Original Article

Regulatory Quality, Rule of Law and Foreign Direct Investment Inflows: Evidence from the Economic Community of West African States

Innocent Chile Nzeh [1],*, Uju Victoria Okoli [1], Joan Nwamaka Ozoh [1] and Florence Ngozi Ezenwob [1]

[1] Department of Economics, Faculty of Social Science, Nnamdi Azikiwe University, Ifite Road, 420110 Awka, Nigeria; uv.okoli@unizik.edu.ng (U.V.O.), jn.ozoh@unizik.edu.ng (J.N.O.), fn.ezenwobi@unizik.edu.ng (F.N.E.)

* Correspondence: nzechile@yahoo.com (I.C.N.)

Abstract: In literature, the role of institutions in stimulating FDI inflows has been documented. This study examined the contributions of two institutional-quality variables, regulatory quality and the rule of law, in attracting FDI in the Economic Community of West African States (ECOWAS). The study used an annual series covering the period from 2000 to 2020 using three different estimation techniques: the panel ARDL, the panel FMOLS, and the panel DOLS. Findings reveal that while the rule of law had a negative and significant impact on FDI inflows under the panel ARDL and FMOLS, the impact of regulatory quality was negative and significant under the panel ARDL and DOLS. The short-run ARDL results revealed that only the population growth rate positively and significantly impacted FDI inflows. However, in the long run, findings showed that while the population growth rate had a positive and significant impact on FDI inflows under the ARDL, the impact of GDP was positive and significant in all the models. The exchange rate was also found to negatively and significantly impact FDI inflows in all the models. The study consequently recommends building strong institutions through collaboration among the member countries while improving human capital and economic growth.

Keywords: Foreign Direct Investment inflows; Institutional quality; Gross Domestic Product; Panel ARDL; Regulatory quality; ECOWAS

1. Introduction

Economic integration has become a veritable tool for countries seeking to fast-track their development process by harmonizing and coordinating their economic and political activities. Strengthening regional integration is paramount to accelerate the development of the West African economies. Tackling poverty, unemployment, and other economic challenges confronting the sub-region through policy coordination was among the factors that led to the formation of the Economic Community of West Africa States (ECOWAS) in 1975. ECOWAS as a regional economic bloc comprised of 15 member countries, namely: Ghana, Nigeria,

Senegal, The Gambia, Côte d'Ivoire, Togo, Liberia, Guinea, Benin, Cape Verde, Burkina Faso, Guinea Bissau, Niger, Sierra Leone and Mali. Despite the formation of the economic bloc, most member countries are still very poor, and unemployment is still ravaging them. One major factor that can assist in improving the economy of the ECOWAS is FDI inflows. As noted by several scholars, such as Romer (1993) and De Mello (1999), FDI inflows contribute to the development of countries in various ways, such as through capital accumulation and technological spillover. FDI inflows also encourage competition for improved managerial skills and innovations, which raise the productivity of local firms and thus assist in job creation.

To this end, investigating the factors that enhance FDI inflows is vital to provide policy frameworks to address the challenges confronting the penetration of FDI in the ECOWAS. There is a popular saying that African countries need strong institutions rather than strong leaders. Such assertion captures the relevance of effective institutions in Africa and the ECOWAS. Poor institutions have been identified as one of the causes of underdevelopment in the ECOWAS countries. As observed by Ukwueze and Aguegboh (2018), institutional structures in the ECOWAS remain ineffective, with the rule of law being abused, ineffective checks and balances, and bottlenecks in bureaucracy. Despite all attempts to upgrade institutions in West African countries to gain from trade liberalization, many still grapple with poor institutional frameworks (Olayiwola, Osabuohien & Okodua, 2011). Osman, Alexiou and Tsaliki (2011) observed that most ECOWAS countries are enmeshed with poor institutional quality, such as high levels of corruption, weak rule of law and tight controls over information. Even in Africa, institutional reforms are still lacking, as Rodrı́guez-Pose and Cols (2017) contended that Africa lacks the requisite institutions to attract FDI.

Therefore, the choice of institutions in this study is premised on the sensitive roles they play as far as FDI is concerned, especially in developing countries. As observed by Paul and Jadhav (2019), various macroeconomic variables have been identified in the literature as responsible for choosing a host country to channel foreign investment. The study noted that most works regard institutional quality as a veritable indicator of FDI inflows. In their paper, Challe, Lopez and Mengus (2019) observed that favourable institutions are always identified as the major factor attracting capital inflows. In choosing where to channel their investments, Le and Kim (2021) noted that Multinational Enterprises (MNEs) are always conscious of the institutional arrangements in a country and will not consider countries beset with bureaucratic bottlenecks, political instability and corruption. The role of institutions in enhancing the penetration of FDI in a country has thus received enormous attention in the literature.

This present study examined the role of two institutional-quality variables, regulatory quality and the rule of law, in stimulating FDI inflows in the ECOWAS. The study contributes to the ongoing debate by focusing on seven ECOWAS countries: Nigeria, Cote d'Ivoire, Ghana, Gambia, Liberia, Guinea and Mali. The choice of countries was determined by data availability. In contrast, the choice of regulatory quality and the rule of law were informed by their direct role in enhancing FDI inflows. As observed by Fazio and Talamo (2008), regulatory quality stimulates the entry of foreign investors through the elimination of unfriendly market policies such as capital restrictions, price controls and government intervention. In another vein, Hoff and Stiglitz (2005) contended that the rule of law enhances the making of decisions in the current period, which maximizes long-term value of assets because the presence of the rule of law will protect future returns on the assets. From the best of the knowledge of the study, there is a literature gap on the role of institutional quality variables on FDI inflows in the ECOWAS countries. Some studies investigating the role of institutional quality variables on FDI inflows have been carried out in some economic blocs outside the ECOWAS with varying outcomes. Such studies include the work of Dobrowolska, Dorożyński and Kuna-Marszałek (2021) on 28 EU member states as well as a study by Chen and Jiang (2021) for 42 G20 countries. The study by Oshota and Wahab (2022) concentrated on the impact of institutional quality variables on trade flows in the ECOWAS countries.

