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Natural resources, quality of institutions and foreign direct investment in Africa

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Abstract

Several studies have shown that weak institutions discourage foreign direct investment (FDI) inflows. However, an analysis of the World Bank (2019) and UNCTAD (2019) statistics reveal that some countries in Africa, which are heavily endowed with natural resources and having internal conflicts have managed to attract significant FDI. This study seeks to find out whether it is possible that, for the same countries with weak institutions, some foreign investors can be attracted while others are systematically repelled. This concern is analyzed through the Dumitrescu and Hurlin (2012) causality test and the Pool Mean Group (PMG) method, applied to five African oil-exporting countries, between 1996 and 2017. Our study shows that FDI to non-extractive activities are highly sensitive to transparency in the management of natural resources. Our study also finds that dependence on natural resources determines the quality of institutions. Subsequently, the increase in the degree of dependence on natural resources neutralizes the negative effect of the quality of institutions on extractive FDI and conversely, absorbs the positive effect on non-extractive FDI. Then, in the presence of abundant resources, the quality of institutions shatters. Resource-rich countries do not need institutional reforms to attract FDI in the extractive sector, but by diversifying their economies and strengthening their institutions, they will be able to attract more non-extractive FDI.

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1. Introduction

It is now widely accepted that one of the major challenges of Africa is to find ways to finance its development. To this end, several countries in the zone have opted for the attractiveness of foreign direct investment (FDI); especially given the spectacular economic growth of the countries of Southeast Asia, due to this capital. FDI is indeed considered as likely to induce transfers of capital, technology, know-how and, besides, they do not create debt. With the reforms initiated, going as far as creating an investment promotion agency, Africa has, in 20 years (1996-2016), seen its share of total FDI double. But, in spite of everything, Africa's share remains 7 and 22 times lower than that of developing economies of America and Asia respectively (UNCTAD, 2019).

The poor quality of institutions in African countries is for several works, the main explanatory factor to this typical example of Lucas's (1990) paradox. It means that the poor quality of institutions discourages investors as it constitutes an additional barrier to FDI inflows (Aleksynska and Havrylchyk, 2011b). Corruption imposes additional costs to investors and increases uncertainty about future costs and returns on investment (Belgibayeva and Plekhanov, 2019). Similarly, a poor definition of property rights, the impartiality of justice as well as the risks of expropriation have also been important disincentives (Warrick and Hallward, 2005). Also, political instability increases the uncertainty of returns on investment, forcing foreign investors to choose other destinations (Brada et al., 2017). It is inferred that the good quality of institutions attracts FDI, and poor quality pushes them back (Feulefack and Kamajou, 2015; Komlan, 2016*;* Asif and Majid, 2018).

Surprisingly, Iraq and Afghanistan are noted to have recorded an increase in peak FDI inflows amid conflicts. Statistical analysis on the World Bank (WDI, 2019a) and UNCTAD (WIR, 2019) data showed that several African countries have also attracted large volumes of FDI during periods of socio-political instability. In South Africa, despite the tensions and hostilities observed during the second half of apartheid (from 1970 to 1991), inflows of FDI accounted for 40%, 48% and, 42% respectively of the total FDI for the region in 1970, 1974 and 1984. In Sudan, throughout the 25 years (from 1980 to 2005) of the second civil war, inflows of FDI have steadily increased at the average annual rate of 24.91%. This country has also recorded the largest flows in its history (2.5 billion dollars) in 2006, during the Darfur war, often compared to genocide. Throughout its 27-year civil war[1], Angola has seen its inflows of FDI increase on average by 47.1% annually. Despite the troubles that accompanied the fall of Mobutu, inward FDI in the DRC increased by 238% from 1997 to 1998. As if the proliferation of rebel formations (AFDL, RCD, MLC, CNDP, M23) and their procession of the unrest observed in the following years was insignificant, FDI entering the DRC increased at an average rate of 37% between 1999 and 2004 and then 45.8% between 2006 and 2011. Given that war should cause investors to flee, what explains this inverse phenomenon?

This study seeks answers to this question with a dual purpose, namely:
- Identify and analyze the link between the exploitation of natural resources and the quality of institutions;
- Assess the effect of the quality of institutions on FDI inflows by sector.

The main contribution of this work is to analyze the effect of the quality of institutions on FDI sector flows according to whether they are oriented towards extractive or non-extractive

[1]From 1975 to 2002

activities. Besides, we construct a new institutional variable to assess the quality of institutions related to natural resource management.

With this introduction, this work is organized into four sections. The second section is devoted to the review of the literature, the third to the methodological framework of the study and the fourth section presents the results obtained and their discussions.

2. Review of the Literature

2.1. Do natural resources affect the quality of institutions?

Collier and Hoeffler (2009) show that the resource boom is responsible for the weakness of institutions. Natural resources are thus seen as a curse (Sachs and Warner, 1995). Indeed, the resource boom provokes violent civil conflicts (Lujala et al., 2005) and generates non-democratic political regimes (Jensen and Wantchekon, 2004; Brunnschweiler and Bulte, 2008). Based on a study on the effectiveness of accountability, Barma et al. (2012) conclude that the quality of institutions in resource-dependent countries is lower than it should be given the income level of these countries. Ross (2012) adds that oil revenues reduce the efficiency of institutions by weakening their capacity to maintain countercyclical policies. Thus, through the syndrome of bureaucratic overstretch, the increase in oil revenues reduces the quality of the bureaucracy and increases the power of the elites. These elites use this power for personal prestige, for acts of corruption, and to increase their power to influence the law (Ross, 2012). Hartford and Klein (2005), Komlan (2013) and, Ahmadov et al. (2013) argue that natural resource rents can undermine the management of institutions by removing any incentive to reform and establish an efficient bureaucracy.

2.2. Attracting FDI: Does the quality of institutions matter?

Schienider and Frey (1985) are probably the first who have analyzed the effect of institutional quality on FDI flows. Kaufman et al. (1999) show that political instability harms FDI. For Hellman and al. (2002), corruption reduces FDI inflows into a country. Djankov et al. (2008) argued that investor's protection is a fundamental factor in a country's attractiveness. Gwenhamo (2009), as well as Daude and Stein (2007), claimed that the quality of institutions plays a fundamental role in determining the location of multinational firms abroad, both as pull factors and as push factors. Asiedu (2005), as well as Elheddad (2016), also contended that corruption and political instability hurt FDI. Asiedu (2005) also showed that if Nigeria's level of corruption becomes similar to that of South Africa, the effect would be an increase in FDI and the share of exports of fuels and minerals in total exports of 34.84%. Following Asiedu (2005), Komlan (2006 and 2016) showed that the quality of institutions has had a significant impact on FDI inflows in SSA. The conclusions of Benáček et al. (2012), Yosra et al. (2013), Julio et al. (2013) and, Ullah and Khan (2017) abound in this direction.

