few years.

In the African context, Maduka (2014) found that the banking sector's advancement may be related to FDI in Nigeria, although this is not substantial. On the other hand, Makoni (2016) found that FDI inflows to selected African countries caused positive and statistically significant improvements to the domestic financial markets of developing African economies, particularly the stock markets. Against this background, there have been calls for countries to implement investor-friendly policies to harness these long-term foreign capital flows, which can be channelled to productive sectors of the economy, thus spurring further economic growth. Such policy approaches would also be in line with the recommendations of Mundakkad (2021) and Nxumalo and Makoni (2021), who called on the sitting governments to consider the important role of institutional quality and ease of doing business insofar as attracting inward FDI is concerned.

Foreign financial remittance and FDI were shown to have a beneficial influence in developing countries' economic growth and acceleration (Tahir et al., 2015). Furthermore, the boosts in investment into the domestic economy via foreign currency reserves contributed to a rise in FDI

allocations to the industrial sector, which is critically required in the developing world. Meyer and Shera (2017) found that financial remittance has been important in stabilising certain nations' finances, and over the long run, it makes emerging countries' earning potential and thus economic development more likely.

Using data collected from 126 developing nations, each at a different economic level, Vita and Kyaw (2009) averred that economic growth is only realised through FDI when local economies are capable of producing an increase in productivity and a large increase in absorption, which could address such shortfalls in Africa. Azam and Ahmed (2014) concluded that FDI in the CIS (Commonwealth of Independent States) helped catalyse economic development by creating enabling conditions and a favourable investment climate. Pegkas (2015) noted that better business climate is required in CIS nations to attract and profit from FDI inflows and we can draw similar inferences for African countries too.

2.2. ODA and economic growth

ODA has provided funding for many socio-economic development projects in Africa, with only mixed results. SSA is losing out on the chances for growth since the region is unable to attract enough FDI, and because of this, the region is missing out on the development that is being found in Latin America and Central Asia (Alvarando et al., 2017). Countries with severe development challenges and academics and professionals with big issues to solve have benefited from this continuous hunt for foreign direct investment and the increasing uncertain and conditional sources of official development assistance.

Most ODA grants are provided with conditions for basic infrastructure improvement, human capital development, and macroeconomic stability via enhanced governance programmes (Alesina and Dollar, 2000). According to Anyanwu (2012), the effects of ODA and FDI are both complementary and competing. These effects described as the vanguard effect, the negative rent-seeking effect, the Dutch disease effect, and the positive joint infrastructure effect, resulted in the situations described by Anyanwu (2012) that leads to aid-providing nation conducting FDI within the recipient nation or cases in which aid providers cut prices for goods and services, causing a reduction in multinational corporation (MNC) trade volumes and the negative rent-seeking effect, in which ODA decreases FDI incentives, leading to inefficiencies as opposed to the positive joint infrastructure effect, which leads to increased social and economic infrastructure and economic growth.

Eifert and Gelb (2008) argued that with donor assistance, aid recipients might mitigate the risk of inconsistent ODA. Also, ODA financing and budgeting problems were addressed and later supported by Agenor and Aizenman (2010), who offered ways to ensure that aid is budgeted and insured against.

To assess the developmental effect, Arellano et al., (2009) used a two-sector general equilibrium model as an estimation method. According to Arellano et al. (2009), ODA inflows led to decreases in investments and rises in consumer spending within the African countries studied. It seems that the recipient governments lack the capacity to alter their income sources to compensate for the unpredictability of aid and after it was realised that the country had failed to invest in key infrastructure, social welfare, government expenditures were reduced. These beneficiaries' low absorptive ability and other factors for example reduced monetary and fiscal policy adjustments led to poor planning, and a reduction of overall aid allocations (Rodic, 1990; Mosley and Suleiman, 2007). Governments of recipient nations should use policies to manage the donor uncertainty around big pledges. Although ODA has shown to be a successful method of funding development, it is just a short-term fix and is no substitute for important structural

changes towards economic growth and development (Chauvet and Guillaumont, 2009; Hudson and Mosley, 2008; Hudson, 2015).