In this sub-section, the study presents the trends of the selected countries' GDP and FDI inflow. In Figure 1, the trend in GDP shows that Nigeria had the highest GDP compared to other countries within the study period. The trend in GDP assumed a continuously rising trend from 2000 through 2014, but from 2015 the trend became flat. After rebasing Nigeria's economy in 2014 by including the contributions of some sectors that were hitherto not captured in the calculation of the GDP, the country's GDP was rated as the biggest in Africa. In 2015, a new civilian regime took over the government and developed its economic policies which may have affected the GDP growth. Ghana and Cote d'Ivoire are the two countries with relatively high GDP, even though the trend in their GDP was almost flat within the study period. The trend in the GDP for other countries did not show a sign of improvement in all the periods sampled.

International Journal of Finance, Economics and Business
Vol. 3, No. 1, March 2024, pp.10-23.

12
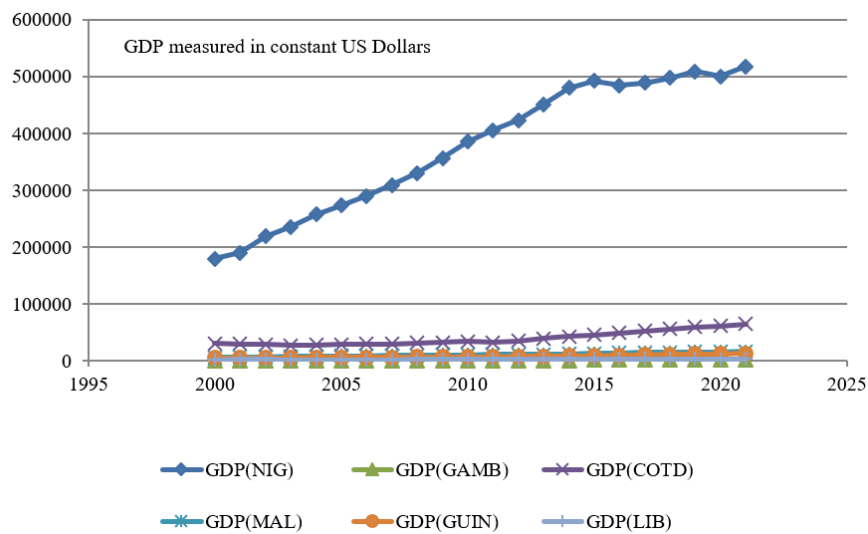
Note: GDP – gross domestic product, NIG – Nigeria, GHA – Ghana, GAMB – Gambia, COTD – Cote d'Ivoire, MAL – Mali, GUIN – Guinea, LIB - Liberia

Figure 1. Trend of GDP in the Selected Countries

Source: World Development Indicators (WDI) 2023

The trend in FDI inflows shown in Figure 2 indicates that from 2000 through 2014, Nigeria had the highest FDI inflows among the countries sampled. However, from 2015 Ghana's FDI inflows were highest comparatively. The trend in GDP in Figure 1 reveals that Nigeria's GDP experienced falling trend beginning from 2015. Thus, it would not be out of place to assert that FDI inflows into the country fall on the back of falling GDP within this period.
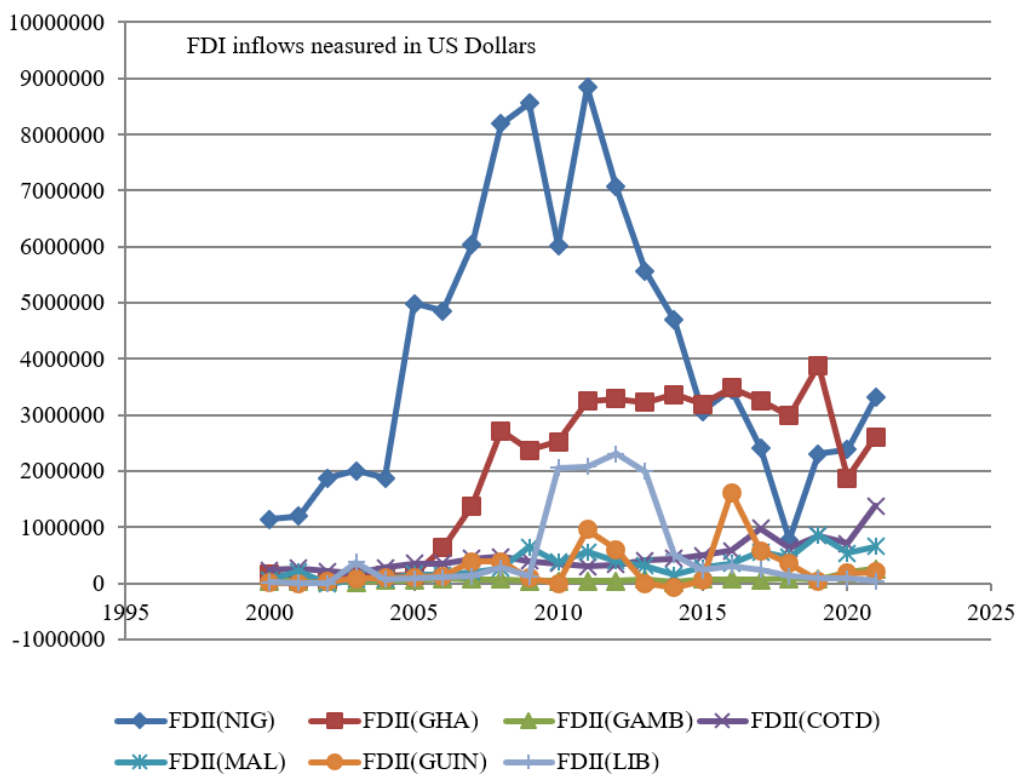
Note: FDII – foreign direct investment inflows

Figure 2. Trend of FDI inflows in the Selected Countries

Source: World Development Indicators (2023)

Ghana presented an impressive performance in FDI inflows as it trailed behind Nigeria until 2014 and afterwards overtook Nigeria. The countries with low FDI inflows within the study period are Gambia and Guinea, with inflows into the Gambia showing no improvement throughout the sample period. Concerning the link between GDP and FDI inflows, the analysis so far has shown that the countries with high GDP also have high FDI inflows, while the countries with low GDP attracted less FDI inflows. A case in point is the Gambia, whose GDP was flat throughout the sample period and had flat FDI inflows. This analysis has shown why ECOWAS countries need to put measures on ground to boost their economies to attract more FDI. The changes in both the rule of law and regulatory quality in the selected countries from 2015 to 2020 are shown in Table 1. Beginning with the rule of law, it is revealed that Ghana performed better in all the years covered than other countries sampled. Except for 2020, when the rule of law in Ghana was negative, the values for other years were positive. Between 2015 and 2016, Cote d'Ivoire trailed behind Ghana, but starting in 2017, Gambia performed better than other countries apart from Ghana.

