

**Foreign Direct Investment, Trade Openness and Economic Performance in Nigeria:  
Does Governance Quality Matter?**

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**Abstract**

The present study attempts to explore whether governance quality matters in the dynamic linkage between foreign direct investment, trade openness, and economic growth in the case of Nigeria. This study interacts foreign direct investment and trade openness with governance quality. The study shows that foreign direct investment interaction with governance quality failed to have a contagion effect on economic growth. Also, the trade-governance quality interaction demonstrates a deleterious effect on economic growth. Based on the signs and statistical significance, the study concludes that governance quality matters to the attraction of foreign direct investment and trade facilitation. Therefore, for Nigeria to attract significant capital inflows and trade flow, there is an urgent need to put in place necessary regulatory laws.

**Keywords:** foreign direct investment; trade openness; governance quality; economic performance; investment freedom; trade freedom

**JEL Classification Codes:** B15, B17, B22

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## **1. Introduction**

Economic integration has substantially accelerated due to structural and global developments, and this has greatly hastened the opening of newer markets (Saidi *et al.*, 2020). Following the modern transformation, Foreign Direct Investment (FDI) is regarded as one of the most important factors in a country's economic development (Zaman *et al.* 2021). To achieve stable economic performance, developing countries with a lack of capital rely on economically devolved nations for investment. The most exciting benefit of their business is that it allows developing nations to strengthen their fragile regions and create more expansive business opportunities (Zaman *et al.* 2021). This is possible through a variety of factors such as technology transfer, ripple effects, productivity gains, the introduction of new processes, and managerial skills (Bende-Nabende *et al.* 2003; Lee, 2013). These new technologies have opened up markets on a global scale, improved new investment opportunities for all economic stakeholders, and increased returns on investment and returns on value (Arvin, Pradhan & Nair, 2021). The scholars further allude that these developments could potentially increase global trade flows, foreign direct investment, and economic growth.

Nigeria is a member of several bilateral and multilateral organizations, which has aided her global integration efforts and facilitated foreign capital inflows into the domestic economy. Because of this, the economy has put in place several incentives and regulations to promote trade openness as a prelude to luring in much-needed FDI inflows for economic development (Dauda, 2007). According to World Bank Development Indicators (WDI) (2021), Nigeria attracted approximately \$89,570.52 million in FDI inflows with an average of 1.41 percent from 1996 to 2020. It is expected that these capital inflows will boost socio-economic activities; however, taking the trade as a percentage of GDP as an example, the average is 36.63 percent, which is far below expectations, especially when compared to countries such as South Africa, which has traded as a percentage of GDP at 51.59 percent, Egypt at 46.37 percent, Kenya at 48.89 percent, and Rwanda at 38.73 percent. In terms of economic performance, GDP growth averaged 4.87 percent, which is still below the level that can generate significant economic performance indicators and is one of the reasons why unemployment (percentage of the total labor force) and inflation averaged 5.00 percent and 12.21 percent, respectively.

Surprisingly, the Nigerian economy witnessed a significant appreciation of trade (percent GDP) and FDI (percent GDP) up until 2012 before it began trending downward from 44.53 percent, 1.55 percent (2012) to 25.39 percent and 0.55 percent (2020), while GDP growth fell from 4.23 percent to negative value of -1.79 percent, which is tagged recession episode. The implication is that each successive regime reduces trade appreciation and FDI inflows. Unumen and Oghi (2016) and Unumen (2014) raised concerns that Nigeria is still underdeveloped and that 68 percent of its people live below the US\$1.25 per day international poverty threshold (Anwana & Affia, 2018). Some of these development impediments can be attributed to poor government effectiveness (Yildirim & Gokalp, 2016; Epaphra & Kombe, 2018; Owasanoye, 2019; Sule, 2020). Despite the remarkable trends of ups and downs in Nigerian economic performance, it is undeniable that several economic policies, reforms, and programs that have been implemented may have influenced Nigerian economic performance, which is sensitive to the quality of the existing governance structure and institutional setting to sustain economic reforms.