One of the primary objectives of aid advocacy is to make sure that recipient nations enact policies that accomplish the positive developmental effect that ODA should theoretically bring. Even though just a few small-scale studies have examined the success of policy changes undertaken by OEDC members and other agencies, it's important to note. ODA policy alignment is an essential instrument for donors working toward GDP growth in underdeveloped nations via successful development aid (Minasyan et al., 2017). A country's internal politics and international policies greatly impact the efficacy of foreign aid. Bermeo (2011) asserted that, when it comes to democracy-infused assistance, a democracy-based system is more likely to flow from democratic nations to support democracy in the same manner it's applied in their individual home countries as opposed to those from election systems opposite to their own.

Foreign aid beneficiaries get less economic growth, and an even worse bilateral trust relationship with nations as a result of the unbalanced ODA policy goals of donor countries and recipient governments (Dreher et al., 2015). Therefore, the ineptitude of governments will cause costly and inefficient assistance for the taxpayers of each individual country (Dolan, 2020). Although Minoiu and Reddy (2010) and Kilby and Dreher (2010) had different views on aid goals, they both found that only targeted ODA promotes the economic growth of poor countries such as those in Africa, unlike general aid.

Giving aid with geopolitical measurements by donors who are prioritising the shifting of aid based on their foreign policy interests has been discovered to hinder the effectiveness of aid in stimulating economic growth in countries and regions that are willing to align their foreign policies to those of the donors, who are essentially buying influence (Headey, 2008; Bearce and Tirone, 2010; Bermeo, 2016). The findings of Dreher et al., (2013) and Dreher et al., (2014) about the UN Security Council member choices and the World Bank project nexus are backed by an argument that assistance given for favours is strengthened.

The literature reviewed herein has highlighted pertinent gaps such as poor macroeconomic policies in low income countries. These policies often result in governments accepting foreign aid, instead of improving the host countries' attractiveness to foreign investors, despite having an array of absorptive capacities. This is also partially driven by the poor institutional quality of corruption which sees politicians benefitting more from the ODA, instead of spreading it across the populous. As such, by highlighting the deterministic relationship between the key concepts of FDI, ODA and economic growth in 20 African countries, this paper seeks to complement existing scholarly literature, while also advancing economic policy recommendations, particularly in the context of developing economies.

3. Research methodology

A panel data analysis is used to assess the deterministic relationship between foreign direct investment, official development assistance, and economic growth in 20 African countries randomly selected from the World Bank's database on world development indicators (WDI) from 2000-2018. The analysed countries are: Botswana, Burkina Faso, Chad, Democratic Republic of the Congo, Cote d'Ivoire, Egypt, Ghana, Kenya, Malawi, Mali, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Tanzania and Uganda.

The analysis period is divided into four periods, presented by the full analysis period (2000-2018) and the periods before, during and post the global financial crisis as they relate to the impact on African economies (2000-2006; 2007-2010; 2011-2018).

The system Generalised Method of Moments (GMM) model as an estimation method is used to carry out the dynamic panel data analysis. A GMM approach towards panel data is done in order to correct for endogeneity between dependent and independent variables (Nor and Ahmad, 2015). The GMM estimation technique is based on the Arellano-Bond methodology, which assumes that there is no serial correlation in the errors, and should account for "all the linear moment restrictions that follow from this assumption, in an equation that contains individual effects, lagged dependent variables, and no strictly exogenous variables" (Arellano and Bond, 1991)

The variable relationships the study analyses have become more relevant in light of new information that was discovered throughout the research on the various economic eras. The model will show the magnitude of the variation between the variables, as well as how they vary in the context of various economic conditions, such as the global economic crisis in the 21st century. To reliably account for the endogeneity problem associated with the dependent and independent variables and instrumental variable lags in difference and in levels, the system GMM estimator, as expressed and expanded on by Roodman (2009), was employed in Stata in this study. The combined use of this statistical methodology also enables the study to isolate endogeneity of the dependent or independent variables, through the use of additional instruments in the model, similar to the approach of Marozva and Makoni (2018). The specific system GMM equation is therefore specified as:

$$\text{GDPG}_{it} = \alpha \text{GDPG}_{it\text{-}1} + \beta_1 \text{FDI}_{it} + \beta_2 \text{NODA}_{it} + \sum_{n=1}^{i} \beta X_{i\,t} + \mu_i + \varepsilon_{it} \qquad (1)$$

where, GDP_{it} is economic growth, FDI_{it} is foreign direct investment and NODA_{it} is official development assistance. $\text{GDP}_{it\text{-}1}$ is the first lag of the dependent variable for country i at a t-1 time period. The X_{it} is a vector of explanatory variables which include gross domestic savings (GDS), population growth (POP), life expectancy (LEXP), education (EDU), access to electricity (ELEC) and natural resource rents (NATR). The time invariant country specific effects are captured by μ_i whilst ε_{it} is the error term.

The GMM models are usually simple to estimate if N>T, and distorted when N<T (Roodman, 2009). For the purpose of this paper, all the required pre-test diagnostics have been done, this includes but is not limited to the tests for stationarity, serial correlation, multicollinearity and heteroskedasticity. It should be noted the homogeneity assumption of the slope coefficients of the lagged dependent variable (GDPG) is likely to produce unpredictable long run estimates in heterogeneous slope coefficients (Pesaran and Smith, 1995; Pesaran and Shin, 1998). To eliminate the issue of over-identification, we used the Sargan and Hansen tests, and these results are reflected in Table 2. When estimating the one-step option, Sargan test results are satisfactory when H_1 is accepted, thus where H_0 states that over-identification restrictions apply. However, the Hansen test is used to determine whether a dataset has significant over-identification in the context of a heteroscedastic matrix. Both tests identify the over-identification issue, and to account for the restriction, the number of groups must always be larger than the number of instruments. For the purposes of this study, the number of instruments in the model was reduced by restricting the number of lags to one period to account for the possibility of over-identification.

4. Results and discussion

Here we present results from our regressions.

Table 1 - Descriptive statistics output summary (2000-2018)

Variables	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs.
NODA	7.332	6.068	62.187	0.0143	6.7712	2.2015	15.067	2612.46	0.000000	380
POP	2.575	2.673	5.605	1.108	0.7012	-0.1203	3.2406	1.8342	0.399676	380
LEXP	57.79	57.03	76.453	45.090	7.0705	0.5762	2.6425	23.0541	0.000010	380
NATR	8.679	6.997	38.651	0.1929	6.8944	1.6853	6.3666	359.3273	0.000000	380
GDS	14.58	13.75	57.160	-40.82	10.179	0.3157	5.6337	116.1423	0.000000	380
GDPG	5.108	5.257	33.629	-7.652	3.5392	1.2022	14.702	2259.523	0.000000	380
FDI	3.666	2.436	46.275	-4.846	5.159	4.3999	28.161	11249.88	0.000000	380
ELEC	37.77	31.39	100.00	3.186	28.827	0.6927	2.3058	38.02073	0.000000	380
EDU	97.92	101.1	149.27	32.357	22.233	-0.0245	3.1865	0.588609	0.745050	380

Source: Authors' own computations.

The outputs from the dynamic system GMM model, with economic growth as the dependent variable regressed against the other key concepts of FDI and ODA as the main independent variables, together with the other control variables specified in the model, are presented below.