Guinea performed worse than other countries during the period. While Nigeria trailed behind Guinea between 2015 and 2016, Liberia performed worse than Nigeria beginning in 2017. Concerning regulatory quality, evidence reveals that all the ECOWAS countries sampled struggled to maintain a healthy rule of law, as none achieved positive value within the period. However, Ghana performed better than other countries during the period. Cote d'Ivoire trailed behind Ghana, while the two worst performers were Nigeria and Liberia. The study encountered mixed outcomes when comparing the two institutional quality variables with the GDP and FDI inflow trend. For instance, Nigeria, which had high GDP and FDI inflows within the study, had poor regulatory quality and the rule of law. However, Ghana had high FDI inflows and had better poor regulatory quality and the rule of law. Thus, it could safely be contended that while high GDP was associated with high FDI inflows in Nigeria, improved institutions were related to high FDI inflows in Ghana.

Table 1. Regulatory Quality and Rule of Law in the Selected Countries

Year	2015	2016	2017	2018	2019	2020
Rule Law						
Nigeria	-0.9616	-1.01747	-0.870805	-0.880129	-0.898062	-0.812488
Ghana	0.142304	0.0487039	0.1233095	0.0730976	0.0473358	-0.038694
Gambia	-0.72139	-0.77466	-0.438141	-0.430581	-0.371438	-0.365933
Cote d'Ivoire	-0.62978	-0.644726	-0.631472	-0.576317	-0.566627	-0.599477
Mali	-0.73525	-0.782355	-0.778049	-0.797424	-0.834297	-0.923439
Guinea	-1.16082	-1.216319	-1.226821	-1.208481	-1.20907	-1.263659
Liberia	-0.85666	-0.945374	-0.949563	-0.989695	-0.995262	-1.025773
Regulatory Quality						
Nigeria	-0.85052	-0.91889	-0.88398	-0.80442	-0.86092	-0.96267
Ghana	-0.03125	-0.23251	-0.14	-0.09456	-0.1112	0.000174
Gambia	-0.50869	-0.50932	-0.44704	-0.6295	-0.66484	-0.68758
Cote d'Ivoire	-0.50415	-0.36489	-0.36064	-0.20268	-0.24336	-0.27584
Mali	-0.57799	-0.59088	-0.57143	-0.5553	-0.57325	-0.60801
Guinea	-0.87069	-0.86767	-0.83624	-0.77807	-0.76959	-0.83363
Liberia	-0.86503	-0.94849	-0.94445	-0.95906	-0.97898	-1.00203

Source: World Governance Indicators, (2023)

On a sub-regional basis, Table 2 shows that the sub-region that received the highest FDI in 2019 was North Africa, while West Africa trailed behind it. Southern Africa was the sub-region that received the least FDI in the same year. In 2020, North Africa also received the highest FDI, followed by Central Africa, while FDI inflows in West Africa were the lowest. Central Africa received the highest FDI in 2021; North Africa followed this, while West Africa received the least FDI. Despite impressive FDI inflows within the period, North Africa had the lowest growth rate of FDI between 2020 and 2021, while Southern Africa had the highest growth rate.

Table 2. African Regional FDI inflows (Millions of Dollars)

Regional	2019	2020	2021	Growth Rate (%)
North Africa	13 550	9 800	9 335	-5

West Africa	10 86	9 340	3 849	48
Central Africa	8 858	9 506	9 409	-1
Southern Africa	4 514	4 244	42 219	895

Source: UNCTAD, FDI/MNE Database

In Table 3, it is revealed that Egypt is the country that received the highest FDI within the sampled period in North Africa. In contrast, Congo received the highest FDI among the Central African countries. In East Africa, FDI inflows were highest in Ethiopia, while South Africa received the highest FDI in Southern Africa. For West Africa, Nigeria received the highest FDI. In the three years evaluated, Egypt received the highest FDI in 2019 and 2020 compared to other countries sampled from the regions, while in 2021, FDI inflows were highest in South Africa. Nigeria received the least FDI in 2019, while Ethiopia received the least FDI in 2020 and 2021. Regarding regulatory quality and the rule of law, Table 4 shows that South Africa performed better than other countries concerning regulatory quality, while Congo had the least regulatory quality. South Africa also performed better in terms of the rule of law, while Congo performed worse in terms of the rule of law. In summary, other countries had negative regulatory quality except for South Africa, which had positive regulatory quality. In associating FDI inflows with institutional quality, the study contends that relatively improved rule of law in Egypt could be among the factors that spurred FDI inflows. However, relatively better performance in regulatory quality and the rule of law stimulated FDI inflows in South Africa. Congo had relatively high FDI inflows within the period, even though it performed worse in the two institutional quality variables.

Table 3. FDI Inflows in Some Countries in Africa

Country	2019	2020	2021
Egypt (North Africa)	9010.0	5851.8	5122.0
Congo (Central Africa)	3366.1	4015.5	3690.8
Ethiopia (East Africa)	2548.8	2381.0	4259.4
South Africa (Southern Africa)	5125.0	3062.3	40888.8
Nigeria (West Africa)	2305.1	2385.3	4844.3

Source: UNCTAD, FDI/MNE database

Table 4. Regulatory Quality and the Rule of Law in Some African Countries

Country	Regulatory Quality			Rule of Law		
	2018	2019	2020	2018	2019	2020
Egypt (North Africa)	-0.86	-0.83	-0.69	-0.41	-0.42	-0.36
Congo (Central Africa)	-1.33	-1.30	-1.43	-1.10	-1.15	-1.16
Ethiopia (East Africa)	-0.97	-0.89	-0.96	-0.43	-0.47	-0.40
South Africa (Southern Africa)	0.13	0.16	0.20	-0.10	-0.08	-0.12
Nigeria (West Africa)	-0.80	-0.86	-0.96	-0.88	-0.90	-0.81

Source: World Governance Indicators (2023)