It's quite intriguing that studies on FDI, trade openness, and economic performance have yielded contradictory conclusions. The question of whether the degree to which governance quality matters in the dynamics is sensitive to the governance structure interaction under consideration is still open because of their developmental stage, the econometric methods used,

and the different timeframes employed. The relationship between FDI, trade openness, and economic performance has been examined from a variety of angles by Urama *et al.* (2019), Abasimi and Li (2019), Abasimi, Agbassou, Zhang, and Li (2018), Ofori & Asumade (2017), Zaman *et al.* (2021), Otapo and Ushie, (2022), and Aigheyisi, (2022) but none of these studies included governance quality as an interacting variable in their models. The degree to which governance quality impacts economic performance differs under various governance structures available. To determine how trade openness and FDI inflows affect Nigeria's economic performance, this study connects these measures of governance quality using the ARDL bounds model on data covering 1992 to 2022.

This study is highly motivated to carry out more in-depth investigations into this phenomenon because existing research on FDI, TOP, and economic performance (e.g., Shahbaz *et al.* 2017; Saidi & Hammami, 2017; Samir & Meftteh, 2020) has been inconclusive due to their inability to use institutional quality as an interactive variable. This study aims to understand the dynamics of the linkages between foreign direct investment, trade openness, and economic performance in Nigeria with interaction with institutional quality.

The study is organized into five sections, the second of which includes a brief overview of the literature. The study's materials and methodology are covered in section three, and the results and analysis, as well as the conclusion and policy recommendations, are covered in sections four and five, respectively.

## **2. Methods**

The main estimation method used in the study was the Autoregressive Distributive Lag (ARDL) bounds testing approach to cointegration (Pesaran *et al.*, 2001) to interact governance quality variable on foreign direct investment (FDI), trade openness (TO), and economic performance. The study first started with the informal test of descriptive statistics and the preliminary Elliott-Rothenberg-Stock DF-GLS unit root test.

Three factors—technological development, labor, and capital—are identified under the Solow-Swan neoclassical growth model as being responsible for economic output (Solow, 1956; Swan, 1956). This is generally acknowledged in the literature, including governance effects on total factor productivity (TFP) based on the idea that institutions play a role in boosting technological efficiency (Vitola & Senfelde, 2015), which in turn influences the efficiency of investment. The following aggregate production function is used in the model, which assumes that each productive unit will consume the same amount of capital and labor:

$$Y = AK^{\alpha}L^{\beta} \quad (1)$$

Where GDP = real GDP A = total factor productivity K = Capital Stock L = Labour  $\alpha$  = elasticity of capital to output. We applied the logarithm function and we introduced an error term to make equation 1 linear. The equation takes this form:

$$\ln(Y) = \ln(A) + \alpha \ln(K) + \beta \ln(L) + \varepsilon \quad (2)$$

Where  $\alpha > 1$ ;  $\beta > 1$  and  $Y = \text{GDP}$

Based on the aforementioned theoretical foundation and empirical literature, we introduced governance quality (GOV) interacting with foreign direct investment, trade openness, and their corresponding impact on economic performance in our baseline model, which was inspired by the study of Zaman, Pinglu, Hussain, Ullah, and Qian (2021). The functional model is stated in equation (3) as follows:

$$GDP = f(FDI * GOV, TO * GOV, LAF, INV, IVF, TRF, REER, CPI) \quad (3)$$

Economic performance (GDP) is hypothesized as a function of a combination of FDI\*GOV, and TO\*GOV, alongside complementary variables of the labour force (LAF), investment (INV), investment freedom (IVF), trade freedom (TRF), the real effective exchange rate (REER) and consumer price index (CPI). The linear ARDL model of this study becomes as expressed in equation 4:

$$\begin{aligned} \Delta GDP_t = & \delta_0 + \delta_1 GDP_{t-1} + \delta_2 FDI * GOV_{t-1} + \delta_3 TO * GOV_{t-1} + \delta_4 INV_{t-1} + \delta_5 LABF_{t-1} \\ & + \delta_6 CPI_{t-1} + \delta_7 TRF_{t-1} + \delta_8 IVF_{t-1} + \delta_9 REER_{t-1} + \sum_{i=0}^p \varphi_1 \Delta GDP_{t-1} \\ & + \sum_{i=0}^q \varphi_2 \Delta FDI * GOV_{t-1} + \sum_{i=0}^q \varphi_3 \Delta TO * GO_{t-1} + \sum_{i=1}^q \varphi_4 \Delta INV_{t-0} \\ & + \sum_{i=1}^q \varphi_5 \Delta LABF_{t-0} + \sum_{i=1}^q \varphi_6 \Delta CPI_{t-0} + \sum_{i=1}^q \varphi_7 \Delta TRF_{t-0} + \sum_{i=1}^q \varphi_8 \Delta IVF_{t-0} \\ & + \sum_{i=1}^q \varphi_9 \Delta REER_{t-0} + \lambda ECM_{t-1} + \varepsilon_t \end{aligned} \quad (4)$$