Table 2 - Deterministic relationship between Economic Growth, FDI and ODA – GMM

Variables	Full Period 2000-2018	Pre-Crisis 2000-2006	During-Crisis 2007-2010	Post-Crisis 2011-2018
	GDPG	GDPG	GDPG	GDPG
L.GDPG	0.0820	0.0216	-0.451***	-0.0196
	(0.105)	(0.127)	(0.107)	(0.151)
FDI	0.217**	0.665*	-0.348*	0.360**
	(0.0685)	(0.299)	(0.161)	(0.103)
NODA	0.425	-0.542	-0.0333	-0.640
	(0.278)	(0.289)	(0.262)	(0.358)
GDS	0.381**	-0.0115	0.472**	0.228**
	(0.122)	(0.120)	(0.128)	(0.0761)
POP	5.113**	34.62*	-6.475	-0.344
	(1.755)	(16.41)	(5.586)	(2.634)
LEXP	-0.103	-3.329**	-0.680	-0.435
	(0.224)	(1.045)	(0.472)	(0.398)
ELEC	0.0115	-0.103	0.199	0.112
	(0.0465)	(0.231)	(0.182)	(0.110)
NATR	-0.0514	0.958***	-0.153	0.388**
	(0.0786)	(0.207)	(0.0901)	(0.111)
EDU	0.0549	1.239***	0.0322	0.262**
	(0.124)	(0.160)	(0.119)	(0.0749)
_cons				
N	340	100	40	120
Groups	20	20	20	20
Instruments	15	18	20	16
AR(1)	-0.64	1.53	-1.01	-0.63
AR(2)	0.44	0.94	-0.56	-0.50
Sargan	43.05	4.98	17.01	25.80
	(0.776)	(0.209)	(0.624)	(0.955)
Hansen	12.36	12.12	10.52	10.56
	(0.169)	(0.235)	(0.833)	(0.304)

*$P< 0.05$; **$P<0.01$; ***$P<0.001$ denotes the levels of significance. Standard errors in parentheses
Source: Authors' own compilation

Based on the findings in Table 2 above, the lagged dependent variable in the model (lag of GDPG) indicates that there is positive persistence or accumulation in GDP growth over the full analysis period (2000-2018), and the period before the global financial crisis (pre-crisis 2000-2006). However, there is a significant negative relationship between the lag of GDPG during the

crisis (2007-2010) and a negative insignificant relationship after the global economic crisis (2011-2018). Theoretically speaking, the GDP growth from one period to another should persist and build on the previous year's success, all things being equal. The shockwaves being sent throughout the world during the global financial crisis and the accompanying economic consequences that followed the crisis, especially the effect the crisis had on African countries, explain the outcomes. Thus, during an economic crisis, the positive GDP growth trajectory of the previous years (pre-crisis) would be eliminated, and the significant negative GDP growth effects would be felt in, and have a profound impact on African countries, during and after a financial crisis.

FDI was found to have a positive and significant relationship with economic growth over the entire period under review (2000-2018). FDI also expressed a positive significant effect on economic growth for the period before (2000-2006) and after (2011-2018) the global financial crisis, while a significant negative relationship occurred during the crisis period (2007-2010), in response to the global markets' turmoil. The FDI-led growth nexus and the findings in this study are, therefore, similar to the findings in the theoretical and empirical literature for both developed and developing countries (see Owusu-Nantwi and Erickson, 2019; Adedoyin *et al.*, 2020).

Emerging economies may accelerate the development of their economies by attracting different kinds of foreign capital flows from industrialised countries, a transfer of sophisticated technology and inventions. FDI has varying effects in different nations, and it is affected by the overall economic climate and government policy (Nwaogu and Ryan, 2015). Investment from FDI has the potential to become a significant source of capital for a developing nation, resulting in sustainable economic growth. For MNCs, investing in foreign direct investment initiatives may be beneficial as FDI provides access to international markets and natural resources, while lowering manufacturing costs.

The majority of African nations are handicapped by anaemic financial sources or outdated technology, and savings or indigenous technology are inadequate and incapable of supporting sophisticated programmes. Thus, in order to meet the shortfall in financial reserves, they must either source the lack of contemporary technology from outside or supply themselves with more money. Other African nations suffer the same problems as those in Sub-Saharan Africa, including very high unemployment, significant debt, and stagnant economies. In order to finance their infrastructure ambitions, they want and need to generate enough money domestically to help themselves. Due to their limited internal financial reserves, they must compensate for their fiscal shortages by obtaining various external sources of capital. There are numerous types of FDI initiatives (for example tax incentives on FDI investments) intended to benefit both the local economy and the people, as well as aid responsive African nations in reducing poverty.