2. Literature Review

2.1. Theoretical Review

Factors that attract FDI inflows have generated some intellectual attention over the years. Heckscher-Ohlin theory notes that countries endowed with relatively abundant capital tend to export capital-intensive products, while relatively abundant labour countries export labour-intensive products. Accordingly, before investing in another country, foreign investors are likely to prefer production factors such as capital and labour because these factors influence the cost of production. In recent times, the role of institutions in attracting FDI has been given theoretical attention. Gammadigbe (2021) observes that institutions can be viewed from formal and informal rules that govern the relationships among the people. While formal institutions comprise laws, regulations and constitutions, informal institutions comprise societal norms of behavior and conventions. Hea-Jung (2018) contended that by extending the comparative advantage model through the introduction of institutional differences into the framework of incomplete contract theory analysis, it is observed that institutional quality variables, such as contract enforcement and intellectual property protection, are veritable sources of a country's comparative advantage. This argument is supported

by the views of Saad (2021) that even under different institutional qualities, similar production inputs can affect the economy's growth distinctly since a high institutional quality can be a country's comparative advantage.

Concerning economic growth, Rodrik (1999) contended that institutional quality improves a country's long-term economic growth. This can occur through various means. An example is strong institutions' role in reducing transaction costs, ultimately improving investment. North (1990) contended that institutions are vital in stimulating economic growth. As observed by Aron (2000), countries with strong institutions attract quality investments; however, countries with weak institutions tend to attract lesser investments because investors might be afraid the proceeds from their investments may be seized by the state since property rights are not well defined. With respect to the influence of institutions on the stock market, Clausen (2014) noted that perfect institutions eliminate opportunities for arbitrage, which prevents investors from entering the market. This situation can have a negative effect on foreign portfolio investment coming into a country. This view is supported by Ng, Ibrahim and Mirakhor (2016) contention that conducive institutions can reduce information asymmetry between investors and enterprises.

2.2. Empirical Review

The relevance of FDI inflows has led to empirical works examining the factors that attract them to a country or region. Some studies have thus identified institutions as determinants of FDI inflows. In Algeria, Chaib and Siham (2014) observed that voice and accountability as well as economic freedom, had long-run positive impact on FDI inflows. A cross-country study involving developed and developing countries by Peres, Ameer and Xu (2018) indicated that while institutional quality influenced FDI inflows in developed countries, results for developing countries revealed that institutional quality's impact was insignificant. This finding is corroborated by Sabir, Rafique, and Abbas (2019) work, who found that institutional quality was a major determinant of FDI inflows in developed countries, not developing countries. Adegboye, Osabohien, Olokoyo, Matthew and Adediran (2020) revealed that institutional quality affected the FDI inflows in sub-Saharan Africa. In another cross-country paper for South Asia, Behera, Mishra, Priyadarshini and Satpathy (2020) showed that institutional quality led to FDI inflows when combined with either financial development or globalization. Jurčić, Franc and Barišić (2020) found that in Croatia, institutional quality variables such as control of corruption, political stability, regulatory quality, the rule of law and government effectiveness were not relevant in attracting FDI inflows. The study observed that instead, average gross wage and GDP per capita contributed more to FDI inflows. A study involving 28 EU member states by Dobrowolska, Dorożyński and Kuna-Marszałek (2021) revealed a significant relationship between institutional quality and FDI inflows. Chen and Jiang (2021) found that in 42 G20 countries, institutional quality attracted FDI inflows by increasing trade openness, accelerating industrial structure optimization and encouraging technological innovation.

In another study of Asian countries comprising China, Singapore, Japan, South Korea, and Hong Kong, Le and Kim (2021) revealed that the countries with higher incomes are preferred by multinational companies for FDI inflows. Also, both control of corruption and economic freedom positively impacted FDI inflows. In a panel data study involving 117 countries, findings by Chen and Jiang (2021) showed that improvement in institutional quality significantly and positively impacted FDI inflows. The study further revealed that institutional quality improved through economic integration. A country-specific study by Kaushal (2021) indicated that institutional quality impacted FDI inflows positively in India. In lower-middle-income countries, Saha, Sadekin and Saha (2022) found that regulatory quality and control of corruption improved FDI inflows. Still, voice, accountability, and high rule of law reduced it in lower-middle-income countries. The study also revealed that political stability and government effectiveness did not impact FDI inflows significantly. A study in the ECOWAS by Oshota and Wahab (2022) showed that institutional variables significantly positively impacted trade flows.

The study further observed that effective government, the rule of law and control of corruption improved among member countries. In a study involving the Community of Sahel-Saharan States (CEN-SAD), Kwaw-Nimeson and Tian (2023) revealed that macroeconomic integration played a crucial role in FDI inflows in the economic bloc. In addition, findings showed that lower-middle-income countries attracted slightly higher FDI inflows than those in low-income countries. In another paper involving 42 G20 countries, Chen and Jiang (2023) observed that institutional quality enhanced FDI inflows by encouraging technological innovation, improving trade openness, and raising the optimization of industrial structure. These results support the earlier findings of the authors. Khan, Khan, Khan and Magda (2023) found that higher institutional quality enhanced large transfers of technological advances through FDI in Pakistan.

International Journal of Finance, Economics and Business
Vol. 3, No. 1, March 2024, pp.10-23.

16

3. Materials and Methods

In this study, three estimation techniques were used, namely: the panel autoregressive distributed lag (ARDL) bounds technique, the fully modified ordinary least squares (FMOLS) technique and the dynamic ordinary least squares (DOLS) technique. The autoregressive distributed lag (ARDL) model proposed by Pesaran, Shin and Smith (1999) can be applied to the model notwithstanding if the variables are integrated of order zero, i.e. $I(0)$ or integrated of order one, *i.e. I(1)* or an admixture of *I(1)* and *I(0)*. It also has superior properties in small samples, just as it can simultaneously investigate both the short and long-run effects of one variable on the other (Bentzen & Engsted, 2001). The FMOLS was developed by Pedroni (1999) and is considered among the advanced methods in the long-run estimates. They provide consistent parameter estimates in small samples in addition to controlling for serial correlation and endogeneity (Imran & Sial, 2021). Developed by Saikkonen (1992) and Stock and Watson (1993), the panel DOLS approach estimates the long-run relationship among variables by assuming that the variables have cointegration. Imran and Sial (2021) observed that this technique is asymptotic and removes feedback in the cointegrating system by expanding the cointegrating regression with the lags and leads of the regressors. The panel ARDL is specified as follows:

$$\Delta y_{it} = \phi_0 + \sum_{i-1}^{p} \phi_1 \Delta y_{it-i} + \sum_{t=0}^{p} \phi_2 \Delta x_{it-i} + \sum_{t=0}^{p} \phi_3 \Delta z_{it-i} + \phi_4 y_{it-i} + \phi_5 x_{it-i} + \phi_6 z_{it-i} + \varepsilon_{it} \tag{1}$$