Feulefack and Kamajou (2015) find that in SSA, the effect of the quality of institutions depends on the level of abundance of the host country in natural resources. In the oil-exporting countries the effect is not significant. However, in resource-poor countries, FDI is very sensitive to the quality of institutions. Sen and Sinha (2017) find that countries that want to attract US FDI in sectors that are highly intensive in technology and institutions such as transportation and electronics should improve their property rights and contracting environment.

These latest studies have not taken into account the role of natural resources. However, many studies find that natural resources have a perverse effect on economic factors through their

effects on the quality of institutions (Ako and Uddin, 2011; Bokpin et al., 2015; Elheddad, 2016; Jumanne and Keong, 2018).

2.3. The resource-FDI curse and the role of institutions

In 2010, Poelhekke and Van der Ploeg noted that the analysis of the effects of natural resources on the composition and volumes of FDI seems not to have been taken into account in the available studies. They are also the first to approach the analysis of the existence of a resource-FDI curse. From data collected on multinational firms in the Netherlands, between 1984 and 2002, Poelhekke and Van der Ploeg (2010) showed that: a) natural resources attract FDI specific to the natural resources sector; (b) natural resources push back FDI directed to non-resource sectors, and this effect is dominant. They find that if the price of a barrel of oil doubles, it would result in a reduction of inward FDI in non-natural resource sectors by 10%.

Asiedu and Lien (2011) and Asiedu (2013) examined the interaction between natural resources, the quality of institutions and FDI. However, like Poelhekke and Van der Ploeg (2010), they believe that the crowding-out effect of natural resources on FDI is straightforward. They, therefore, tried to find out whether the quality of institutions can mitigate this effect. Moreover, Asiedu and Lien (2011) used only one variable of the quality of institutions, namely democracy. Asiedu (2013) considered more institutional variables, including the effectiveness of the law, the respect of contracts and corruption. If the quality of institutions mitigates the perverse effect of natural resources on FDI means that the quality of institutions is autonomous. Such consideration cannot be made without foundation. For this reason, this study first examines the relationship between the exploitation of natural resources and the quality of institutions. These studies use aggregated flows of FDI, which does not provide sufficient information on the sectoral attractiveness of the economies studied. From a methodological point of view, they do not take into account the problems of heterogeneity and stationarity, which are, however, one of the major concerns of analyzes on groups of countries. This study fills these gaps since the PMG method mobilized here is perfectly adapted to the study of nonstationary heterogeneous panels.

3. Methodology

3.1. Specification of the models

a) Causal relationship between endowment of natural resources and the quality of institutions

The link between the quality of institutions and the degree of dependence on natural resources is analyzed using the basic model below. It assumes two stationary variables x and y, observed on N individuals during T periods, such that for each individual (i) and at each period (t), we have:

$$y_{it} = \alpha_i + \sum_{k=1}^{K} \gamma_{ik}\, y_{i,t-k} + \sum_{k=1}^{K} \beta_{ik}\, X_{i,t-k} + \varepsilon_{it} \qquad (1)$$

α_i represents the individual effects, considered as fixed. But generally, it is not possible to grasp all the heterogeneity of the dynamic link that is established between two variables. Thus, parameters γ_{ik} and β_{ik} are assumed to be fixed and different from one individual to another (Dumitrescu and Hurlin, 2012). The order of lags *K* is assumed to be identical for all the countries of the panel. For this study, each indicator of the quality of institutions gives rise to

a model to be estimated. The variable "INST" is successively replaced by each of the indicators of the quality of the institutions. The estimated model is:

$$Inst_{it} = \alpha_i + \sum_{k=1}^{K} \beta_{ik}\, NRdep_{i,t-k} + \varepsilon_{it} \qquad (2)$$

b) Impact of natural resources and institutional quality on FDI inflows

Following in the footsteps of Driffield (2002), taken up by Naudé and Krugell (2007), we assume that the establishment of a multinational firm or the reinvestment of its profits in one of the SSA countries is attributable to the profits expected. The probability for a firm to obtain such gains can be estimated by assuming that it operates in a finite time universe with a known market interest rate. In reality, this probability is not observable, but it can be approximated by admitting that it is a function of the characteristics of the host economy. The variables that determine these characteristics are therefore strongly correlated with the profits expected by the foreign firm; either in terms of increased turnover or terms of cost reduction. These include the degree of openness, market size (GDP per capita growth rate), level of inflation, infrastructure, human capital, exchange rate, labor endowment, natural resources, and the quality of institutions. However, it would be difficult to use all these variables in the practical analysis, because of the risk of multicollinearity that may arise from the link that certain variables maintain. We must make a choice. That said, the basic model to be estimated can be the autoregressive time-lagged model (ARDL (p, q_1, q_2, ..., q_k)), formulated by Pesaran, Shin, and Smith (1999). Let the following general form be:

$$y_{it} = \sum_{j=1}^{p} \lambda_{ij}\, y_{i,t-j} + \sum_{j=0}^{q} \delta_{ij}\, X_{i,t-j} + \mu_i + \varphi_{it} \qquad (3)$$

Where X_{it} is the vector of the explanatory variables, μ_i designates the fixed effects and φ_{it} is the error term. The group number is i = 1, 2, 3 ... N; the number of period is t = 1, 2, 3, ... T. λ_{ij} is a scalar and δ_{ij} is the vector of the coefficients. It is possible to rewrite the model (3) in the form of an error-correction model, in which the short-run dynamics of the variables is influenced by the deviation from the long-run equilibrium. So, we have the following model:

$$\Delta y_{it} = \phi_i \left(y_{it-1} - \theta_i' X_{it}\right) + \sum_{j=1}^{p-1} \lambda_{ij}^{*} \Delta y_{i,t-j} + \sum_{j=0}^{q-1} \delta_{ij}'^{*} \Delta X_{i,t-j} + \mu_i + \varphi_{it} \qquad (4)$$