FDI has been often seen in neoclassical and endogenous growth models, and therefore has been highlighted in the empirical literature as a significant growth promoting factor. Neoclassical growth models serve as the underlying assumptions in a number of the research on the connection between FDI and economic growth. Chowdhury and Mavrotas (2005) discovered that foreign direct investment plays a role in three channels for economic development: influencing growth drivers, facilitating the flow of foreign investment, and effecting the flow of causation between the two variables. The affirmative views confirmed by De Mello (1997), Shakar and Aslam (2015), and Adusah-Poku (2016) who agree that FDI has a positive correlation with GDP growth and are further supported by authors, such as Ndambendia and Njoupouognigni (2010), Lima et al., (2020). They believe positive trade and investment relationships can only happen if several conditions are present. These include trade regimes, regulations of financial markets and banking systems, as well as the openness of their economies and the levels of human capital in the country or countries hosting them.

Other economists argue that FDI from rich nations may be problematic for the development of underdeveloped countries in the long term if this investment is made from wealthy countries. Other, specific examples of this idea are Hein (1992) and Khan (2007) who believe that emerging economies cannot modernise their structures without moving forward inside the capitalist system. Therefore, it is recommended that developing nations boost their development, regardless of the foreign direct investment or provide the economic environment for foreign direct investment to take root.

To the extent that FDI does not help the host nation economically, the literature is divided (during the crisis period 2007-2010). Several academics have claimed that FDI should and does improve economic results in the host nation, particularly economic growth (Budiharto et al., 2017; Iamsiraroj, 2016; Pegkas, 2015; Siddique et al., 2017). Additionally, new Keynesian viewpoints postulates that although FDI is not the final part of the development puzzle and that, development brought on by FDI into a country should undoubtedly help reduce joblessness by growing the economy (Gali, 2015).

The connection between FDI and economic development in Africa was concluded to be non-existent by Hervé (2016). In the African setting, Salifou and Haq (2017) showed that FDI may actually hinder economic development inside the receiving country. This is in addition to the argument over whether FDI has good or negative secondary impacts on domestic investments (Farla et al., 2016). Thus, the substantial negative connection between FDI and economic growth variables shown in this analysis, during the crisis period (2007-2010) is not entirely unexpected. Notably absent in the analysis was however the impact on employment. Yet, there seem to be reasons, which includes FDI simply replacing similar domestic investment via specialised industrial equipment, leaving little room for large scale employment induced FDI.

Apart from the negative relationship between FDI and GDP growth during the crisis period (2007-2010), the analysis found that aggregated FDI inflows into African countries may provide sustainable and long-term economic development as well as significant GDP growth before and after financial crises. One of the primary aims of boosting foreign direct investment (FDI) flows to the African region is to reduce poverty, and to promote long-term development (Mohamed and Sidiropoulos, 2010). Inward FDI should therefor cover the investment vacuum left by outward investment. Foreign direct investment may help the economy by boosting industry, financial services, construction, and the discovery of natural resources. By extension, it will also affects the ongoing debate on the openness of the economy and the deregulation of commerce (Hassine and Kandil, 2009). Since these results had a significant impact on the overall connection and effects of FDI inflows on economic growth in the African region, this analysis represented a contribution to African countries which are eager to develop their economies. It is thus necessary to provide suggestions for increasing inbound FDI to the African continent.

The GMM output summary in table 2 illustrates that over the entire analysis period (2000-2018), official development assistance (NODA) had a positive effect on the economic growth of the African countries that formed part of the analysis. This result is in line with the expectation from aid promotors (see for example Burnside and Dollar, 2000; Riddell, 2007; Wright and Winters, 2010) who argued that sufficient ODA would add to the aggregate developmental role that ODA is supposed to play upon disbursement from donor countries for developmental purposes. The negative effect that ODA has on GDP growth was in line with the expectations of Easterly (2002; 2003) and Moyo (2009) who argued that ODA does not lead to a significant positive relationship with economic growth.

