

The Nexus between Institutional Quality & Foreign Direct Investment (FDI) in Sub-Saharan Africa

Abdikarim Bashir Jama¹ & Sabri Nayan²

¹ Ph.D. Candidate School of Economics, Finance, and Banking (SEFB), College of Business (COB), University Utara Malaysia

² Senior Lecturer School of Economics, Finance, and Banking (SEFB), College of Business (COB), University Utara Malaysia

Correspondence: Abdikarim Bashir Jama, School of Economics, Finance, and Banking (SEFB), College of Business (COB), University Utara Malaysia.

Received: October 3, 2021

Accepted: July 4, 2022

Online Published: July 10, 2022

doi:10.5539/ijef.v14n8p11

URL: <https://doi.org/10.5539/ijef.v14n8p11>

Abstract

This study analyzes the nexus between foreign direct investment and institutional quality including political stability, rules of law, government effectiveness, voice & accountability, and regulatory quality. The major aim of this study is to examine the relationship between institutional quality and foreign direct investment. This study consists of a sample of Sub-Saharan African countries. Our study employed two-panel data techniques including Random Effect Model (REM) and Vector Autoregressive Model (VAR). The study period covers from 2015 to 2019. Empirical findings of REM indicated that both rules of law and government effectiveness have positive and statistically significant influences on foreign direct investment inflow in the SSA region. Similarly, the study utilized other explanatory variables such as the trade and labor force. The result of VAR highlighted the positive and statistically significant influence of labor force and trade on foreign direct investment inflow, therefore, the effectiveness & efficiency of region institutional quality are usually dependent on the robustness of those variables. Thus, the study recommends having higher foreign direct investment inflow in the region is necessary to make policy reforms that strengthen the quality and efficiency of governance.

Keywords: FDI, institutional quality, labor force, trade, a panel data techniques

1. Introduction

Foreign Direct Investment (FDI) plays a significant role in globalization as it is an essential promoter of output increase, technical development, and job formation. As a consequence, FDI stimulates economic progress, playing a significant role in tax income, foreign exchange, and improvement gaps in progressing and trade economies (Quazi, 2007; Smith, 1997). However, Sub-Saharan Africa (SSA) has been to some extent cut off from worldwide FDI flows, although the region witnessed a significant improvement over the last couple of decades, it is shared in international FDI remains very little. Various reasons contributed to the situation including the absence of political stability, economic reasons, fragile human capital, a weak institutional quality particularly property rights, and freedom of speech.

The share of Sub-Saharan Africa regarding the FDI inflow has been poor compared to many developing economies. For instance, the region witnessed a 218 percent rise in FDI throughout the 1980s and 1990s, Latin America recorded a growth of 560 percent, South Asia of 789 percent, East Asia of 990 percent, and the emerging nations generally reported 760 percent throughout the similar period (Asiedu, 2003). Therefore, in the last 25 years, the region could not manage to fascinate beyond 10 percent of the FDI conducted toward the emerging nations.

Nevertheless, the major factors for such a gap include the poor level of human capital, the uncertainty of economic level, deficiency of proper infrastructure and implementation of high tariff barriers, slow and inaccurate economic policy reforms, huge tax burdens, and the extensive regulation procedures regarding market characteristics certainly (Cotton & Ramachandran, 2001). Although lately, some SSA managed to initiate a new policy to attract the FDI, it has not constantly been fruitful and the influence of those strategies is debris a little when compared to other emerging nations (Asiedu, 2004).

Indeed, nations such as Mozambique, Tanzania, and Zambia managed to attract the FDI inflow after they conducted various reforms such as modest privatization strategies and significant gains in the rule of law and safeguard of private property have been accomplished (Jenkins & Thomas, 2002). Further, there is two major motive behind the attraction of FDI inflow in SSA namely: the existence of natural resource and the role of the market size (See Asiedu, 2006; Jenkins & Thomas, 2002).

However, those two factors generated several issues. Firstly, the flow of FDI based on the number of natural resources of a country demonstrates implies large superior volatility in these flows (Ndikumana & Verick, 2008). For instance, the price alterations for these commodities indicate that the interest of the foreign investor in these states will vary. Secondly, the portion of the optimistic externalities linked with the FDI assumes to be moderated when FDI is mainly concentrated on the natural resource, in terms of employment the influence of FDI is inadequate. Finally, if natural resources and market extent are mainly essential for the attraction of FDI, numerous nations in the SSA do not have either huge reserves of oil and minerals or a huge market.

Other various factors attract FDI, and many studies have postulated the act of other features on flows of FDI in SSA which include privatization policies, macroeconomic and political stability (See Asiedu, 2006; Jenkins & Thomas, 2002; Basu & Srinivasan, 2002). Moreover, the capacity of governments to implement structural reforms, the existence of robust monetary and fiscal strategies, sufficient exchange rate plans and inspiring the improvement of the private sector, promoting openness to worldwide trade, the quality of infrastructure, and various other factors have been mentioned the major drivers of FDI inflow (See Basu & Srinivasan, 2002; Bende-Nabende, 2002; Asiedu, 2006). However, very rare countries in SSA can have a competitive capacity in these areas in comparison the other developing countries.

On the other hand, current literature on the influence of institutional quality has demonstrated the various way in which institutional quality impacts FDI, whereby the following three factors have enlarged the significance of the relationship between FDI and institutional quality. In the beginning, North (1990) indicates the prominence of institutions in enhancing investment and economic progress. Next, with the robust development in FDI inflow during the last couple of years, both transitioning and emerging countries are fascinated by institutional reforms to obtain extra FDI inflow. Finally, foreign investors are displaying more curiosity about institutional quality when deciding which nation to invest in (See Bevan et al., 2004). Buchanan et al. (2012) demonstrated that fragile institutes' performance including tax burden and economic uncertainty will diminish the FDI inflow, while robust institutions encourage more FDI inflow (Ali et al., 2010).