Where ε = the error term and the subscripts i and t represent the country and time, respectively. While ϕ_1, ϕ_2 and ϕ_3 are the coefficients of the short-run parameters, ϕ_4, ϕ_5 and ϕ_6 are the coefficients of the long-run parameters. The null hypothesis is tested as follows: $\phi_4 = \phi_5 = \phi_6 = 0$ (Existence of cointegration). This is tested against the alternative hypothesis: $\phi_4 \neq \phi_5 \neq \phi_6 \neq 0$ (Absence of cointegration). The existence of cointegration implies estimating a panel error correction with the following specification:

$$\Delta y_{it} = \phi_0 + \sum_{i-1}^{p} \phi_1 \Delta y_{it-i} + \sum_{t=0}^{p} \phi_2 \Delta x_{it-i} + \sum_{t=0}^{p} \phi_3 \Delta z_{it-i} + PECM_{it-i} + \varepsilon_{it-i} \tag{2}$$

The FMOLS estimator is specified as follows:

$$\psi FME = \left(\sum_{t=1}^{T} \gamma_t \gamma_t^t \right)^{-1} \left(\sum_{t=1}^{T} \gamma_t \delta_t^t - T \begin{bmatrix} \lambda^+ 12^{.t} \\ 0 \end{bmatrix} \right) \tag{3}$$

Where, while γ_t^t term corrects the serial correlation, $\lambda^+ 12^{.t}$ term correct for endogeneity problems in the model. The DOLS estimator is specified as follows:

$$y_t = \vartheta + \psi x_t \sum_{i=-k}^{i=k} \zeta_i \Delta x_{t+i} + \varepsilon_r \tag{4}$$

Where ϑ and ψ are the intercept term and the long-run elasticity, respectively. $\zeta's$ terms represent the coefficients of the leads and the lag differences of *I(1)* regressors. As Herzer and Nowak-Lehmann (2006) observed, these coefficients enable the adjustment for possible endogeneity, autocorrelation and non-normal residuals that may occur in the model. In modelling the link between institutional quality variables and FDI inflows in the ECOWAS, this study modified the work of Saha *et al.* (2022). Thus, the functional link between FDI inflows and the institutional quality variables alongside the control variables is specified as follows:

$$LFDII_t = f(RQ_t, RLAW_t, LGDP_t, PGR_t, REXCHR_t) \tag{5}$$

Where: $LFDII_t$ = log of foreign direct investment inflows at time t, RQ_t = regulatory quality at time t, $RLAW_t$ = rule of law at time t, $LGDP_t$ = log of GDP at time t, PGR_t = population growth rate at time t and $REXCHR_t$ = real exchange rate at time t.

4. Results
4.1. Descriptive Statistics
Descriptive statistics assists in identifying the behavior of the variables used in the study.

Table 5. Result of Descriptive Statistics

	LFDII	LGDP	POPGR	REXCHR	RLAW	RQ
Mean	8.40	10.16	2.65	932.03	-0.71	-0.61
Median	8.51	10.08	2.58	150.29	-0.77	-0.59
Maximum	9.94	11.71	5.62	9565.08	0.15	0.12
Minimum	0.00	8.98	0.79	0.00	-2.00	-1.85
Std. Dev.	1.24	0.77	0.58	2072.62	0.53	0.43
Skewness	-4.06	0.39	1.22	2.95	0.01	-0.29
Kurtosis	27.93	2.30	8.93	10.78	1.84	2.72
Jarque-Bera	4387.05	6.96	262.92	609.92	8.44	2.74
Probability	0.00	0.03	0.00	0.00	0.01	0.25
Observations	153	153	153	153	153	153

Table 5 shows that the series are symmetric since each variable's mean and median are very close. The exchange rate has the highest mean value of 932.03 within the study period, while the variable with the lowest mean is the rule of law. The mean value of GDP is higher than the mean value of FDI inflows, which indicates that the level of GDP is higher than the level of FDI inflows during the study period. In terms of volatility, the exchange rate which has the highest range within the study period exhibited the highest volatility, while the rule of law exhibited the least volatility

4.2. Unit Root Test
The unit root test is conducted to ascertain the order of integration of the variables in order not to obtain spurious results.

Table 6. Result of Unit Root

	LLC (Level)	LLC (1st Diff.)	ADF-Fisher (Level)	ADF-Fisher (1st Diff.)	PP-Fisher (Level)	PP-Fisher (Ist Diff.)
LFDII	-0.1(0.42)	-12.1 (0.00)*	14.4(0.41)	69.2(0.00) *	30.07(0.00) *	417.2(0.00) *
LGDP	-1.4(0.07)**	-2.4(0.00) *	13.3(0.50)	33.4(0.00) *	19.58(0.14)	71.23(0.00) *
POPGR	-1.3(0.08)**	-5.8(0.00) *	30.4(0.00) *	74.7(0.00) *	11.98(0.60)	65.80(0.00) *
REXCHR	0.6(0.74)	-1.7(0.04) *	17.8(0.21)	27.2(0.01)	11.38(0.65)	37.45(0.00) *
RLAW	1.3(0.90)	-7.9(0.00) *	13.0(0.51)	41.2(0.00) *	38.89(0.00) *	189.86(0.00) *
RQ	0.4(0.67)	-6.9(0.00) *	29.8(0.00) *	28.8(0.01) *	35.92(0.00) *	134.43(0.00) *

Note: * and * * reject the null hypothesis of no stationarity at the 5% and 10% significance levels, respectively.