where  $\delta_0$  the intercept term and  $\varepsilon$  is the white noise stochastic term, respectively, and  $\delta_1 - \delta_9$  are the long-run parameters, and  $\varphi_1 - \varphi_9$  are the short-run parameters;  $\ln$  is the natural logarithm of the variables,  $\Delta$  is the difference operator, and  $\lambda$  is the parameter of the error correction mechanism (ECM).

### 3. Data

The Central Bank of Nigeria statistical bulletin is the source of the gross domestic product (GDP) at current market prices (N'Billion) for economic performance, TO, which is the proportion of total trade to nominal GDP. The World Bank's development indicator is the source of the following data: FDI net inflows (BoP, current US\$), capital (INV) measured by gross fixed capital formation (constant 2015 US\$), the labour force (LABF) (thousand people), the real effective exchange rate (REER, Naira/US\$), and consumer price index (CPI, index) proxied for inflation. Also, governance quality measure by government effectiveness (GOV, index) is obtained from the World Governance Indicators database. In addition, trade freedom (TRF, index) and investment freedom (IVF, index) are retrieved from the global economy database. Note that TRF assesses the absence of tariffs and other barriers that hinder the exchange of goods and services internationally while IVF measures the restrictions to investment activity both within the country and across borders. The higher the index of TRF and IVF, the lesser/fewer the barriers and restrictions.

#### 4. Results

The preliminary and analytical analysis of the findings is presented in this section following the objective of the study.

**Table 1: Descriptive/Summary Statistics**

	GDP	FDI	TO	LABF	INV	IVF	TRF	REER	CPI	GOV
Mean	55651.18	3275.45	35.59	49509.89	61743.43	46.32	54.89	111.77	110.49	-1.01
Std. Dev.	57486.83	2572.95	10.29	9648.21	8641.16	12.42	10.76	48.91	106.04	0.11
N_Std. Dev.	1.03	0.79	0.29	0.19	0.14	0.27	0.20	0.44	0.96	-0.10
Skewness	0.89	0.77	-0.28	0.00	0.30	0.75	-0.55	1.82	1.18	0.08
Kurtosis	2.57	2.46	2.39	1.85	2.01	2.82	2.30	6.28	3.40	2.70
Jarque-Bera	4.28	3.41	0.87	1.71	1.73	2.94	2.18	31.06	7.35	0.14
Probability	0.12	0.18	0.65	0.43	0.42	0.23	0.34	0.00	0.03	0.93

**Source:** *Extract from E-view 11 Output*

For the period under consideration, the average GDP is roughly ₦55651.180 billion with a computed standard deviation of 1.03. The average FDI stood at \$ 3275.45 million, TO at 35.59 percent, while the computed standard deviation was at 0.79 percent and 0.29 percent. Both FDI and TO exhibit low volatility. Labour force (LABF) and investment (INV) average 49509.89 and \$ 61743.43 million with computed standard deviations of 0.19 and 0.14 respectively. For investment freedom and trade freedom, the average is 46.32 and 54.89 while REER and CPI average mean values are 111.77 and 110.49 with computed standard deviations are 0.27, 0.20, 0.44, and 0.96. The governance quality (GOV) exhibited an average mean of -1.01 with a low computed standard deviation of -0.10. Except for TO and TRF, every other variable (GDP, FDI, LABF, INV, IVF, REER, CPI, and GOV) is positively skewed. The series of GDP, FDI, TO, LABF, INV, IVF, TRF, and GOV are platykurtic, with kurtosis values less than 3, but the series of REER and CPI are leptokurtic, with kurtosis values above 3, demonstrating the validity of normally distributed variables.