The nexus between institutional quality and FDI has been inconclusive due to the absence of clear measurement of what extent of the quality of institutions, and this could be attributed to the multiplicity of shareholders in this framework namely: investors, ordinary citizens, and the government, and the verity of their interest. Therefore, to our knowledge, very few researchers have used the six World Governance Indicators (WGI) which consist the government effectiveness, voice & accountability, political stability, rule of law, control of corruption, and regulatory quality developed by Kaufman et al. (2010) as a quantitative measurement of the quality of the institutions. Thus, we will consider a multicollinearity issue when introducing those variables. Indeed, the major aim of this study is to examine the influence of institutional quality on the attractiveness of FDI for the sample of Sub-Saharan Africa including Kenya, Rwanda, South Africa, Senegal, Cameroon, and Ghana over the period from 2005 to 2019.

The major contribution of our present study to the existing literature is to determine the extent that institutional quality plays in alluring the FDI inflow, particularly the emerging countries like the SSA region. Secondly, few empirical studies utilized the six dimensions of world governance indicators on the attractiveness of FDI in Africa and more specifically the SSA region. Thirdly, despite the tremendous increase of FDI inflows to emerging nations the SSA region lacked behind, and many people contributed due to the poor institutional quality. Lastly, our methodology is based on the panel data technique, to handle the issues of endogeneity. Thus, the findings of this study will not be limited to how SSA countries attract the FDI, but it will offer more specific elaboration of the particular institutional qualities that stimulate the FDI inflow in the region.

The rest of the paper will be organized as follow. Section 2 is a literature review. Section 3 provides data descriptions and empirical approaches. Section 4 analyzes empirical findings and Section 5 is the conclusion of the study.

2. Literature Review

Theoretical and empirical significance of FDI inflows has been discussed and approved for various countries. For instance, the theoretical prominence of FDI was highlighted by prior economists in the early 18th century David (1817) displayed his theory of “comparative cost advantage” (Axel, 2011), in this theory the countries

having comparatively low production costs will be more successful in attracting global capital or foreign investment. Theories on 'agency cost' (Jensen & Meckling, 1976; Berle & Means, 1932), 'modern property rights' (Coase, 1960; Demsetz, 1974), 'Transition cost' (Coase, 1937; Williamson, 1975), and 'Information asymmetry' (Arrow, 1963; Akerlof, 1978) highlight that safety, security and promoting a business environment in a nation that protects the property rights of individuals and offer incentives for investors by offering a lower transaction expenditure will be more ideal to attract the foreign investors.

However, the theory of 'Institutions' postulated by (North, 1990), indicated that FDI inflows are impacted by different factors such as microeconomic elements, formal institutional aspects, and informal norms including habits, tariffs, customs, social and cultural aspects that influence the motive of individuals to invest. Therefore, based on this theory formal institutional factors are playing a significant role to develop investors' trust in transactions and finally impact the FDI inflows.

Dunning (2004) indicated that institutional elements including virtuous governance and economic liberty, are becoming extremely attractive determinates of FDI. As the preferences of international corporations are moving from market resource seeking to efficiency-seeking. Indeed, the old traditional motives including natural resources and labor force are becoming less dominant, while less traditional agendas such as institutional quality and economic flexibility are getting great popularity (See Becchetti & Hasan, 2005; Addison & Heshmati, 2003; Noorbakhsh et al., 2001; Loree & Guisinger, 1995).

When Ali et al. (2010) compared other institutional factors that influence FDI influx, they found that property rights were a massively important contributing factor. In addition, law and order become a series of concerns for international corporations particularly when courts fail to implement agreements and when government impacts the court results for political purposes (Drabek & Payne 2002). Low and order instability results in corruption (Johnson & Dahlstrom, 2004). Not only that, but various investors believe one of the most significant factors that lower FDI inflow is corruption (Asiedu & Villamil, 2000; Campos et al., 1999; Gastanaga et al., 1998; Wei, 2000). In addition, countries that practice more corruption receive less FDI inflow, whereby a lower corruption index for the host nation is related to positive investment inflows (See Cuervo-Cazurra, 2006).

On the other hand, based on empirical findings (Minovic et al., 2021) investigated the institutional quality and FDI in Western Balkan Countries from 2002 to 2017 using panel unit root, cointegration & granger causality tests. The findings indicated that rule of law, control of corruption, and political stability cause an inflow of FDI in the Western Balkan. Khusnood et al. (2020) postulated institutional quality and FDI in Pakistan from 1996 to 2017 employing the autoregressive disturbed lag (ARDL) model. Findings proved that there is a significant impact of political instability, regulatory quality, and government effectiveness on the FDI inflows. Likewise, a study made by (Bouchoucha & Benammou, 2018) analyzed the institutional quality and FDI in a panel of African countries from 1996 to 2013 using the static and panel generalized method of moment (GMM) model. The result revealed that the attraction of FDI inflows to Africa is correlated positively with the control of corruption, government effectiveness, and quality of regulation, voice, and accountability. Pose and Cols (2017) examined the institutional quality and FDI in SSA countries from 199 to 2013 employing an econometric model. A study found that all institutional qualities except regulatory quality are an important determinant of FDI inflows in SSA.

The study made by (Ajide et al., 2014) postulated FDI and institutional quality in SSA, from 2002 to 2010 using the regression technique. The study found that corruption control, political stability, and government performance are important factors in FDI's impact on SSA's economic output. Gani (2014) investigated the FDI and institutional quality for panel countries from 1996 to 2002 utilizing the pooling technique. The result showed that all institutional qualities apart from regulatory quality are positively correlated with the FDI inflow. Similarly, the study made by (Bannaga et al., 2013) postulated the FDI and institutional quality in Arab nations from 2000 to 2009 utilizing the gravity model. The result of the study indicated that FDI impacted positively significantly all institutional qualities except rule of law and control of corruption. Mengistu and Adhikary (2011) studied FDI and institutional quality in the Asian region from 1996 to 2007 using a fixed-effect model. Empirical findings displayed that apart from regulatory quality, voice & accountability have a significant positive effect on FDI inflow in the Asian region during the study period.