Where Φ_i is the adjustment coefficient (assumed to be negative), θ_i is the vector of the long-term coefficients, and Δ is the variation between two given dates. The values of p and q, which indicate the number of lags to be taken in the model is determined by the Schawrtz Bayesian Information Criterion (SBIC). The equation to be estimated is presented in the following form:

$$\begin{aligned}\Delta Fdi_{it} = {} & \emptyset_i (Fdi_{t-1} - \tau_1 Inst_{it} - \tau_2 NRdep_{it} - \tau_3 NRdepxInst_{it} - \tau_4 Hum_{it} - \tau_5 Rexch_{it} \\ & - \tau_6 Gdpc_{it}) + \beta_1 \Delta Inst_{it} + \beta_2 \Delta NRdep_{it} + \beta_3 \Delta NRdepxInst_{it} + \beta_4 \Delta Hum_{it} \\ & + \beta_5 \Delta Rexch_{it} + \beta_6 \Delta Gdpc_{it} + \mu_i \\ & + \varphi_{it} \end{aligned} \qquad (5)$$

3.2. *Data and variables of the study*

The difficulty of accessing disaggregated data on FDI flows and long series on institutional indicators limits the sample to five of the eight Sub-Saharan Africa oil-exporting countries[2] between 1996 and 2017. Thus, data on FDI flows to the extractive sector (***Fdiex***) are provided by the annual report of the central bank (BEAC, 2019) and non-extractive FDI flows (***Fdinex***)

[2] *Cameroon, Chad, Congo, Equatorial Guinea, Gabon*

are obtained from the difference with the total volumes received. Dependence on natural resources (***NRdep***) is captured by the weight of the revenues from the export of fuels, minerals, and metals, as a percentage of total export earnings. A given country will be considered dependent when this ratio approaches 1. The expected effect should be positive on FDI to the extractive sector, but negative on the other. These data come from the World Investment Report (UNCTAD, 2019), as well as those on the real exchange rate (***Rexch***) and on GDP per capita (***Gdpc***). These measure respectively, the competitiveness of the host economy and the size of the market. Human capital (***Hum***) is approximated by the secondary school enrollment rate, provided by the World Development Indicator (World Bank, 2019a). The expected effect should be positive.

Two types of data on the quality of institutions are used. On the one hand, there are the six indicators of the Worldwide Governance Indicator Dataset (World Bank, 2019b). Namely, political stability (***Pstab***), corruption control (***Ccor***), accountability (***Actbty***), quality of regulation (***Reg***), the efficiency of bureaucracy (Bur) and, the role of the law (***Rlaw***). A global index (***Inst***) is also used. It represents the weighted arithmetic mean[3] of these six sub-indicators, based on the principal component analysis. The quality of institutions is also measured by transparency in the management of natural resources (***eitim***). The aim is to capture the effect of the host country's membership in the Extractive Industries Transparency Initiative (EITI). This initiative requires the member country to collaborate with civil society and to make public (a) the contracts with the multinationals operating in the extractive industry, (b) the revenues obtained as well as (c) a public report on the uses which are made from the income collected. The transparency in the management of extractive resources is captured by a dummy variable. It takes the value "0" for the years before the country's accession to EITI, and the value "1" for years thereafter. An interaction variable is introduced (NRdepxInst) to capture a possible interdependence between dependence on resources and the quality of institutions. These data are processed to correct the presence of zero flows. To avoid the effects of magnitudes and to be able to interpret the coefficients of the estimate as elasticities, all the data are used in logarithmic value. Referring to the works of Busse and Hefeker (2007) as well as Chua and al. (2012), the logarithmic transformation of the negative values is done according to the following formula: $\boldsymbol{y = ln(\, x + \sqrt{(x^2 + 1)}\,)}$.

3.3. Estimation methods

The process for determining the appropriate estimation method begins with the poolability test.

a) Do the sample countries constitute a panel?

Since the p-value associated with the Fisher statistic is less than the 5% threshold; there is evidence of heterogeneity that we assume to come from the constant.

Table I: The poolability test

	(1) Inst	(2) Eitim	(3) Pstab	(4) Actby	(5) Ccor	(6) Reg	(7) Bur	(8) Rlaw
FDIex								
F-Statistic	14.28***	14.55***	12.06***	13.75***	14.93***	14.95***	12.51***	13.27***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
FDInex								
F-Statistic	3.69***	3.43***	3.10***	2.65***	3.33***	4.31***	2.55**	3.72***
	(0.0077)	(0.0114)	(0.0189)	(0.0375)	(0.0133)	(0.0030)	(0.0437)	(0.0073)

*p-value in parentheses: ***p<0.001; **p < 0.05*

[3] *Inst = 0.724Actbty +0.164Ccor +0.059Pstab +0.029Reg +0.014Bur +0.010Rlaw.*

So, the countries could be studied as a panel. The next step is to test for the presence of unit root. The choice of test, however, depends on whether there is cross-dependence or not.

b) Are the countries in the sample dependent or not?

The results of the cross-sectional dependence test (Table II) of Pesaran (2004) show strong evidence of cross-country dependence on variables NRdep, Hum, Rexch, Inst, Actby, Bur, NRdepxInst, NRdepxactbty and, NRdepxBur. The changes observed in the other variables (*Fdiex, Fdinex, Gdpc, Ccor,…*) essentially depend on the specifics of the domestic economy.

Table II: Cross-sectional dependence test

Variables	NRdep	Hum	Rexch	Inst	Actby	bur	Fdiex	Fdinex	Gdpc
CD-test	6.20***	13.79***	12.35***	2.01**	3.69***	3.15***	-1.46	-1.30	1.76*
	(0.000)	(0.000)	(0.000)	(0.045)	(0.000)	(0.002)	(0.146)	(0.192)	(0.078)

Variables	Ccor	Pstab	Reg	Rlaw	NRdepxInst	NRdepxactbty	NRdepxccor
CD-test	-0.22	-0.14	0.56	-1.24	3.71***	4.90***	-0.14
	(0.827)	(0.888)	(0.574)	(0.214)	(0.000)	(0.000)	(0.892)

Variables	NRdepxReg	NRdepxRlaw	NRdepxBur	NrdepxPstab
CD-test	1.77*	-1.26	4.51***	-0.49
	(0.076)	(0.208)	(0.000)	(0.624)

*p-value in parentheses: ***p<0.01; **p < 0.05; *p<0.1*

c) Stationarity tests

The Maddala and Wu (1999) stationarity test is relevant to verify the presence of unit root on heterogeneous panel when there is evidence of no cross-sectional dependence.