In Table 6, findings indicate that under the LLC, both GDP and population growth rate became stationary at the level and at the 10% level of significance, while other variables were not stationary. However, after the first difference, all the variables achieved stationarity at the 5% significance level. Thus, under the LLC both GDP and population growth rate were integrated of order zero, that is I(0), while after

differencing, every other variable was integrated of order one, that is *I(1)*. Under the ADF-Fisher, both population growth rate and regulatory quality were stationary at the same level. Still, after the first difference, every other variable became stationary at the 5% significance level. However, under the PP-Fisher foreign direct investment inflows, the rule of law and regulatory quality became stationary at the significance level of 5%. In contrast, others became stationary after first differencing. Results of the stationarity test thus reveal that the variables exhibited an admixture of *I(0)* and *I(1)*.

4.3. Results of Cointegration

Cointegration tests are conducted to determine if there is a long-run relationship among the variables.

Table 7. Result of Pedroni Cointegration Test

Tests	Panel statistic (Within-Dimension)		Group statistic (Between-Dimension)
	Statistic (prob)	Weighted statistic (prob)	
v-Statistic	-2.67(0.99)	-2.86(0.99)	
rho-Statistic	1.44(0.92)	1.93(0.97)	2.66(0.99)
PP-Statistic	-11.44(0.00) *	-3.07(0.00)*	-5.98(0.00) *
ADF-Statistic	2.76 (0.99)	2.80(0.07) **	2.94(0.09) **

Note: Asterisks * and * indicate the rejection of the null hypothesis of no-cointegration at both 5% and 10% significance levels, respectively. Maximum lag was 4 with Newey-West automatic bandwidth selection and Bartlett kernel. Trend assumption: Deterministic intercept and trend (Constant and Trend).

Table 8. Johansen Fisher Panel Cointegration Test

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.
None	307.7	0.00	154.6	0.00
At most 1	195.2	0.00	125.5	0.00
At most 2	136.8	0.00	100.2	0.00
At most 3	56.20	0.00	47.73	0.00
At most 4	22.63	0.06	17.67	0.04
At most 5	25.93	0.02	25.93	0.02

* Denotes rejection of the hypothesis at the 5% and 10% level, respectively. Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Table 9. Kao Cointegration Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID(-1)	-1.13	0.12	-9.17	0.00

The results of the Pedroni cointegration in Table 7 reveal that out of seven-panel cointegration tests, four reject the null hypothesis of no cointegration at the 5% and 10 % significance levels, respectively. This suggests the existence of a long-run equilibrium relationship among the variables. In support of this, the Johansen-Fisher panel cointegration test results in Table 8 indicate that the p-values of trace tests are less than the 5% and 10% levels of significance in the five cointegrating equations. In contrast, the results of the maximum eigenvalue revealed that the p-values are less than the 5% level of significance of significance. The results confirm the existence of cointegration among the variables. Similarly, the result of the Kao cointegration test in Table 9 rejects the null of no cointegration as the residual coefficient is negative and statistically significant at the 5% significance level, indicating the existence of a long-run relationship.

4.4. Results of Panel ARDL, Panel DOLS and Panel FMOLS

The results of the stationarity test indicated that the series exhibited a mixture of *I(0)* and *I(1)* as well as a long-run relationship. The study considered the panel ARDL, FMOLS and DOLS.

Table 10. Result of Panel ARDL Estimates

Variable	Coefficient	Std. Error	Prob.*	Coefficient	Std. Error	Prob.*
	Short Run Results			**Long Run Results**		
LGDP	3.36	3.83	0.38	1.26	0.31	0.00*
POPGR	3.04	0.97	0.00*	0.72	0.19	0.00*
REXCHR	0.01	0.02	0.52	-0.0005	0.00	0.09**
RLAW	2.22	1.88	0.90	-0.79	0.12	0.00*
RQ	-0.09	2.92	0.97	-0.57	0.22	0.01*
C	-4.94	1.56	0.00*			
ECM	-0.74	0.21	0.00*			

Table 11. FMOLS and DOLS Estimates

	FMOLS			**DOLS**		
Variable	Coefficient	Std. Error	Prob.*	Coefficient	Std. Error	Prob.*
LGDP	15.51	3.46	0.00*	3.38	0.06	0.00*
POPGR	-0.60	0.33	0.11	0.06	0.05	0.27
REXCHR	-0.02	0.00	0.00*	-0.19	0.05	0.00*
RLAW	-3.15	0.55	0.00*	0.13	0.10	0.16
RQ	0.32	0.67	0.64	-0.22	0.10	0.02*
R-squared	0.99			0.95		

Note: * indicates that the estimated coefficients are significant at the 5% and 10% level, respectively. Dependent variable is FDII. Long-run covariance estimates (Bartlett kernel, Newey-West fixed bandwidth).

The results of the panel ARDL in Table 10 revealed that in the short-run, only the population growth rate significantly impacted FDI inflows within the study period. Findings indicated that if the population growth rate rose by one unit, FDI inflows improved by 3.04. GDP was also shown to impact FDI inflows even though the result was insignificant positively. Also, while regulatory quality had a negative but non-significant impact on FDI inflows, the impact of both the exchange rate and the rule of law was positive but non-significant. The result of the ECM shows that its coefficient is negative and significant, which supports the long-run relationship among the variables. This result implies that the speed of adjustment after a deviation from equilibrium is 74%.

The panel ARDL long-run results in Table 10 indicated that GDP positively impacted FDI inflows, and the result was significant. One unit rise in GDP led to an increase in FDI inflows by 1.26. The positive and significant impact of GDP on FDI inflows is supported by the results of the FMOLS and DOLS in Table 11. The result of the panel ARDL revealed that the population growth rate positively impacted FDI inflows in the long-run. If the population grew by one percent, FDI inflows rise by 0.72. However, under both the FMOLS and DOLS, the impact of the population growth rate on FDI inflows was positive but not significant. The exchange rate had a long-run negative and significant impact on FDI inflows under the ARDL, and this finding supports the results of both the FMOLS and the DOLS. About the two institutional quality variables included in the paper, the long-run results indicated that the impact of the rule of law on FDI inflows was negative and significant under the panel ARDL and FMOLS. However, under the panel ARDL and DOLS, regulatory quality negatively and significantly impacted FDI inflows.