However, various studies found a lack of relationship between institutional quality and FDI inflow including the study made by (Jurcic et al., 2020) postulated governances and FDI in Croatia from 1996 to 2017 employing a regression model. The result showed that six dimensions of institutional quality could not point out as important determinants of FDI inflows in Croatia. Peres et al. (2018) postulated institutional quality and FDI in panel countries from 2002 to 2012 using econometric techniques. Empirical findings showed that institutional

quality negatively impacts the FDI inflows in emerging countries. Similarly, the study made by (Bellos & Subsah, 2012) postulated FDI and institutional quality in a cross-country study from 1990 to 2003 using a gravity model. The result revealed that lack of good governance does not encourage FDI inflows. Therefore, based on the prior empirical works of literature there are inconclusive results regarding the nexus between institutional quality and FDI inflow.

The FDI inflow of the SSA region has been mentioned to play a crucial role in the economic growth and the production capacity of the region which indicates that FDI has no crowd-out influence on the local investment activities (Rjoub et al., 2017). Thus, we expect the result of this study to contribute to the current literature by providing a robust explanation of the relationship between these two variables based on the sample of the SSA region.

3. Data Descriptions and Empirical Method

This paper analyzed the nexus between institutional quality and foreign direct investment in the sample of Sub-Saharan African countries for the period 2005 to 2019. The major reason behind the sample selection is the unique characteristics of the SSA region, whereby it experienced a huge FDI inflow for the last couple of years, particularly the Chinese investments that seem unproductive (Zhang & Chen, 2014). Due to the shortage of data availability, we opted to cover from 2005 to 2019, although it is sufficient to yield robust results based on the panel data approach. As we mentioned before our study consists of two models, and the major reason we select to test two models is to confirm the robustness of our outcome. Firstly, we selected REM based on the result of the Hausman test criteria as it indicated its appropriateness instead of the fixed effect model (FEM). Secondly, the VAR model is used after transforming stationarity at the first difference, and getting the maximum lag length in the VAR model usually causes uncertainty issues (Liu et al., 2001). Therefore, we have determined to espouse this approach as it permits us to deal with not only long-run (i.e. cointegrated) constraints yet similarly short-run (i.e. covariance) limitations in the arrangement of economic linkages.

The institutional quality includes the following, political stability, government effectiveness, rule of law, voice & accountability, and regulatory quality. While, the Sub-Saharan Africa Countries are composed of the following: Kenya, Rwanda, Cameroon, Senegal, South Africa, and Ghana. The data for FDI is extracted from world development indicators (WDI), while the data of institutional quality are obtained from the world governance indicators (WGI) data set. The study also utilized other explanatory variables that related to both FDI and institutional quality namely: Trade and labor force participation rate. Indeed, the selected institutional qualities are explained in detail in the paper of Kaufmann et al. (2010). Therefore, in this study we utilize the subsequent model with balanced panel data:

$$FDI_{it} = \alpha + \beta_1 RQ_{it} + \beta_2 PS_{it} + \beta_3 RL_{it} + \beta_4 GE_{it} + \beta_5 V\&A_{it} + \beta_6 TRD_{it} + \beta_7 LFP_{it} + \varepsilon_{it} \quad (1)$$

Where the dependent variable is FDI_{it} , and the independent variables are RQ_{it} , PS_{it} , RL_{it} , GE_{it} , $V\&A_{it}$. While, $\beta_6 TRD_{it}$ and $\beta_7 LFP_{it}$ represent control variables respectively. α is the intercept (constant), β_1, \dots, β_7 , are the slope of coefficients of the model, i signifies the nation, t is the time, ε_{it} is the noisy error term. Therefore, table 1 displays using variables and sources of data information.

Table 1. Data descriptions

Variables		Data Source		Explanation
Foreign Investment (FDI)	Direct	World Indicators (WDI), 2019	Governance	"the foreign direct investment is an investment in the form of a controlling ownership in a business in one nation by an entity based in another country (Shima et al., 2016)
Political Stability (PS)	Stability	World Indicators (WGI), 2019	Governance	"Political stability and absence of violence/terrorism measures perceptions and likelihood of political instability including terrorism (World Bank, official, 2019)
Rule of Law (RL)		World Indicators (WGI), 2019	Governance	"Reflects perceptions of the extent to which agent might have confidence in and abide by the rules of the society more specifically contract enforcement, police, court and the possibility of crime and violence (World Bank, official, 2019)
Government Effectiveness (GE)		World Indicators (WGI), 2019	Governance	"Reflects perceptions of the quality of public service, civil service and degree it is independence from political pressure, the quality of policy formulation, enforcement and the credibility of the government commitment to such a policy (World Bank, official, 2019)
Regulatory Quality (RQ)	Quality	World Indicators (WGI), 2019	Governance	"Reflect perceptions of the capacity of government to initiate and enforce robust policy, a regulation that allows and stimulates private sector progress (World Bank, official, 2019)
Voice & Accountability (VA)	&	World Indicators (WGI), 2019	Governance	"Captures perception of the degree to which nations citizens can participate in choosing their state, freedom of expression and media (World Bank, official, 2019)

Labor Force Participation (LFP)	World Indicators (WDI), 2019	Development (WDI), 2019	“ The proportion of the population ages 15 and older that is economically active (World Bank, official, 2019)
Trade (TRD)	World Indicators (WDI), 2019	Development (WDI), 2019	“An engine of development that initiates jobs lowers poverty and enlarges economic opportunity (World Bank, official, 2019)

3.1 Panel Unit Root Test

The stationarity in the data was determined employing tests including Levin, Lin, and Chu (LLC) initiated by Levin et al. (2002), the Im-Pesaran-Shin (IPS), ADF-Fisher, and PP-Fisher panel unit root tests established by Im et al. (1978). Panel unit root tests have a null hypothesis that variables contain panel unit root; nevertheless, the alternative hypothesis shows that each panel series is stationary. Thus, Baltagi (2008) described the major structure utilized by most panel unit root examining techniques in the following formats.

$$\Delta Y_{it} = \alpha_i + \rho_i Y_{i,t} + \sum_{j=1}^p \phi_{ij} \Delta Y_{it} + \varepsilon_{i,t} \quad (2)$$

Where γ_{it} is a deterministic mechanism and Δ are the first differences of variables γ_{it} . He defined that when $\rho_i = 0$ means the γ procedure has a unit root for each i , while $\rho_i < 0$ indicates the procedure is stationary around the deterministic part (Baltagi, 2008).