Table III: Unit root test of Maddala and Wu (1999) - [with specification without trend]

	At level				In first difference			
Lags	0	1	2	3	0	1	2	3
Fdiex	11.01	15.23	8.26	28.77***	92.18***	42.54***	23.11**	25.10***
	(0.356)	(0.124)	(0.604)	(0.001)	(0.000)	(0.000)	(0.010)	(0.005)
Fdinex	42.32	11.91	11.99	9.20	224.70***	64.86***	36.21***	24.41***
	(0.000)	(0.291)	(0.286)	(0.514)	(0.000)	(0.000)	(0.000)	(0.007)
Gdpc	26.82***	10.69	23.08	8.24	67.21***	24.52***	11.07	7.77
	(0.003)	(0.382)	(0.010)	(0.605)	(0.000)	(0.006)	(0.352)	(0.651)
Pstab	11.99	7.69	4.08	5.03	106.54***	65.24***	19.14	14.71
	(0.286)	(0.659)	(0.943)	(0.889)	(0.000)	(0.000)	(0.039)	(0.143)
Ccor	16.29*	13.46	12.70	17.75*	70.62***	47.49***	23.31**	21.35**
	(0.092)	(0.199)	(0.241)	(0.059)	(0.000)	(0.000)	(0.010)	(0.019)
Reg	17.64	12.84	12.85	12.50	133.03***	56.92***	42.41***	38.23***
	(0.061)	(0.232)	(0.232)	(0.253)	(0.000)	(0.000)	(0.000)	(0.000)
Rlaw	15.51	12.27	8.34	10.68	71.96***	80.81***	39.18***	27.53**
	(0.114)	(0.267)	(0.596)	(0.383)	(0.000)	(0.000)	(0.000)	(0.002)
NrdepxCcor	20.97**	25.82***	38.15***	18.03*	62.16***	48.25***	33.31***	28.29***
	(0.021)	(0.004)	(0.000)	(0.054)	(0.000)	(0.000)	(0.000)	(0.254)
NrdepxPstab	8.55	7.69	14.50	6.60	93.74***	67.13***	16.42*	13.15
	(0.575)	(0.659)	(0.152)	(0.763)	(0.000)	(0.000)	(0.088)	(0.216)
NrdepxReg	18.41**	18.23*	34.35***	13.56	118.55***	54.77***	39.24***	38.60***
	(0.048)	(0.051)	(0.000)	(0.194)	(0.000)	(0.000)	(0.000)	(0.000)
NrdepxRlaw	16.15*	13.68	21.22**	10.12	63.32***	77.60***	35.24***	31.21***
	(0.095)	(0.188)	(0.020)	(0.430)	(0.000)	(0.000)	(0.000)	(0.001)

*p-value in parentheses: ***p<0.01; **p < 0.05; *p<0.1*

Except for NRdepxCcor, the variables studied are not stationary at level. But in difference, all of them become stationary. Pesaran's stationarity test (2007) is more suitable for variables for which there is evidence of cross-sectional dependence. Here (Table IV), several variables are

stationary at level (*Bur, Rexch, NRdepxInst, NrdepxActbty and NRdepxBur*). In difference, all of them become stationary at the 1 percent threshold.

Table IV: Pesaran unit root test (2007) or Pesaran CIPS test

	At level			In first difference	
Variables	**Z[t-bar]**	**P-value**	**Variables**	**Z[t-bar]**	**P-value**
NRdep	0.12	0.548	ΔNRdep	34.99***	0.000
Inst	0.62	0.733	ΔInst	51.50***	0.000
Actby	-0.156	0.438	ΔActby	45.12***	0.000
Bur	-2.573***	0.005	ΔBur	58.71***	0.000
Rexch	-2.17**	0.015	ΔRexch	55.82***	0.000
Hum	0.74	0.769	ΔHum	74.42***	0.000
Nrdep*x*Inst	-3.37***	0.000	ΔNrdep*x*Inst	42.04***	0.000
Nrdep*x*Actbty	-3.37***	0.000	ΔNrdep*x*Actbty	35.18***	0.000
Nrdep*x*Bur	-3.26***	0.001	ΔNrdep*x*Bur	57.49***	0.000

****p<0.01; **p < 0.05*

Without the need to perform a test, it was already clear that the number of countries being smaller than the number of periods, the estimation methods for micro-panels (GMM, 2-LS) could not be applied in this case. Given the tests carried out, the PMG method appears appropriate. Indeed, this method is perfectly suited to perform dynamic analysis on heterogeneous non-stationary panels. It allows stationary variables in I (0) and in I (1) to be estimated in the same model. Also, although it does not account for endogeneity, it produces convergent and efficient estimators even when the sample is small (Blackburne and Frank, 2007). However, for the sake of robustness, we can verify the existence of a long-run relationship by using the Pedroni test.

d) Cointegration test

The null hypothesis to test here is that of the absence of cointegration. This null hypothesis is rejected when more than 50 percent of the p-values associated with the different test statistics are below the one percent threshold. In within-dimension, only 50 percent of the statistics are significant (panel pp and panel ADF). The null hypothesis of "no cointegration" cannot, therefore, be rejected.

Table V: *Co-integration test on the relationship with extractive FDI*

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
	Inst	**Eitim**	**Pstab**	**Actby**	**Ccor**	**Reg**	**Bur**	**Rlaw**
Within-dimension								
Panel v	0.83	-0.25	0.45	0.78	-0.600	-0.46	-0.11	0.24
	(0.204)	(0.600)	(0.326)	(0.216)	(0.726)	(0.679)	(0.544)	(0.404)
Panel rho	1.44	1.61	1.13	0.93	2.20	1.75	0.84	1.51
	(0.925)	(0.946)	(0.872)	(0.823)	(0.986)	(0.960)	(0.799)	(0.935)
Panel PP	-6.60***	-3.39***	-4.46***	-8.59***	-2.75***	-4.39***	-7.15***	-6.02***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)
Panel ADF	-6.06***	-2.55***	-4.88***	-6.96***	-2.44***	-3.70***	-6.37***	-4.79***
	(0.000)	(0.005)	(0.000)	(0.000)	(0.007)	(0.000)	(0.000)	(0.000)
Between-dimension								
Group rho	2.13	1.71	2.01	1.77	2.57	2.28	2.10	1.91
	(0.983)	(0.956)	(0.978)	(0.962)	(0.995)	(0.9856)	(0.982)	(0.972)
Group PP	-6.12***	-3.59***	-3.91***	-7.30***	-2.67***	-4.05***	-14.13***	-6.79***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)
Group ADF	-5.06***	-3.15***	-4.50***	-7.08***	-2.62***	-3.60***	-5.24***	-5.62***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)

*p-value in parentheses: ***p<0.01*

But in between-dimension, two thirds of the statistics appear significant (Group PP and Group ADF). This majority allows us to reject the null hypothesis of no cointegration and, to support the evidence of a long-run relationship between the variables of the model. The situation is perfectly identical for the model on the determinants of FDI towards the non-extractive sectors (Table VI).