4. Discussion

Findings of the study so far have revealed that in the long-run, both the rule of law and regulatory quality impacted negatively and significantly on FDI inflows in all the models except regulatory quality, which did not significantly impact under the FMOLS. By implication, poor institutional arrangements in the ECOWAS retarded FDI inflows within the study period. In lower-middle-income countries, Saha et al. (2022) found that the rule of law depressed FDI inflows in line with the present study. In a similar vein, in Croatia, the results of the study by Jurčić et al. (2020) observed that the institutional quality variables used in the study, such as regulatory quality, political stability and the rule of law, were not found to be major determinants of FDI inflows. Similar studies in developing countries have revealed that institutional quality influenced FDI inflows more in developed countries than in developing countries (Peres et al., 2018; Sabir et al., 2019). The short-run results indicated that population growth rate positively impacted FDI inflows within the study period. This result aligns with expectations as investors consider the population to be

associated with markets for their products. Hence, they will be more willing to consider destinations with high populations for their investment. Nigeria, one of the countries in the sample, has a huge population that attracts foreign investment. The short-run results revealed that GDP had a positive but non-significant impact on FDI inflows. The positive result aligns with apriori expectations; however, the non-significant result could be that the period was so short that foreign investors must wait to weigh their investment options.

The long-run results indicated that most of the variables were significant in the three estimation techniques adopted by the study. To begin with, GDP was shown to have a positive and significant impact on FDI inflows in all the estimation techniques. As noted earlier, foreign investors are willing to invest in countries with strong GDP because such economies can guarantee investment returns. A strong economy instills confidence in foreign investors. In recent times, Nigeria has been rated as the biggest economy in Africa, and such a rating should boost FDI inflows in the country and, by extension, in the ECOWAS bloc. Recent empirical studies have supported the positive impact of GDP on FDI inflows, such as those by Sabir et al. (2019) in a study involving developing countries. Others include Jurčić et al. (2020) for Croatia, Le and Kim (2021) in a study of Asian countries and Khan et al. (2023) in a study of Pakistan. Similarly, the population growth rate only positively and significantly impacted FDI inflows under the panel ARDL. As stated earlier, the population growth is a stimulant to FDI inflows. Just as the growth in GDP serves as a morale booster for foreign investors, population growth, regarded as a determinant of large market, plays a similar confidence-building role.

The long-run result of the exchange rate indicated that FDI inflows marginally reduced as the domestic currency of the sampled countries appreciated in all the models used. As observed by Cambazoglu and Gunes (2016), the depreciation of a host country's currency reduces the cost of capital and thus stimulates FDI inflows. However, the rise in the real exchange rate implies that the domestic currency of the selected countries has appreciated thus, leading to a fall in FDI inflows. The result shows that the real exchange rate had a negative impact on FDI inflows, which is thus in line with expectations, indicating that the rise in the exchange rate level of the ECOWAS countries led to a fall in FDI inflows. A study in Turkey by Cambazoglu and Gunes (2016) supported this finding.

5. Conclusions

Under three different estimation techniques, this study indicates regulatory quality and the rule of law on FDI inflows in the ECOWAS countries. In conclusion, none of the institutional quality variables used in the study positively influenced FDI inflows in the ECOWAS. Instead, they adversely affected FDI inflows within the study period. However, while the population growth rate attracted FDI inflows significantly in the short-run, GDP attracted FDI inflows in the long-run. The negative impact of the rule of law and regulatory quality indicates that the countries comprising this bloc still suffer from institutional bottlenecks that have hampered seamless resource flow into their economies. This usually takes the form of abusing court orders, especially by the political class and administrative bureaucratic bottlenecks. The study also contends that the short-run positive impact of the population indicates that foreign investors consider a country's population before investing as such constitutes a large market. More so, the long-term positive impact of GDP on FDI inflows indicates the role of a strong GDP in influencing FDI inflows. Therefore, the study contends that to attract and harness FDI inflows. There is a need for institutional upgrades in the ECOWAS just as it is necessary to leverage the large population in the region through workforce development. Also, resources need to be channelled into productive use to ensure economic improvement.

International Journal of Finance, Economics and Business
Vol. 3, No. 1, March 2024, pp.10-23.

21

Conflicts of Interest: The authors declare no conflict of interest.

References

Abere, S. S. and Akinbobola, T. O. (2020). External shocks, institutional quality, and macroeconomic performance in Nigeria: *Sage Open, 10(2),* 1–18.

Adegboye, F, B., Osabohien, R., Olokoyo, F. O., Matthew, O, and Adediran, O. (2020). Institutional quality, foreign direct investment, and economic development in sub-Saharan Africa. *Humanities and Social Sciences Communications,* 7(38). https://doi.org/10.1057/s41599-020-0529-x

Aron, J. (2000). "Growth and institutions: A review of the evidence". *The World Bank Research Observer*, 15(1), 99–135. https://doi.org/10.1093/wbro/15.1.99.

Behera, C., Mishra, B, R., Priyadarshini, B, T. and Satpathy, L. D. (2020). Institutional quality and foreign direct investment inflows: Evidence from cross-country data with policy implication. *International Journal of Economics & Business Administration, 8*(2), 302-316.

Bentzen, J. Engsted, T. (2001). A revival of the autoregressive distributed lag model in estimating energy demand relationships. *Energy, 26*(1), 45–55.

Cambazoglu, B. and Gunes, S. (2016). The relationship between foreign exchange rate and foreign direct investment in Turkey. *Economics, Management & Financial Markets, 1*(11), 284-293.

Chaib, P. B. andd Siham, M. (2014). The impact of institutional quality in attracting foreign direct investment in Algeria. *Topics in Middle E astern & African Economies, 16*(2), 142-163.

Challe, E., Lopez, J. and Mengus, E. (2019). Institutional quality and capital inflows: Theory and evidence. *Journal of International Money & Finance, 96*, 168–191.

Chen, F. and Jiang, G. (2021). Investigating the impact of institutional quality on FDI: Are there promotional effects in economic integration regions?" *Sustainability,* 13, 11309 https://doi.org/10.3390/su132011309

Chen, F. and Jiang, G. (2023). The impact of institutional quality on foreign direct investment: empirical analysis based on mediating and moderating effects. *Economic Research-Ekonomska Istrazivanja, 36*(2), 2134903. DOI: 10.1080/1331677X.2022.2134903

Clausen, T. H. (2014). The role of institutional arbitrage in the search for product innovation: Firm level evidence from Norway. *Industrial Marketing Management, 43*(3), 392–399. https://doi.org/10.1016/j.indmarman.2013.12.007

De Mello, L (1999). *Foreign direct investment led growth: Evidence from time series and panel data*. Oxford Economic Papers, 51, 133-151.