One of the most noteworthy development instruments in economic growth debates is ODA, since it enables financial participation, even in the absence of local savings and money from outside the country. One of the goals of ODA is to assist the impoverished nations to cut

poverty and get their economies on track for sustainable growth. ODA is generally divided into two main categories: grants (which include different forms of debt forgiveness and debt cancellation, as well as other kinds of debt investment, including interest-free loans and debt rescheduling) and humanitarian aid (which provides food for hungry people) (Dutta et al., 2016). In certain cases, ODA is directly linked to economic development via certain processes. This can occur, for example, by increasing investment in human and physical capital, as well as by raising the capacity to import capital goods or technology. It can also be achieved by having an indirect effect on the investment and savings rate and increasing the productivity of capital by helping in the application of new technologies (Tiwari, 2011). Based on the results of our findings in table 2, there is no significant relationship that confirms the positive impact that official development assistance has on the selection of African. Thus, it could be argued that the lack of a confirmed relationship, should drive African countries to focus on economic variables that do indeed lead to a significant positive relationship with economic growth, such as FDI.

To ensure that ODA helps to reduce poverty in developing nations, the most essential goal is that it's successful. ODA donors are certainly worried about its fungibility. Fungibility explains instances when countries use their resources in a different manner in response to assistance needed and received. Using aid may result in taxes being decreased, as well as to finance initiatives in another industry, or just to reward corrupt officials (Van de Sijpe, 2013). In the view of some economists, increasing ODA funding may prevent recipient governments from increasing their tax revenue (Benedek et al., 2012) which might lead to ODA dependency and a total collapse of the intended intervention that ODA was meant to have on the receiving nation. Considering our finding in this study, aid for growth should be reconsidered for Africa in particular.

On the basis of our empirical findings, it is important to highlight that this paper makes a significant contribution on the ODA dependency debate of developing countries, not only in Africa, but across the globe. Several countries may have small economies, but are largely endowed with resources such as mineral wealth, good infrastructure and advancing financial markets, which would make these countries eligible to receive inward FDI flows. We believe that this paper, along with others such as those by Nxumalo and Makoni (2021), provide a good starting point for countries to strengthen their institutional frameworks in order to benefit from the international capital flows that can boost their productive economic sectors.

5. Conclusion and recommendations

This study addressed important research and policy issues, while confirming the links between FDI, ODA, and economic growth within the African setting. The effects of FDI and ODA on economic growth was established over unique time periods, over nineteen years presented by the periods before, during, and after the global financial crisis (2000-2018; 2000-2006; 2007-2010; 2011-2018). All the variables in our model showed similar dynamic interactions, which helped us to better understand the ODA-FDI-economic growth nexus within an African setting. The deterministic behaviour of ODA in relation to economic growth was proven to be insignificant, implying that, in the presence of the other control variables such as gross domestic savings (GDS), population growth (POP), life expectancy (LEXP), education (EDU), access to electricity (ELEC) and natural resource rents (NATR), ODA has a very limited positive relationship with the economic growth in the African countries within our sample, over the chosen time periods. The policy implications for African countries in our sample would therefore be to focus on FDI enablers within their macro-economic policy frameworks to attract investment, both domestic and foreign to enable sustainable economic growth, and reduce dependency on aid, including

ensuring an investor-friendly institutional framework and, developing domestic financial markets, in line with the findings of Nxumalo and Makoni (2021). As such, a growth-driven FDI strategy could potentially work well in the African region, and governments should concentrate on making internal reforms that foster future economic development, as a prerequisite for attracting foreign investment.

Although this paper examined and determined the economic growth–FDI–official development aid nexus, there are so many other factors outside the scope of this study that influence the continent's growth-aid dynamics, as well as the FDI–growth relationship that did not form part of this study. Since official development assistance plays a crucially important role on the African continent, future research should consider establishing the threshold for aid disbursement or retraction. This will elevate the uncertainty around aid inflows and provide developmental stability. Additionally, future research around aid succession planning, in other words, to determine what African countries committed to do with the official development assistance they received, and what they are planning to do, from a policy perspective, to replace aid inflows would complement the current literature. This might answer important questions around aid efficiencies and recipient accountability. Another limitation of this study is that the lack of significance in some outcomes could be attributed to the limited data points available to successfully run the GMM estimation over the selected and separate periods. It is thus suggested that in future, additional crisis periods be included or that longer time periods pre-during or post crisis periods be analysed to increase the data points available, thereby improving the robustness of findings.

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