**Table 2: Elliott-Rothenberg-Stock DF-GLS test statistic**

Variables	@Level	P-Value	@1 <sup>st</sup> Diff.	P-Value	Order of Integration
GDP	-2.710796***	0.0113	-	-	I(0)
FDI	-0.859020	0.4005	-2.086759**	0.0493	I(1)
TO	-2.928438***	0.0067	-	-	I(0)
INV	-0.451825	0.6553	-8.820269***	0.0000	I(1)
LABF	0.100859	0.9204	-3.905270***	0.0005	I(1)
GOV	-2.409055**	0.0228	-	-	I(0)
TRF	-1.234036	0.2271	-7.946428***	0.0000	I(1)
IVF	-3.135616**	0.0060	-	-	I(0)
CPI	0.484065	0.6324	-4.790904***	0.0001	I(1)
REER	-2.135405**	0.0413	-	-	I(0)

**Source:** *Extract from E-view 11 Output*

Note: \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5% and 10%, respectively.

The result of the Elliott-Rothenberg-Stock DF-GLS unit root test statistic display stationary series of GDP, TO, GOV, IVF, and REER at level [i.e., I(0)] while FDI, INV, LABF, TRF, and CPI achieve stationarity at first difference [i.e., I(1)].

**Table 3: The Results of the ARDL cointegration test**

Diagnostic tests					
Estimated Model	Optimal lag length	F-Statistics	R <sup>2</sup>	Ajd-R <sup>2</sup>	D.W test
GDP <sub>t</sub> =f(FDI <sub>t</sub> *GOV TO <sub>t</sub> *GOV INV <sub>t</sub> , LABF <sub>t</sub> , TRF <sub>t</sub> , IVF <sub>t</sub> , CPI <sub>t</sub> , REER <sub>t</sub> )	1, 0, 0, 0, 0, 1, 0, 0, 1	48.88543	0.886353	0.877935	2.364831
CointEq(-1)*		-0.402165	0.014851	-27.07917	0.0000
Bounds testing to cointegration					
Significant Level	Critical Values				
	Lower bounds I(0)		Upper bounds(I(1))		
1% level	2.62		3.77		
5% level	2.11		3.15		
10% level	1.85		2.85		
Post-Estimation Results					
Linearity test	Autocorrelation test		Heteroscedasticity test		
Ramsey RESET	LM Test		Breusch-Pagan-Godfrey		
0.003654 (0.9525)	0.490408 (0.6213)		0.398256 (0.9389)		

**Source:** *Extract from E-view 11 Output*

Since this study is an impact analysis, the Schwarz information criterion (1, 0, 0, 0, 1, 0, 0, 1), as shown in Table 3, is the appropriate lag selection criterion. The findings in Table 3 showed that our computed F-statistics (48.88543) is more than the lower and upper bounds at 5% produced by Pesaran et al. in 2001, indicating the presence of cointegration. This means that strong cointegration exists amongst the eight explanatory variables of interest. This, therefore, implies that the interpretation of the level equation, which represents the long-run equation is relevant to this work. Haven't demonstrated the existence of correlation with the variables considered in the models, long-run dynamics can be evaluated, after ascertaining the appropriate lag.

Also, Table 3 holds the Error Correction Term (ECT), which has a value of -0.40 or 40%, and may be quickly observed to be substantial and negative. Accordingly, if there is a short-term disturbance, the balance can be regained by 40% in the current year. The strong adjusted R-squared revealed that the variable in the model accounts for 87% of the fluctuations that may be explained, which means that the remaining 13% of the explanations for the economic growth come from additional explanatory factors. The Durbin Watson Stat of 2.36, which is reinforced by the F-Statistic of 0.49 and Probability of 0.62 of the Breusch- Godfrey Serial Correlation LM test, do reveal that the disturbance terms of the succeeding periods are mutually independent of each other. The Breusch-Pagan-Godfrey test for Heteroskedasticity with an F-Statistic of 0.39 and Probability of 0.93 showed that the results meet the Ordinary Least Square Assumptions of constant variance of the disturbance term. The null hypothesis of linearity is maintained and the model has appropriately stated as the Linearity RESET test verifies that the model is stable.