Dickey, D. A., and Fuller, W. A. (1981). Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica, 49*(4), 1057–1072. Available at: https://doi.org/10.2307/1912517.

Dobrowolska, B., Dorożyński, T and Kuna‑Marszałek, A. (2021). Institutional quality and its impact on FDI inflow: Evidence from the EU member states. Comparative Economic Research. *Central and Eastern Europe, 24*(4). https://doi.org/10.18778/1508-2008.24.29.

Engle, R. and Granger, C. (1987). Cointegration and error-correction: Representation, estimation and testing. *Econometrica, 55*(2), 251-276. doi:10.2307/1913236.

Fazio, G. and Talamo, G. M. C. (2008). How attractive is good governance for FDI? in J. Jay Choi, Sandra Dow (ed.). "Institutional approach to global corporate governance: Business systems and beyond. *International Finance Review, 9*, 33-54.

Gammadigbe, V. (2021). Trade integration in West Africa: Does the quality of institutions matter?. *Journal of African Trade, 8*(1), 65-81.

Hea-Jung, H. (2018). Institutional quality and trade in intermediate goods. *Journal of Korea Trade, 22*(2), 162–186.

Hoff, K. and Stiglitz, J. E. (2005). *The creation of the rule of law and the legitimacy of property rights: The political and economic consequences of a corrupt privatization*. Policy Research Working Paper Series 3779, Washington DC: The World Bank.

Imran, M. and Sial, M. H. (2021). The role of stock exchange and public spending on economic growth in selected SAARC countries: A panel data analysis. *Journal of Critical Reviews, 8*(01), 928-939.

Jurčić, L., Franc, S. and Barišić, A. (2020). Impact of institutional quality on foreign direct investment inflow: Evidence from Croatia. *Business Systems Research, 11*(1), 44-58. https://doi.org/10.2478/bsrj-2020-0004.

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel Data. *Journal of econometrics, 90*(1), 1-44.

Kaushal, L. A. (2021). FDI and institutional quality: Empirical evidence from India. *The Business & Management Review, 12*(2), 58-66.

Khan, Z. U., Khan, A., Khan, D. and Magda, R. (2023). The impact of institutional quality on sectoral foreign direct investment in Pakistan: A dynamic simulated ARDL approach. *Sustainability, 15*, 7231. https://doi.org/10.3390/su15097231.

Kwaw-Nimeson, E. and Tian, Z. (2023). Institutional quality, foreign direct investment, and regional integration: Empirical evidence from CEN-SAD. *SAGE Open*, 1–20. DOI: 10.1177/21582440221148389

Le, A. H and Kim, T. (2021). The impact of institutional quality on FDI inflows: The evidence from capital outflow of Asian economies. *Journal of Asian Finance, Economics & Business, 8*(8), 0335–0343. doi:10.13106/jafeb.2021.vol8.no8.0335.

Levin, A., Lin, C.-F., and Chu, C.-S. J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of econometrics, 108*(1), 1-24.

Ng, A., Ibrahim, M. H. and Mirakhor, A. (2016). Does trust contribute to stock market development? *Economic Modelling, 52*, 239-250. https://doi.org/10.1016/j.econmod.2014.10.056

North, D. C. (1990). Institutions, institutional change & economic performance".Cambridge University Press.

Olayiwola, W., Osabuohien, E. and Okodua, H. (2011). *Economic integration, trade facilitation and agricultural exports performance in ECOWAS countries.* Epau Monograph series, No. 1.

Oshota, S. O., and Wahab, B. A. (2022). Institutional quality and intra‑regional trade flows: Evidence from ECOWAS. *Journal of African Trade, 9*, 73-106. https://doi.org/10.1007/s44232-022-00005-9.

Osman, R. H., Alexiou, C., and Tsaliki, P. (2011). The role of institutions in economic development: Evidence from 27 Sub-Saharan African countries. *International Journal of Social Economics, 39*(1), 142–160.

Paul, J. & Jadhav, P. (2019). Institutional determinants of foreign direct investment inflows: Evidence from emerging markets. *International Journal of Emerging Markets, 15* (2), 245–261.

Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and statistics, 61*(S1), 653-670.

Peres, M., Ameer, W. and Xu, H. (2018). The impact of institutional quality on foreign direct investment inflows: Evidence for developed and developing countries. *Economic Research-Ekonomska Istrazivanja, 31*(1), 626-644. https://doi.org/10.1080/1331677X.2018.1438906

Phillips, P. and Perron, P. (1988). Testing for a unit root in time series regressions. *Biometrika, 75*(2), 335-346.

Rodrı́guez-Pose, A., and 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.

Rodrik, D. (1999). Where did all the growth go? External shocks, social conflict, and growth collapses. *Journal of Economic Growth, 4*, 385-412.

Romer, P. (1993). Idea gaps in economic development. *Journal of Monetary Economics, 2*(3), 543-73.

Saad, A. F. (2021). "Institutional change in the global economy: How trade reform can be detrimental to welfare. *Economic Modelling, 95, 97*–110. https://doi.org/10.1016

Sabir, S., Rafique, A. and Abbas, K. (2019). Institutions and FDI: Evidence from developed and developing countries. *Financial Innovation, 5*(8), 2-20. https://doi.org/10.1186/s40854-019-0123-7

Saha, S., Sadekin, M. N. and Saha, S. K. (2022). Effects of institutional quality on foreign direct investment inflow in lower-middle income countries. *Heliyon, 8* (2022), e10828. https://doi.org/10.1016/j.heliyon.2022.e10828.

Saikkonen, P. (1992). Estimation and testing of cointegrated systems by an autoregressive approximation. *Econometric Theory, 8*(01), 1-27. doi:10.1017/S0266466600010720.

Stock, J. H. and M. W. Watson. (1993). A Simple Estimator of Cointegrating Vectors in Higher Order Integrated Systems.*Econometrica, 61*(4), 783–820. doi:10.2307/2951763.

Uddin, M., Chowdhury, A., Zafar, S., Shafique, S., and Liu, J. (2019). Institutional determinants of inward FDI: Evidence from Pakistan. *International Business Review, 28*(2), 344-358.

Ukwueze, E. R. and Aguegboh, E. S. (2018). Institutional determinants of economic growth in ECOWAS Sub-Region. *International Journal of Economics & Financial Issues, 8*(5), 75-79.