Table VI: ***Co-integration test on the relationship with non-extractive FDI***

	(1) Inst	(2) Eitim	(3) Pstab	(4) Actby	(5) Ccor	(6) Reg	(7) Bur	(8) Rlaw
Within-dimension								
Panel v	-2.07	-1.96	-1.56	-1.13	-1.68	-2.65	-1.98	-1.71
	(0.981)	(0.975)	(0.941)	(0.870)	(0.954)	(0.996)	(0.976)	(0.956)
Panel rho	1.14	1.48	0.591	0.55	1.06	0.89	0.97	1.55
	(0.873)	(0.931)	(0.723)	(0.711)	(0.856)	(0.813)	(0.834)	(0.940)
Panel PP	-10.98***	-2.77***	-6.91***	-7.45***	-8.35***	-8.17***	-10.11***	-9.16***
	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Panel ADF	-7.21***	-3.28***	-6.76***	-6.78***	-7.35***	-7.01***	-7.51***	-6.55***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Between-dimension								
Group rho	1.96	1.88	1.82	1.82	1.94	1.79	1.89	2.30
	(0.975)	(0.970)	(0.966)	(0.966)	(0.974)	(0.963)	(0.971)	(0.989)
Group PP	-11.61***	-3.44***	-5.81***	-9.87***	-6.66***	-10.08***	-9.79***	-7.67***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Group ADF	-6.44***	-3.47***	-5.24***	-5.97***	-6.10***	-7.27***	-6.45***	-5.08***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

*p-value in parentheses: ***p<0.01*

Since the long-term relationships are confirmed, we can then carry out the estimates by the PMGs.

4. Empirical Results

4.1. Results of the causality test

The Dumitrescu and Hurlin (2012) test allows to determine whether for at least one of the countries in the sample, dependence on natural resources causes the quality of institutions and vice versa. The results (Table VII) show that there is a one-way link between dependence on natural resources and the quality of institutions. Specifically, dependence on natural resources significantly determines the degree of accountability, the control of corruption, the efficiency of bureaucracy and the quality of regulation. These results are consistent with the findings of Hartford and Klein (2005), Ross (2012) and Ahmadov et al. (2013). They find that the abundance of resources increases the influence of politics on the administration to control rents. These results also abound in the sense of the studies of Barma et al. (2012). The latter show that the abundance of resources generates significant revenues which give those who hold power, to finance through corruption the weakening of control mechanisms, to have even more power.

On the other hand, political stability and the role of the law cause dependence on natural resources. Several studies have argued that the abundance of natural resources goes hand in hand with violent civil conflicts (Collier and Goderis, 2007; Ross, Lujala et al., 2005) and undemocratic political regimes (Brunnschweiler and Bulte, 2008; Leite and Weidmann, 2002). Thus the high probability of a violent regime change and the risk of impartiality of the justice system increase the country risk and make the expected returns on investments uncertain. Since

governments generally guarantee the safety of extraction sites, the activity is much concentrated around the oil enclaves.

Table VII: ***Dumitrescu and Hurlin (2012) homogeneous non-causality test results***

Relationship	Zbar-Stat.	Relationship	Zbar-Stat.
NRdep does not homogeneously cause Inst	*4.39*** (0.000)*	Inst does not homogeneously cause NRdep	0.63 (0.526)
NRdep does not homogeneously cause Actby	*4.51*** (0.000)*	Actby does not homogeneously cause NRdep	0.79 (0.430)
NRdep does not homogeneously cause Ccor	*3.55*** (0.000)*	Ccor does not homogeneously cause NRdep	-0.27 (0.789)
NRdep does not homogeneously cause Bur	*2.41** (0.016)*	Bur does not homogeneously cause NRdep	-0.33 (0.742)
NRdep does not homogeneously cause Reg	*7.31*** (0.000)*	Reg does not homogeneously cause NRdep	0.64 (0.524)
NRdep does not homogeneously cause Pstab	-1,23 (0.217)	Pstab does not homogeneously cause NRdep	*4.29*** (0.000)*
NRdep does not homogeneously cause Rlaw	1.32 (0.187)	Rlaw does not homogeneously cause NRdep	*3.30*** (0.001)*

*p-value in parentheses: ***p<0.01; **p < 0.05*

Since these results suggest that the link is not a two-way street, one can reasonably consider that it is dependence on natural resources that modulates the effect of accountability, control of corruption, efficiency of bureaucracy and quality of regulation on FDI. This corresponds to the approach adopted by Asiedu (2013) but on assumptions without methodological foundations. Conversely, political stability and the role of the law could modulate the effect of dependence on natural resources on FDI. This is consistent with the position taken by Asiedu and Lien (2011).

4.2. Sectoral analysis of the effects of institutional quality on FDI flows

a) Effects of the quality of institutions on extractive FDI: Do natural resources matter?

The analysis of the effects of natural resources and the quality of institutions on FDI to the extractive sector (Table VIII), highlights three major results. First, natural resources have a positive and significant effect, such as, on average, an increase in the share of exports of oil and mining products of one percent, generates, ceteris paribus, an increase of 5.67 percent in of FDI's inflows. This result is consistent with the conclusions of Anyanwu (2002), Bokpin et al. (2015), Komlan (2016), Jumane et al. (2018). Like Poelhekke and Van der Ploeg (2010), we find that natural resources attract extractive FDI.

Second, the effect of the quality of institutions is more important than the effect of any other economic variable. We find an inverse and significant relationship between the quality of institutions and FDI inflows. On average, an improvement in the quality of institutions by one percentage point reduces FDI inflows to the extractive sector by 23.29 percent. This result is consistent with the conclusions of Komlan (2016) and Elheddad (2017). It should be noted that foreign investors interested in the extractive activity fear 9.7 times more than the average, strengthening of one point of accountability (-147.28). However, their sensitivity to political stability (-4.78) and the role of the law (-5.12) is five times lower than the average.

Third, apart from the transparency variable, the interaction term is positive and significant while the institutional variables are negative. This means that dependence on natural resources reduces the negative effect of the quality of institutions. As a result, the effect of the quality of institutions weakens as the country's dependence on natural resources increases.