3.2 The Vector Autoregressive Model (VAR)

This study will use the same methods as Liu et al. (2001), but with different variables. The VAR model was used to investigate causation among the variables in this study. In comprehensively, the notion of causatives was initially described by Granger (1969). However, in Liu et al. (2000) the VAR involves three variables, while in our study there are seven variables. As a result, the N-dimensional vector-autoregressive model of order p (VAR (P) – process) is defined as follows:

$$Y_t = \Phi_0 + \Phi_1 \cdot Y_{t1} + \Phi_2 \cdot Y_{t2} + \dots + \Phi_p \cdot Y_t + \varepsilon_t \quad (3)$$

Where γ_t represents $N \times 1$ a vector of endogenous variables, Φ_0 represents $N \times 1$ a vector of constants and Φ_j is the $N \times N$ matrix of autoregressive coefficients for $j = 1, 2, \dots, p$; $N \times 1$ a vector ε_t is the white noise vector process, i.e. (ε_t) serially uncorrelated random vectors with a null estimated value and covariance matrix, Von Wyss (2004). Therefore, in the VAR model, every variable is regressed on constant and p of its lags as well as p lag of every subsequent variable in the VAR model (Himilton, 1994).

Under this circumstance, $N = 7$, so vector γ_t comprises the subsequent explanatory variables including FDI, PS, RL, RQ, V & A, LFP, and TRD correspondingly. Therefore, it can be suggested that the variables in the VAR model are stationary processes. Nevertheless, Liu et al. (2001) indicated that if variables in the model are non-stationary, the implication that comes out from the well-known Wald test statistics is invalid Liu et al., (2001). Indeed, the stationarity of the variables was initially evaluated using a variety of panel unit root tests, including Levin, Lin, and Chu (LLC), ADF-Fisher, Im-Pesaran-Shin (IPS), and PP-Fisher the findings of which are shown in table 3.

4. Result and Discussions

4.1 Results of Static Panel Estimations

To investigate the nexus between institutional quality and attraction of FDI, we will project our model by incorporating the governance variables, which are measured by five out of six indicators by Kaufmann et al. (2010). Therefore, the outcome of the test based on the correlation matrix (Table 2) indicates the presence of robust correlation among these indicators. The introduction of overall governances concurrently into one model can result in inaccurate findings, however, to avoid multicollinearity issues we decide to perform variance inflation factor (VIF).

Table 2. Correlation analysis

Items	FDI	GE	PS	RL	RQ	TRD	V&A	LFP
FDI	1.000000							
GE	0.2231	1.000000						
PS	0.4449	0.6344	1.000000					
RL	0.4179	0.8658	0.7746	1.000000				
RQ	0.2167	0.8876	0.5721	0.8460	1.000000			
TRD	0.5080	0.2668	0.5497	0.4090	0.4005	1.000000		
V & A	0.2837	0.5514	0.4327	0.6384	0.6788	0.6711	1.000000	
LFP	0.0567	-0.2487	-0.2791	-0.3919	-0.4328	-0.2868	-0.7156	1.000000

Based on the outcome of table 2 all institutional qualities are showing a positive correlation with FDI. For instance, political stability has a robust positive correlation with FDI followed by rule of law. Thus, the next section will present variance inflation factor outcomes.

Table 3. Variance Inflation Factor (VIF)

Variables	VIF
GE	7.82
RQ	6.72
RL	5.10
VA	4.85
LFP	2.49
TRD	2.09
Mean VIF	4.84

Regarding the variance inflation factor result, it shows the absence of a multicollinearity problem since most values are below 10 percent (Ferrar & Glauber, 1967).

Table 4. Descriptive statistic results

Variables	Obs	Minimum	Maximum	Mean	Standard Deviation
FDI	90	0.0792	9.4667	2.6282	2.0592
GE	90	18.4834	71.5686	44.8197	15.4941
PS	90	8.0952	53.3333	33.7053	14.0420
RL	90	11.4832	64.4231	41.5029	17.2216
RQ	90	16.8270	71.5686	46.0768	14.4798
V&A	90	11.0577	70.4434	42.1511	20.6523
LFP	90	47.1100	85.7900	68.8676	12.1442
TRD	90	33.2398	98.1715	56.1707	12.4480

Source: Authors Estimation.

From the above statistical figures, FDI exhibits the following numbers: 0.07(minimum), 9.46(maximum), 2.62(mean), and 2.05(standard deviation). However, regarding the institutional quality political stability has the lowest figure, while government effectiveness and rule of law demonstrate the maximum figures respectively.

Table 5. The result of the Random Effect Model (REM)

Items	REM Coefficient	Std.Error	T-Stat	P-Value
Constant	-7.9860	1.7651	-4.2	(0.0000)***
Independent Variables				
LNPS	-0.0091	0.0241	-0.38	(0.7061)
LNRL	0.1142	0.0264	4.33	(0.0000)***
LNRQ	-0.0369	0.0298	-1.24	(0.2152)
LNGE	-0.0549	0.0297	-1.85	(0.0641)*
LNVA	0.0137	0.0193	0.71	(0.4793)
Control Variables				
LNLFP	0.0802	0.0214	3.74	(0.0000)***
LNTRD	0.0756	0.0240	3.15	(0.0020)**
R ²	0.5207			
Observation	90			
Hausman Test	0.0124			
Heteroscedasticity	0.0192			
Autocorrelation	0.0004			
Lagrangian Multiplier (LM) Test	1.0000			

Note. ln (rq): log regulatory quality, ln (ps): log political stability, ln (va): log voice and accountability, ln(rl): log rule of law, ln(ge): log of government effectiveness, ln(lfp): log of labor force participation rate, ln(trd): log of trade, p-value are in parentheses: P*** <0.01, P** <0.05, P* <0.1.

Source: Authors Estimation.