**Table 4: Short-run and Long run estimates**

<b>Panel A</b>		<b>Short run Estimates</b>			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	32.410	11.324	2.862	0.0104	
$\Delta GDP(-1) *$	-0.402	0.074	-5.414	0.0000	
$\Delta FDI * GOV_{t-1}$	0.0001	0.015	0.054	0.9574	
$\Delta TO * GOV_{t-1}$	-0.002	0.0011	-2.045	0.0557	
$\Delta INV_{t-1}$	-0.017	0.114	-0.146	0.8855	
$\Delta LABF_{t-1}$	-1.863	0.653	-2.853	0.0106	
$\Delta TRF_{t-1}$	0.007	0.003	2.372	0.0290	
$\Delta IVF_{t-1}$	-0.006	0.002	-3.712	0.0016	
$\Delta CPI_{t-1}$	0.778	0.137	5.661	0.0000	
$\Delta REER_{t-1}$	-0.227	0.056	-4.035	0.0008	
<b>Panel B</b>		<b>Long run Estimates</b>			
$FDI * GOV$	0.002	0.038	0.054	0.9575	
$TO * GOV$	-0.005	0.003	-2.063	0.0538	
$INV$	-0.041	0.285	-0.145	0.8862	
$LABF$	-4.633	1.865	-2.484	0.0230	
$TRF$	0.017	0.007	2.395	0.0277	
$IVF$	-0.015	0.004	-3.912	0.0010	
$CPI$	1.934	0.297	6.519	0.0000	
$REER$	-0.564	0.172	-3.279	0.0042	

**Source:** *Extract from E-view 11 Output*

In line with the conclusions of Su et al. (2019), and Zaman et al., (2021), the results in Table 4 show that the interaction between foreign direct investment and government effectiveness (FDI\*GOV) does not have a contagion effect on economic performance both in the short run and long run. However, the estimates are statistically insignificant. In terms of magnitude, it is quite negligible and portends that the current interaction between FDI and GOV is not substantial to drive more economic performance. Yet, the interplay of trade openness and government effectiveness (TO\*GOV) hurts economic growth over the long and short terms. Importantly, the estimates are both significant at 5per cent level but the elasticity is also negligible. This is in line with the finding of Zahanogo (2017), Sule (2020), Malefane and Odhiambo (2021), Zaman *et al.* (2021), and Wani (2022) but contrary to the outcome of Keho (2017), Egbulonu and Ezeocha (2018), Su *et al.* (2019), Tahir and Hayat (2020), Kong et al. (2021). This study's findings may be related to the prior claim that poor infrastructure and governance structures, as well as inadequate human capital development, all negatively affect trade's ability to promote growth (Zahanogo, 2017, Su et al. 2019; Adegboye et al. 2020; Malefane & Odhiambo, 2021). Only the labour force was statistically significant among the complementary variables of investment and labour force that hurt economic growth over the long and short terms. Also, the negative effect of investment on growth might be associated with the adverse effect of investment freedom to grow. Trade freedom score exerts a positive significant effect on growth but failed to translate to a positive impact in the TO\*GOV interaction. While real effective exchange indicates a negative significant impact on GDP, the consumer price index, which is used as a proxy for inflation, shows a consistent and substantial influence on growth.

## **5. Concluding Remarks**

The present study attempts to explore whether quality institutions matter in the dynamic linkage between foreign direct investment, trade openness, and economic growth in the case of Nigeria. Following the first hypothesis relating to FDI and economic performance, the interactive results demonstrate that the interaction between FDI and governance quality did not have a domino effect on economic growth. However, the association between trade openness and governance quality shows a detrimental effect on economic growth. The results show that the benefits of trade to various economic spheres are seriously threatened and may obstruct the implementation of the Africa continental free trade agreement, to which Nigeria is a major signatory. The overall outcomes of this study conform with cross-country and specific analysis and this implies that governance quality matters to foreign investment attraction and trade integration/facilitation, thus foreign investors and trading partners consider quality institutions. This study emphasized the need for the government and relevant stakeholders to collaborate and put in place necessary and flexible regulatory laws that can serve as a guarantee of capital investment thereby facilitating capital inflows and trading activities into the Nigerian economy.

**Funding:** This study received no specific financial support.

**Conflicting Interests:** The authors declare that they have no competing interests.

**Disclaimer:** The expressions and outcomes do not represent the position of the CBN but those of the authors.



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