Table VIII: ***Effect of Institutional Quality on Extractive FDI***

Variables	*(1)* *Institutions*	*(2)* *Transparency*	*(3)* *Political Stability*	*(4)* *Control of Corruption*	*(5)* *Accountability*	*(6)* *Regulatory Quality*	*(7)* *Bureaucracy*	*(8)* *Role of Law*
NRdep	**5.67*** **	**0.04**	**1.62*** **	**5.63*** **	**30.63*** **	**3.43*** **	**1.56*** **	**1.27** **
	(0.000)	*(0.734)*	*(0.000)*	*(0.002)*	*(0.004)*	*(0.000)*	*(0.000)*	*(0.012)*
Hum	0.30**	0.76***	0.59***	0.24**	0.80*	0.36**	0.42**	0.82**
	(0.020)	*(0.000)*	*(0.000)*	*(0.010)*	*(0.063)*	*(0.029)*	*(0.032)*	*(0.013)*
Gdpc	2.95***	1.52**	1.62***	2.75***	3.84***	1.32***	2.65***	1.27***
	(0.000)	*(0.011)*	*(0.000)*	*(0.000)*	*(0.001)*	*(0.000)*	*(0.000)*	*(0.000)*
Rexch	-2.28***	-3.97***	-2.50***	-0.16	-3.43***	-2.77***	-1.48*	-2.25**
	(0.019)	*(0.000)*	*(0.000)*	*(0.846)*	*(0.005)*	*(0.001)*	*(0.077)*	*(0.041)*
Inst	***-23.29**** **							
	(0.000)							
NRdepxInst	***6.21**** **							
	(0.000)							
Eitim		***-0.87***						
		(0.405)						
NrdepxEitim		***0.25***						
		(0.353)						
Pstab			***-4.78**** **					
			(0.000)					
NRdepxPstab			***1.20**** **					
			(0.000)					
Ccor				***-21.83**** **				
				(0.001)				
NRdepxCcor				***5.46**** **				
				(0.002)				
Actby					***-147.28**** **			
					(0.003)			
NRdepxActbty					***32.92**** **			
					(0.003)			
Reg						***-19.53**** **		
						(0.000)		
NRdepxReg						***4.51**** **		
						(0.000)		
Bur							***-11.67**** **	
							(0.001)	
NRdepxBur							***2.81**** **	
							(0.000)	
Rlaw								***-5.12**** **
								(0.034)
NRdepxRlaw								***1.26**** **
								(0.010)

*p-values in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.*

In this case, the quality of institutions no longer constitutes an obstacle to investment decisions in extractive activities. These analyzes are more explicit when examining the marginal effects of institutional variables. The marginal effects are obtained by the partial derivative of the long-term equation (extracted from the model (5) and presented in Table VIII) to each of the institutional variables: $\frac{\partial Fdiex}{\partial Inst} = \tau_1 + \tau_3 * NRdep$

The calculations are made using the average of the variable NRdep (3.89) and the results are weighted by the standard deviation of the institutional variable considered, to take account of the margin of error. Thus, for the global index of the quality of institutions we have:
$\frac{\partial Fdiex}{\partial Inst} = (-23.29 + 6.21 * 3.89) * 0.22 = 0.19$

Under the influence of dependence on natural resources, the elasticity of the quality of institutions goes from - 23.29 to 0.19. In absolute terms, the effect becomes 122.6 times less significant. The negative effect even becomes positive. It is easy to conclude from this that, given the abundance of natural resources, the quality of institutions is shattering. This is consistent with the results of Ross (2012) who show that the abundance of natural resources makes institutions indeterminate. Our results are also consistent with the conclusions of Barma et al. (2012) who find that the quality of institutions in resource-dependent countries is lower than it should be. Marginal effects are summarized in Table IX

Table IX: ***Marginal effects of the quality of institutions on extractive FDI***

Variables	*Institution*	*Political stability*	*Control of corruption*	*Accountability*	*Regulatory quality*	*Bureaucracy*	*Rule of law*
Direct effect	**-23.29**	**-4.78**	**-21.83**	**-147.28**	**-19.53**	**-11.67**	**-5.12**
	(0.22)	*(0.55)*	*(0.18)*	*(0.24)*	*(0.32)*	*(0.25)*	*(0.26)*
Marginal effect	***0.19******	***-0.06******	***-0.11******	***-4.61******	***-0.63******	***-0.18******	***-0.06****

*Standard deviations in parentheses. ***p < 0.01, **p < 0.05*

Dependence on natural resources substantially weakens the intensity effect of the quality of institutions. For example, the effects of regulatory quality and accountability are 31 times weaker, that of political stability and the efficiency of bureaucracy are 80 times smaller, while the effect of corruption control is 198 times less important. So, countries with abundant natural resources do not need to undertake institutional reforms to attract FDI. It, therefore, becomes easy to explain why countries facing conflict have attracted large flows of FDI. Our results are consistent with the findings of Collier and Hoeffler (2009) as well as Komlan (2013) which show that the abundance of natural resources is responsible for the weakness of institutions. Thus, like Hartford and Klein (2005) as well as Ahmadov et al. (2013), we find that dependence on natural resources tends to neutralize the effectiveness of institutions.

b) Effects of the quality of institutions on non-extractive FDI: The role of natural resources

Aside from the effects of human capital, per capita GDP and the exchange rate which remain unchanged, the effects of the other variables are reversed when analyzing the effects on non-extractive FDI. The quality of institutions has always a greater explanatory power than that of economic variables. But unlike the effect observed on extractive FDI, the quality of institutions has a positive and significant effect on FDI inflows in the non-extractive sectors. As Benáček et al. (2012), Yosra et al. (2013), Feulefack and Kamajou, 2015 ; and, Ullah and Khan (2017) we find that the quality of institutions is fundamental to the location decision of multinationals.