Table 5 shows the influence of institutional quality on FDI for the sample of Sub-Saharan African countries. The model was regressed by utilizing the REM model, following Hausman test (1978) results which indicated the preference for random effect instead of a fixed-effect model. As a result, the Breusch and Pagan Lagrangian multiplier (LM) test validated the accuracy of Hausman tests by supporting the null hypothesis, indicating that the REM should be utilized. Furthermore, we performed Cook- Weisberg test for Heteroscedasticity, and the outcome of the study indicated that the errors are normally distributed and the model doesn't undergo the heteroscedasticity issue as we can observe from the outcome, the null hypothesis of no heteroscedasticity is abortive to be vetoed at 5% significant level because its p-value associated is higher than the standard significant level ($0.0192 > 0.05$).

However, the auto-correlation test was performed using the Brush-Godfrey Serial Correlation LM. For instance, if the probability value is less than 5%, we may rule out the null hypothesis, which states that the model has serial correlation ($0.004 < 0.05$) and no serial correlation otherwise. By adding a one-period lag to the dependent variable or altering all of the variables to the first difference, the problem can be eliminated from the model (Gujarati, 2004).

From the REM result, it's founded that rule of law has a positive and statistically significant influence on FDI inflows at a 1 percent level. For instance, this indicates that a one percent increase in rule of law will lead to 0.1142 enlargements of FDI inflows in the SSA region. This is in line with prior studies in emerging countries such as (Minovic et al., 2021; Pose & Cols, 2017). Likewise, the study found a positive and statistically significant influence of government effectiveness on FDI inflows in the SSA region at a 10 percent level. To illustrate, one percent enlargement of government effectiveness will lead to 0.0297 rises in FDI inflows. This result is according to the previous empirical studies in developing countries including the studies made by (Khusnood et al., 2020; Bouchoucha & Benammou, 2018; Pose & Cols, 2017). Therefore, the rest of the institutional quality variables display an insignificant impact on FDI inflows for the sampling countries.

On the other hand, the control variables demonstrate a significant influence on FDI inflows. For example, labor force participation rate variables indicate a positive and statistically significant effect on FDI inflows at a one percent level in the SSA region. This indicates that a one percent increase in the labor force will result in 0.0802 progress in FDI inflows. Because the major motivation of multinational companies is to attract a cheap labor force, this could be one of the main motives that they tend to move to certain countries where the working hours are cheaper. These results are in line with a recent study in the emerging market Nguyen, (2021). Similarly, the trade variables demonstrated a positive and statistically significant influence on FDI inflows at a 5 percent level. Thus, a one percent upsurge of trade will lead 0.0240 increase in FDI inflows in the SSA region. This could be attributed to the nature of multinational companies tends to increase the production capacity of their target country which will later encourage them to facilitate large international market share for their manufacturing components. This result is consistent with the prior study made by De Mello & Fukasaku (2000).

Table 6. Result of Panel Unit Root

Variables	Level		First Differences	
	Intercept	Intercept & Trend	Intercept	Intercept & Trend
Levin, Lin & Chut				
FDI	-1.6876**	-2.7444***	-3.2294***	-3.0531**
PS	-1.1064	-2.0795**	-1.7452**	0.5271**
GE	0.4831	2.4786	-2.2698**	-1.8982**
RL	-0.6774	0.8037	-2.1120**	1.6362*
RQ	-3.9760***	-2.6053**	-4.2424***	-3.1527***
V&A	0.2283	-0.2189	-1.8027**	-0.1586**
LFP	-4.2545***	2.2662	0.9419**	-0.6474***
TRD	0.2150	-3.5125***	-6.5935***	-7.3837***
Im, Pesaran & Shin We-stat				
FDI	-4.1449*	-1.7489**	-3.3264***	-1.9027**
PS	-0.4055	-1.5547*	-4.1853***	-2.1078**
GE	-0.5739	0.2151	-4.0380***	-2.7652***
RL	0.3398	2.3219	-1.7580**	-1.1475**
RQ	-1.4891*	-0.3543	-2.9515***	-2.0808**
V&A	0.3849	-0.6352	-2.1815**	-0.1222**
LFP	-1.2055	3.1688	0.742**	0.0747***
TRD	-0.9019	-1.3337*	-4.4610***	-3.6762***

ADF-Fisher Chi-Square				
FDI	21.6892**	25.4666**	33.4555***	22.2913**
PS	14.0577	20.1123*	39.6953***	23.8479**
GE	12.3616	9.7452	38.6133***	29.1871***
RL	7.4073	3.5864	19.7472*	18.3237*
RQ	20.1071*	15.4523	29.8324***	23.9863**
V&A	8.0484	13.4498	23.0287**	10.4018**
LFP	17.9260	3.1193	7.3469**	9.8698***
TRD	24.3302**	21.5852**	42.2693***	35.7162***
PP-Fisher Chi-Square				
FDI	24.5387**	34.5896***	83.2030***	76.8948***
PS	18.9423*	47.9441***	117.603***	99.9388***
GE	36.6221***	39.9067***	94.0776***	97.6937***
RL	24.4181**	6.4550	50.4994***	52.2678***
RQ	30.8733**	11.9124	67.0134***	60.8187***
V&A	7.9386	27.2937	50.5777***	30.7880***
LFP	19.8095*	0.5003	12.5672***	13.7826***
TRD	23.8322**	24.7324**	83.9200***	76.8858***

Note. ***, **, * donates statistically significant level of 1%, 5% and 10% respectively.

Before investigating the selecting variables, the stationarity of these variables was examined utilizing the first generation (Table 6), it can be determined that all variables including the explanatory are not stationary at a level $I(0)$, however, become stationary we transformed at the first difference, $I(1)$. Therefore, the findings of both the level and first differences of panel unit root are recorded in table, 6.

Nevertheless, after confirming the stationarity of the variable at the first difference, we can perform causality modeling employing Vector Autoregression Estimation (VAR) model with the first differences of the subsequent variables ΔFDI , ΔLFP , ΔGE , ΔPS , ΔRL , ΔRQ , ΔTRD , and $\Delta V\&A$. The outcome of the causality test of the VAR model is displayed in table 7. As indicated in the study made by Liu et al. (2001), getting the maximum lag length in the VAR model (for the granger causality test) is continuous to be an unsolved issue (Liu et al., 2007). Hence, in table 7, we showed the findings of the VAR model with a lag length selection of two applied.

Furthermore, table 7 demonstrates that when lag two is applied, however, we keep swinging the dependent variable to see the alternation of other explanatory variables. For instance, when we select ΔFDI as a dependent variable only ΔLFP granger cause ΔFDI at a significant level of 10 percent in SSA this is in line with the study made by Bakari et al., (2018). However, when we opted Δ for PS as a dependent variable the following variables ΔGE , ΔFDI , and ΔTRD granger cause ΔPS at a significant level of 10 and 5 percent respectively. In addition, when we consider ΔRQ as a dependent variable, only ΔGE granger cause ΔRQ at a significant level of 5 percent. Finally, when we select ΔTRD as a dependent variable in our model, the following variables ΔGE , ΔFDI , ΔPS , ΔRL , Δ and RQ granger cause ΔTRD at a significant level of 5 and 10 percent correspondingly, and this is consistent with the prior studies such as (Al-Marhubi, 2005; Bajo-Rubio & Montero-Munoz, 2001). Therefore, both labor force and trade play a significant role in promoting the FDI inflow in the SSA region and particularly trade plays an important role to stimulate the institutional quality of SSA nations.

Our outcome might not seem undesirable since most of the SSA countries in our sample score very low on overall dimensions of institutional qualities, and, thus, it is conceivable that the institutional quality to impact FDI inflows is required to pass through other essential macroeconomic variables such as trade and labor force. The major implication is that SSA nations have an intimidating duty of developing their institutional quality and political standards, to develop a conducive environment that motivates and stimulates the inflow of FDI in the region, which can contribute to more economic and sustainable development.

5. Conclusions

To sum up, we can emphasize this paper mainly concentrate on the nexus between institutional quality and FDI, through the portion institutional quality developed by Kaufman et al. (2010) namely: political stability, regulatory quality, voice & accountability, government effectiveness, and rule of law for the sample of SSA countries. Moreover, in this study, we utilized both REM and VAR models. Based on the Hausman test indicates that the REM is more appropriate than the FEM in our study. Empirical findings of REM show that both rules of law and government effectiveness have a positive and statistically significant impact on FDI inflows in SSA. Therefore, the SSA nations must engage the policy reforms that enhance the efficiency and effectiveness of those two institutional qualities.

Furthermore, other explanatory variables such as labor force and trade displayed a positive and statistically significant influence on FDI inflow in the region. However, regarding the VAR model, it indicates that both labor force and trade play a significant role in institutional quality attractiveness on FDI inflows in the SSA region. Therefore, it's essential for SSA nations in our study to make policy reforms that facilitate trade openness within the region and to the rest of the world, not only that, but they must engage in more robust strategies that increase the labor force participation rate to rise the institutional quality effectiveness and also to attract the FDI inflows in the region.

Nevertheless, the following points are significant for policymakers in the SSA region. First, it is crucial to enhance the quality of institutions to eliminate the risk of uncertainty related to the FDI inflow. For instance, most countries in SSA have fragile and narrow size local markets, therefore this could harm the capacity to attract large multinational corporate entities as they seek a large market base with reliable sources. Although most nations in the region have diverse regional agreements of trade and business, it is necessary to enhance the capacity of domestic markets to attract the highest possible FDI inflows.

Second, the region is required to enhance the capacity of its infrastructure to attract FDI inflows. Not only had that but also human capital and environmental investment played a vital role in attracting FDI inflows. To illustrate, improving the skills and intellectual capability, and potential labor force skills are one of the major factors for attracting FDI inflows in developing countries, (Cleeve, 2012). Thus, since most SSA countries don't have abundant natural resources and are not hugely rich, it's necessary to develop a well-structured strategy to enhance the FDI inflow in the region. Finally, to receive the attention and desire of FDI it's necessary to offer high incentives including tax deduction or exemption, and also to lower other barriers.

Acknowledgments

This work was supported by the Ministry of Higher Education (MOHE) under the Fundamental Research Grant Scheme: FRGS/1/2019/SS01/UUM/02/31/KOD S/0 14407.

References

- Addison, T., & Heshmati, A. (2003). The new global determinants of FDI flows to developing countries: The importance of ICT and democratization (No. 2003/45). *WIDER Discussion Paper*. [https://doi.org/10.1016/S1567-7915\(04\)04007-8](https://doi.org/10.1016/S1567-7915(04)04007-8)
- Ajide, K., Adeniyi, O., & Raheem, I. (2014). Does governance impact the foreign direct investment-growth nexus in sub-Saharan Africa? *Zagreb International Review of Economics & Business*, 17(2), 71-81.
- Akerlof, G. A. (1978). The market for "lemons": Quality uncertainty and the market mechanism. In *Uncertainty in economics* (pp. 235-251). Academic Press. <https://doi.org/10.1016/B978-0-12-214850-7.50022-X>
- Ali, F. A., Fiess, N., & MacDonald, R. (2010). Do institutions matter for foreign direct investment? *Open economies Review*, 21(2), 201-219. <https://doi.org/10.1007/s11079-010-9170-4>
- Al-Marhubi, F. A. (2005). Openness and governance: Evidence across countries. *Oxford Development Studies*, 33(3-4), 453-471. <https://doi.org/10.1080/13600810500199269>
- Arrow, K. J. (1963). The American. *The American Economic Review*, 53(5), 941-973.
- Asiedu, E. (2003). *Foreign direct investment to Africa: The role of government policy, governance, and political instability*. Department of Economics, University of Kansas.
- Asiedu, E. (2004). Policy reform and foreign direct investment in Africa: Absolute progress but relative decline. *Development Policy Review*, 22(1), 41-48. <https://doi.org/10.1111/j.1467-8659.2004.00237.x>
- Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions, and political instability. *The World Economy*, 29(1), 63-77. <https://doi.org/10.1111/j.1467-9701.2006.00758.x>
- Asiedu, E., & Villamil, A. P. (2000). Discount factors and thresholds: Foreign investment when enforcement is imperfect. *Macroeconomic Dynamics*, 4(1), 1-21. <https://doi.org/10.1017/S1365100500014012>
- Bajo-Rubio, O., & Montero-Muñoz, M. (2001). Foreign direct investment and trade: A causality analysis. *Open economies Review*, 12(3), 305-323. <https://doi.org/10.1023/A:1011185507169>
- Bakari, S., Mabroukib, M., & Othmani, A. (2018). The six linkages between foreign direct investment, domestic investment, exports, imports, labor force, and economic growth: New empirical and policy analysis from Nigeria. *Journal of Smart Economic Growth*, 3(1), 25-43. <https://doi.org/10.25229/beta.337367>