Table III: Effect of Institutional Quality on Non-Extractive FDI Flows

Variables	*(1)* *Institutions*	*(2)* *Transparency*	*(3)* *Political Stability*	*(4)* *Control of Corruption*	*(5)* *Accountability*	*(6)* *Regulatory Quality*	*(7)* *Bureaucracy*	*(8)* *Role of Law*
NRdep	***-27.79****	***-0.67****	***-23.95****	***-9.39****	***-37.00****	***-8.07****	***-17.18****	***-6.87****
	(0.004)	*(0.000)*	*(0.001)*	*(0.000)*	*(0.009)*	*(0.000)*	*(0.001)*	*(0.001)*
Hum	0.99**	2.32***	15.72**	2.26***	1.60*	3.28*	24.28***	6.13***
	(0.035)	(0.000)	(0.033)	(0.008)	(0.063)	(0.081)	(0.000)	(0.001)
Gdpc	3.53**	4.19***	7.46***	3.30**	3.46*	2.90**	3.32***	3.61***
	(0.048)	(0.000)	(0.000)	(0.031)	(0.067)	(0.031)	(0.000)	(0.008)
Rexch	-21.87***	-6.30***	-15.65***	-5.06**	-17.33***	-7.90***	-16.31***	-10.01***
	(0.000)	(0.004)	(0.000)	(0.031)	(0.000)	(0.003)	(0.000)	(0.001)
Inst	***107.71****							
	(0.022)							
NRdepxInst	***-29.25****							
	(0.008)							
Eitim		***-13.46****						
		(0.000)						
NrdepxEitim		***2.87****						
		(0.000)						
Pstab			***103.92****					
			(0.001)					
NRdepxPstab			***-22.00****					
			(0.001)					
Ccor				***31.84****				
				(0.000)				
NRdepxCcor				***-8.51****				
				(0.000)				
Actby					***165.29****			
					(0.018)			
NRdepxActbty					***-41.06****			
					(0.011)			
Reg						***39.49****		
						(0.000)		
NRdepxReg						***-10.04****		
						(0.000)		
Bur							***88.75****	
							(0.009)	
NRdepxBur							***-21.54****	
							(0.003)	
Rlaw								***36.41****
								(0.000)
NRdepxRlaw								***-6.62****
								(0.001)

*p-values in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.*

Likewise, our results are consistent with the findings of Sen and Sinha (2017), according to which good institutions are essential to the attractiveness of FDI in technology-intensive activities and services. We confirm the existence of a Resource - FDI curse highlighted by Poelhekke and Van der Ploeg (2010). But, we find that this is a Resource Curse - non-extractive FDI. The reason is that natural resources have a negative and significant effect at 1% on non-extractive FDI inflows.

The interaction term is also negative and significant. It follows that dependence on natural resources reduces the positive effect of the quality of institutions on non-extractive FDI inflows. Once again, following Asiedu (2013), we find that dependence on resources modulates the effect of the quality of institutions. The marginal effects (Table X) are thus calculated analogously to the previous case.

Table IX: ***Marginal effects of the quality of institutions on extractive FDI***

Variables	*Institution*	*Eitim*	*Political stability*	*Control of corruption*	*Accountability*	*Regulatory quality*	*Bureaucracy*	*Rule of law*
Direct effect	**107.71**	**-13.46**	**103.92**	**31.84**	**165.29**	**39.49**	**88.75**	**36.41**
	(0.22)	*(0.45)*	*(0.55)*	*(0.18)*	*(0.24)*	*(0.32)*	*(0.25)*	*(0.26)*
Marginal effect	**1.34****	**-1.03*****	**10.09*****	**- 0.23*****	**1.34****	**0.14*****	**1.24*****	**2.77*****

*Standard deviations in parentheses. ***p < 0.01, **p < 0.05*

The marginal effect of the quality of institutions is on average 80 times weaker than it should be. The most severely affected institutional variables are the quality of regulation, the control of corruption and accountability. The effect of regulatory quality is 282 times less than it should. That of corruption control is 138 times smaller and the effect of accountability is 123 times smaller. Dependence on natural resources shifts the positive effect of corruption control to a negative one. This is consistent with the analyzes of Ross (2012) who maintain that the abundance of natural resources gives income which finances the asphyxia of control mechanisms. The same conclusions are found by Hartford and Klein (2005) as well as Ahmadov et al. (2013). Joining the Extractive Industries Transparency Initiative has no effect on extractive FDI and does not have the desired effect on non-extractive FDI.

5. Conclusion

The literature on the issue of attractiveness of FDI establishes that good quality institutions attract FDI, while those of poor quality repel them. However, there is evidence that conflict-facing countries have attracted large flows of FDI. This study hypothesized that the observed effect depends on the hosting sector. Thus, unlike non-extractive FDI, extractive FDI would be insensitive to the quality of institutions. This hypothesis is tested using a methodology adapted to small samples. We find that apart from political stability and the role of the law, dependence on natural resources determines the quality of institutions. Thereafter, the quality of institutions becomes the vector through which dependence on natural resources strengthens its positive effect on extractive FDI and accentuates its perverse effect on non-extractive FDI. In both cases, the effect of the quality of institutions tends to cancel out when the degree of dependence on natural resources increases. Adhering to the extractive industries transparency initiative does not have the expected effect on FDI inflows.

African oil-exporting countries should step up their economic diversification efforts to reduce the influence of natural resources on the quality of institutions. Likewise, solid institutional reforms would substantially increase FDI inflows to the non-extractive sectors.

REFERENCES

Ahmadov, I.; Mammadov, J. and Aslanli, K. (2013), "Assessment of Institutional Quality in Resource-Rich Caspian Basin Countries", ***SSRN Electronic Journal,*** June. DOI: 10.2139/ssrn.2274813.

Ako, R. and Uddin, N. (2011). "Good Governance and Resource Management in Africa" in Botchway, Francis (ed.) Natural Resource Investment and Africa's Development, ***Cheltenham***: Edward Elgar, pp. 21–48.

Aleksynska M. et Havrylchyk O. (2011a), "***FDI from the South: the role of institutional distance and natural resources***" ***European Journal of Political Economy,*** Elsevier, vol. 29(C), pages 38-53.

-------- *(2011b), "South-South investment, institutional quality, and natural resources" VOX, CEPR's Policy Portal 2011-09*

Anyanwu J. C. (2002), « Economic and political causes of civil wars in Africa: some econometric results », *Economic Research Papers*, n° 73, BAD, Abidjan.

Asiedu, E. (2013), "Foreign Direct Investment, Natural Resources and Institutions", ***International Growth Centre***, Working paper, March 2013, P.47.

---------- (2005), "***Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability***" *United Nations University* 2006, p.15.

Asiedu, E. and Lien, D. (2011), "Democracy, foreign direct investment and natural resources", ***Journal of International Economics,*** 84 (2011): 99-111.

Asif, M. and Majid, A. (2018), "Institutional quality, natural resources and FDI: Empirical evidence from Pakistan", ***Eurasian Business Review***, Vol.8, pp. 391-407.

Barma, N.; Kaiser, K.; Le, T. M. and Vinuela, L. (2012), "***Rents to Riches: The Political Economy of Natural Resource-Led Development***", Washington: World Bank.

Basu, A. and Srinivasan, K. (2002), "Foreign direct investment in Africa – Some case studies" ***IMF Working paper*** WP/02/61. *International Monetary Fund, Washington, D.C.*

Belgibayeva, A. and Plekhanov, A. (2019), "Does Corruption Matter for Sources of Foreign Direct Investment?", ***Review of World Economics***, Volume 155, Issue 3, pp 487–510.