- Baltagi, B. H. (2008). Forecasting with panel data. *Journal of Forecasting*, 27(2), 153-173. <https://doi.org/10.1002/for.1047>
- Bannaga, A., Gangi, Y., Abdrazak, R., & Al-Fakhry, B. (2013). The effects of good governance on foreign direct investment inflows in Arab countries. *Applied Financial Economics*, 23(15), 1239-1247. <https://doi.org/10.1080/09603107.2013.802088>
- Basu, A., & Srinivasan, K. (2002). Foreign direct investment in Africa-Some case studies. *IMF Working Paper*. <https://doi.org/10.5089/9781451848182.001>
- Becchetti, L., & Hasan, I. (2005). The effects of (within and with EU) regional integration: Impact on real effective exchange rate volatility, institutional quality, and growth for MENA countries (No. 2005/73). *WIDER Research Paper*.
- Bellos, S., & Subasat, T. (2012). Governance and foreign direct investment: A panel gravity model approach. *International Review of Applied Economics*, 26(3), 303-328. <https://doi.org/10.1080/02692171.2011.587110>
- Bende-Nabende, A. (2002). Foreign direct investment determinants in Sub-Sahara Africa: A co-integration analysis. *Economics Bulletin*, 6(4), 1-19.
- Berger, A., Busse, M., Nunnenkamp, P., & Roy, M. (2011). More stringent BITs, less ambiguous effects on FDI? Not a bit! *Economics Letters*, 112(3), 270-272. <https://doi.org/10.1016/j.econlet.2011.05.026>
- Berle, A. A. (1932). For whom corporate managers are trustees: a note. *Harvard Law Review*, 45(8), 1365-1372. <https://doi.org/10.2307/1331920>
- Bevan, A., Estrin, S., & Meyer, K. (2004). Foreign investment location and institutional development in transition economies. *International Business Review*, 13(1), 43-64. <https://doi.org/10.1016/j.ibusrev.2003.05.005>
- Bouchoucha, N., & Benammou, S. (2020). Does institutional quality matter in foreign direct investment? Evidence from African countries. *Journal of the Knowledge Economy*, 11(1), 390-404. <https://doi.org/10.1007/s13132-018-0552-y>
- Buchanan, B. G., Le, Q. V., & Rishi, M. (2012). Foreign direct investment and institutional quality: Some empirical evidence. *International Review of Financial Analysis*, 21, 81-89. <https://doi.org/10.1016/j.irfa.2011.10.001>
- Campos, N. F. (1999). Context is everything: Measuring an institutional change in transition economies. *World Bank Policy Research Working Paper* (2269). <https://doi.org/10.1596/1813-9450-2269>
- Cleeve, E. (2012). Political and institutional impediments to foreign direct investment inflows to sub-Saharan Africa. *Thunderbird International Business Review*, 54(4), 469-477. <https://doi.org/10.1002/tie.21477>
- Coase, R. H. (1937). The nature of the firm. *Economica*, 4(16), 386-405. <https://doi.org/10.1111/j.1468-0335.1937.tb00002.x>
- Coase, R. H. (1960). The problem of social cost. In *Classic papers in natural resource economics* (pp. 87-137). Palgrave Macmillan, London. https://doi.org/10.1057/9780230523210_6
- Cotton, L., & Ramachandran, V. (2001). Foreign direct investment in emerging economies: Lessons from sub-Saharan Africa (No. 2001/82). *WIDER Discussion Paper*.
- Cuervo-Cazurra, A. (2006). Who cares about corruption? *Journal of International Business Studies*, 37(6), 807-822. <https://doi.org/10.1057/palgrave.jibs.8400223>
- De Mello Jr, L. R., & Fukasaku, K. (2000). Trade and foreign direct investment in Latin America and Southeast Asia: Temporal causality analysis. *Journal of International Development: The Journal of the Development Studies Association*, 12(7), 903-924. [https://doi.org/10.1002/1099-1328\(200010\)12:7<903::AID-JID695>3.0.CO;2-8](https://doi.org/10.1002/1099-1328(200010)12:7<903::AID-JID695>3.0.CO;2-8)
- Demsetz, H. (1974). Toward a theory of property rights. In *Classic papers in natural resource economics* (pp. 163-177). Palgrave Macmillan, London. https://doi.org/10.1057/9780230523210_9
- Drabek, Z., & Payne, W. (2002). The impact of transparency on foreign direct investment. *Journal of Economic Integration*, 777-810. <https://doi.org/10.11130/jei.2002.17.4.777>
- Dunning, J. H. (2004). Determinants of foreign direct investment: Globalization-induced changes and the role of policies. *Towards Pro-Poor Policies*, 279-90.
- Elkomy, S., Ingham, H., & Read, R. (2016). Economic and political determinants of the effects of FDI on growth in

- transition and developing countries. *Thunderbird International Business Review*, 58(4), 347-362. <https://doi.org/10.1002/tie.21785>
- Farrar, D. E., & Glauber, R. R. (1967). Multicollinearity in regression analysis: The problem revisited. *The Review of Economics and Statistics*, 92-107. <https://doi.org/10.2307/1937887>
- Gani, A. (2014). Governance and foreign direct investment links: Evidence from panel data estimations. *Applied Economics Letters*, 14(10), 753-756. <https://doi.org/10.1080/13504850600592598>
- Gastanaga, V. M., Nugent, J. B., & Pashamova, B. (1998). Host country reforms and FDI inflows: How much difference do they make? *World Development*, 26(7), 1299-1314. [https://doi.org/10.1016/S0305-750X\(98\)00049-7](https://doi.org/10.1016/S0305-750X(98)00049-7)
- Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica: Journal of the Econometric Society*, 424-438. <https://doi.org/10.2307/1912791>
- Gujarati, D. N., Bernier, B., & Bernier, B. (2004). *Econom árie* (pp. 17-5). Brussels: De Boeck.
- Hamilton, J. (1994). *Time-series econometrics*. Princeton University Press.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251-1271. <https://doi.org/10.2307/1913827>
- Imhoff Jr, E. A. (1978). The representativeness of management earnings forecasts. *Accounting Review*, 836-850.
- Jenkins, C., & Thomas, L. (2002). *Foreign direct investment in Southern Africa: Determinants, characteristics, and implications for economic growth and poverty alleviation*. CSAE, University of Oxford.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jurčić, L., Franc, S., & Barišić, A. (2020). Impact of institutional quality on foreign direct investment inflow: Evidence from Croatia. *Business Systems Research: International journal of the Society for Advancing Innovation and Research in Economy*, 11(1), 44-58. <https://doi.org/10.2478/bsrj-2020-0004>
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues. *World Bank Policy Research Working Paper*, (5430).
- Khushnood, E., Channa, Z. H., Bhutto, M., & Erri, M. A. (2020). Impact of Good Governance Indicators on the Inflow of Foreign Direct Investment (FDI) In Pakistan. *NICE Research Journal*, 69-83. <https://doi.org/10.51239/nrjss.v0i0.175>
- Levin, A., Fu, C. L., & Chia, S. J. C. (2002). Unit Root in Panel Data: Asymptotic and Finite-Sample Properties. *Journal of Econometrics*, 108, 1-24. [https://doi.org/10.1016/S0304-4076\(01\)00098-7](https://doi.org/10.1016/S0304-4076(01)00098-7)
- Liu, L. (2007). Consistent testing for lag length in cointegrated relationships. *Journal of Economics*, 6(8), 112-116.
- Liu, X., Siler, P., Wang, C., & Wei, Y. (2000). Productivity spillovers from foreign direct investment: Evidence from UK industry-level panel data. *Journal of International Business Studies*, 31(3), 407-425. <https://doi.org/10.1057/palgrave.jibs.8490914>
- Liu, X., Wang, C., & Wei, Y. (2001). Causal links between foreign direct investment and trade in China. *China Economic Review*, 12(2-3), 190-202. [https://doi.org/10.1016/S1043-951X\(01\)00050-5](https://doi.org/10.1016/S1043-951X(01)00050-5)
- Loree, D. W., & Guisinger, S. E. (1995). Policy and non-policy determinants of US equity foreign direct investment. *Journal of International Business Studies*, 26(2), 281-299. <https://doi.org/10.1057/palgrave.jibs.8490174>
- Mengistu, A. A., & Adhikary, B. K. (2011). Does good governance matter for FDI inflows? Evidence from Asian economies. *Asia Pacific Business Review*, 17(3), 281-299. <https://doi.org/10.1080/13602381003755765>
- Minović, J., Stevanović, S., & Aleksić, V. (2021). The Relationship between Foreign Direct Investment and Institutional Quality in Western Balkan Countries. *Journal of Balkan and Near Eastern Studies*, 23(1), 40-61. <https://doi.org/10.1080/19448953.2020.1818038>
- Ndikumana, L., & Verick, S. (2008). The linkages between FDI and domestic investment: Unravelling the developmental impact of foreign investment in Sub - Saharan Africa. *Development Policy Review*, 26(6), 713-726. <https://doi.org/10.1111/j.1467-7679.2008.00430.x>
- Nguyen, C. H. (2021). Labor Force and Foreign Direct Investment: Empirical Evidence from Vietnam. *The Journal of Asian Finance, Economics, and Business*, 8(1), 103-112.

- Noorbakhsh, F., Paloni, A., & Youssef, A. (2001). Human capital and FDI inflows to developing countries: New empirical evidence. *World Development*, 29(9), 1593-1610. [https://doi.org/10.1016/S0305-750X\(01\)00054-7](https://doi.org/10.1016/S0305-750X(01)00054-7)
- North, D. C. (1990). A transaction cost theory of politics. *Journal of Theoretical Politics*, 2(4), 355-367. <https://doi.org/10.1177/0951692890002004001>
- Peres, M., Ameer, W., & Xu, H. (2018). The impact of institutional quality on foreign direct investment inflows: Evidence for developed and developing countries. *Economic Research-Ekonomska Istraživanja*, 31(1), 626-644. <https://doi.org/10.1080/1331677X.2018.1438906>
- Quazi, R. (2007). Economic freedom and foreign direct investment in East Asia. *Journal of the Asia Pacific Economy*, 12(3), 329-344. <https://doi.org/10.1080/13547860701405755>
- Ricardo, D. (1817). On the principles of political economy and taxation. 1821. *Library of Economics and Liberty. Consultado el*, 31.
- Rjoub, H., Aga, M., Oppong, C., Sunju, N., & Fofack, A. (2017). The Impact of FDI Inflows on Economic Growth: Evidence from Landlocked Countries in Sub-Saharan Africa. *Bilig-Turk DunyasI Sosyal Bilimler Dergisi*, 10(1), 153-168. <https://doi.org/10.3390/economies5010001>
- Rodríguez - Pose, A., & Cols, G. (2017). The determinants of foreign direct investment in sub - Saharan Africa: What role for governance?. *Regional Science Policy & Practice*, 9(2), 63-81. <https://doi.org/10.1111/rsp3.12093>
- Smith, S. (1997). Restrictive policy toward multinationals: Argentina and Korea. *Case Studies in Economic Development*, 2, 178-189.
- Von, W. R. (2004). *Measuring and predicting liquidity in the stock market* (Doctoral dissertation, Verlag nicht ermittelbar).
- Williamson, O. E., Wachter, M. L., & Harris, J. E. (1975). Understanding the employment relation: The analysis of idiosyncratic exchange. *The Bell Journal of Economics*, 250-278. <https://doi.org/10.2307/3003224>
- World Bank Official Website. (2019). *Description of Macroeconomic Variables*. Retrieved from <http://data.worldbank.org/>
- Zhang, J., Alon, I., & Chen, Y. (2014). Does Chinese investment affect sub-Saharan African growth? *International Journal of Emerging Markets*. <https://doi.org/10.1108/IJoEM-10-2013-0171>

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