Benáček V., Lenihan H., Andreosso-O'Callaghan B. et Michalíková E. (2012), "Political Risk, Institutions and Foreign Direct Investment: How Do They Relate in Various European Countries?",***Institute of Economic Studies***, Faculty of Social Sciences Charles University in Prague, pp36.

Blackburne, E. F. and Frank, M.W. (2007), "Estimation of nonstationary heterogeneous panels", ***The Stata Journal***, 7, N°2, pp.197-208.

Bokpin, G. A., Mensah, L. and Asamoah M. E. (2015), "Foreign direct investment and natural resources in Africa", ***Journal of Economic Studies,*** Vol. 42, Iss 4, pp. 608 - 621. DOI: 10.1108/JES-01-2014-0023.

Brada, J. C., Kutan, A. M. and Yigit T. M. (2017), "The Effects of Transition and Political Instability on Foreign Direct Investment Inflows", ***Economics of transition***, Vol.14, Iss 4, pp.649-680.

Brunnschweiler, C. and Bulte, E. (2008), "The resource curse revisited and revised: A tale of paradoxes and red herrings", ***Journal of Environmental Economics and Management***, 55: pp. 248 – 264.

Collier, P. and Hoefer, A. (2009), "Testing the neo-con Agenda: Democracy and resource rents", ***European Economic Review***, Elsevier, vol. 53(3), pages 293-308, April.

Djankov, S. (2009), "The regulation of entry: a survey", ***World Bank Resource Observer***, 24 (2009), p183.

Dumitrescu, E. and Hurlin, C. (2012), "Testing for Granger non-causality in heterogeneous panels", ***Economic Modelling***, 29, pp. 1450-1460.

Elheddad, M. M. (2016), "natural resources and FDI in GCC countries", ***International journal of business and social research***, Volume 06, Issue 07, 2016.

Feulefack, K. L. and Kamajou, F. (2015), "Quality of institutions and foreign direct investment: The case of Sub-Saharan Africa", ***Applied Sciences Reports***, 9(2):70-79.

Gwenhamo, F. (2009), "*Foreign Direct Investment in Zimbabwe: The Role of Institutional Factors*"**, *South African Journal of Economics,*** 79(3):211 - 223 ·

Hartford, T. and Klein, M. (2005), "Aid and the resource curse", The World Bank Group, Private Sector Development Presidency", Note No. 291, Washington, DC: W.

Hellman, J.; Jones, G. and Kaufmann, D. (2002). "Far from Home: Do Foreign Investors Import Higher Standards of Governance in Transition Economies?" ***Policy Research Working Paper***, The World Bank: Washington, D.C.

Jensen, N. and Wantchekon, L. (2004), "Resource Wealth and Political Regimes in Africa",***Comparative Political Studies***, 37 (7) : 816–41.

Jumanne, B. B. and Keong, C. C. (2018), "Foreign Direct Investment and Natural Resources in Sub-Saharan Africa: The Role of Institutions towards the Africa We Want "2063 Vision", ***African Journal of Economic Review***, Vol. VI, Issue I, January 2018

Komlan F. (2016), "Quality of Institutions, Natural Resources and Foreign Direct Investment (FDI) in Sub-Saharan Africa: Dynamic Approach", ***Journal of Economics and Development Studies,*** Vol. 4, No. 2, pp. 28-55. DOI: 10.15640/jeds. v4n2a3

---------- *(2013), "Do Institutions Quality Affect FDI Inflows in Sub Saharan African Countries?",* ***SSRN Electronic Journal****, January 2013. DOI: 10.2139/ssrn.2465945*

---------- (2006), "Quality of Institutions, Natural Resources and Foreign Direct Investment (FDI) in Sub-Saharan Africa: Dynamic Approach", ***Journal of Economics and Development Studies***, June 2016, Vol. 4, No. 2, pp. 28-55.

Lucas, Robert E (1990), "Why Doesn't Capital Flow from Rich to Poor Countries?", ***American Economic Review***, 80:92-96.

Lujala, P.; Gleditsch, N.P. and Gilmore, E. (2005), "Diamond Curse: Civil War and a Lootable Resource" ***Journal of Conflict Resolution***; 49; p538.

Naudé, W. A. andKrugell, W. F. (2007), "Investigating geography and institutions as determinants of foreign direct investment in Africa using panel data", ***Applied Economics***, 2007, 39, pp. 1223–1233.

Pesaran, M. H.; Shin, Y. and Smith, R. P. (1999), "Pooled mean group estimation of dynamic heterogeneous panels", ***Journal of the American Statistical Association****,* 94: 621-634.

Poelhekke, S. and van der Ploeg, F. (2010), "Do Natural Resources Attract non-resource FDI?", ***Review of Economics and Statistics***, January 2010**.** DOI: 10.1162/REST_a_00292.

Ross, M.L. (2012), "***Oil curse: how petroleum wealth shapes the development of nations***", *Princeton University Press*, 2012, pp. 208-212.

Sachs, J. and Warner, A. (1995), "The curse of natural resources", ***European Economic Journal***, Vol.45, Iss(4-6), pp. 827-838.

Sala-i-Martin, X. and Subramanian, A. (2003), "Addressing the Natural Resource Curse: An Illustration from Nigeria", ***Journal of African Economies***, 03(139) · June 2003. DOI :10.1093/jae/ejs033

Schienider, F. and Frey, B. S. (1985), "Economic and Political determinants of Foreign Direct Investment," ***World Development****,* Vol. 13.

Sen, K. and Sinha, C. (2017), "The location choice of US foreign direct investment: how do institutions matter?", ***Journal of Institutional Economics****,* Volume 13, Issue 2**,** June 2017 , pp. 401-420

UNCTAD **(**2019**),** ***World Investment Report***. New York et Genève : Conférence des Nations Unies sur le Commerce et le Développement.

Ullah, I. and Khan, M. (2017), "Institutional quality and foreign direct investment inflows: evidence from Asian countries", *Journal of Economic Studies*, Vol. 44 No. 6, pp. 1030-1050. https://doi.org/10.1108/JES-10-2016-0215

World Bank (2019a), ***World Development Indicators***, Primary data documentation, April 2019.

World Bank (2019b), ***Worldwide Governance Indicators Datasets***.

Yosra, S.; Ochi, A. and Ghadri, H. (2013), "Governance and FDI Attractiveness: Some Evidence from Developing and Developed Countries", ***Global Journal of Management and Business Research Finance***, Vol. 13, P.11.