



Does institutional quality play any moderating role on aid-growth nexus in Nigeria?

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Abstract

This study investigates the moderating role of institutional quality in the relationship between foreign aid and economic growth in Nigeria. Despite substantial inflows of Official Development Assistance (ODA), Nigeria continues to experience poor macroeconomic performance, raising concerns about the effectiveness of aid in promoting growth. The study is anchored on the two-gap model, which posits that foreign aid can bridge savings and foreign exchange constraints in developing economies, while incorporating institutional quality as a conditioning factor. Using annual data from 1984 to 2024 sourced from the World Development Indicators (WDI) and World Governance Indicators (WGI), the study employs the Autoregressive Distributed Lag (ARDL) approach to examine both short-run and long-run dynamics. Empirical findings reveal that foreign aid exerts a positive but statistically insignificant contemporaneous effect on economic growth; however, its cumulative impact is negative and significant, indicating inefficiencies in utilization. Institutional quality also shows a negative and significant effect, reflecting weak governance structures. Crucially, the interaction between foreign aid and institutional quality is negative and significant, suggesting that poor institutional frameworks undermine the growth-enhancing potential of aid. It recommends strengthening governance, transparency, and accountability to ensure efficient utilization of aid and improved economic outcomes.

Keywords: ARDL model, Economic growth, Foreign aid, Institutional quality, Long run, and Nigeria.

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Contribution of this paper to the literature

This paper contributes to literature by simply analyzing the moderating role of institutional quality on the foreign aid-economic growth nexus in Nigeria in order to ascertain whether institutions play a positive or negative and significant role in this relationship.

1. Introduction

Foreign aid, also known as official development assistance (ODA), continues to serve as a support system for the growth processes of many economies and remains a topic of debate among researchers and citizens. Globally, foreign aid provides assistance to developing countries in need of support for welfare and social infrastructure such as water supply, education, health, sanitation, security, and transportation, among others. The goal is to improve human development and promote sustainable economic growth (Arshad, Zaid, & Latif, 2014; Fasanya & Onakoya, 2012; Fashina, Asaleye, Ogunjobi, & Lawal, 2018; Kolawole, 2013; Maria & Ezenekwe, 2015; Yiew & Lau, 2018). According to the United Nations (2015), ODA is expected to reduce extreme poverty.

Fortunately, previous data from developing countries have shown that global extreme poverty reduced from 1,926 million in 1990 to 836 million in 2018. Also, ODA ensured the successful enrollment of about 91% of children in primary education in developing countries. In addition, it increased literacy rates from 83% in 1990 to 91% in 2018 (United Nations, 2015; Yiew & Lau, 2018). In the same vein, Rahman (2008) earlier reported that aid remains an effective tool in some countries such as Uganda and Vietnam in the 1990s, Bolivia and Ghana in the 1980s, Indonesia in the 1970s, and Botswana in the 1960s, in raising standards of living and supporting economic growth, while some other developing countries like Nigeria have continued to witness low levels of income, high unemployment, very low industrial capacity utilization, and high poverty levels.

However, it is still believed that aid could be a viable option in addressing macroeconomic and social problems, as it helps to augment a country’s meager domestic resources. While some countries that have benefited from foreign assistance at one time or another have grown to the point of becoming aid donors (South Korea, North Korea, China, and Japan, among others), most countries in Africa, like Nigeria, have remained controversial in their use of such aid and its effect on their growth, with persistent economic and social problems.

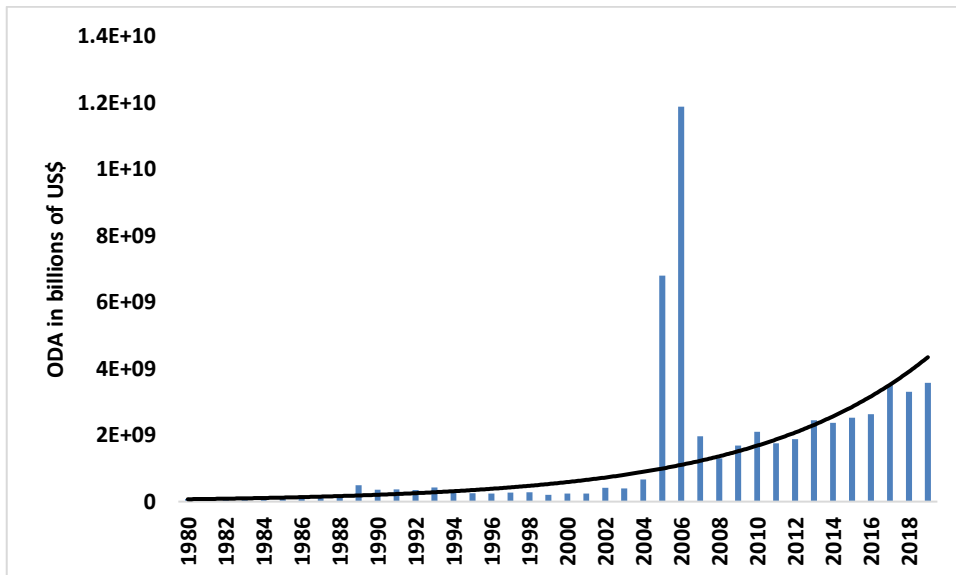


Figure 1. Trend of Nigeria's received official development assistance since 1980.

Source: World Bank (2024).

Evidently, Figure 1 shows that Nigeria has benefited from aid from other countries over the years. In fact, between 2005 and 2007, Nigeria received the most foreign assistance.

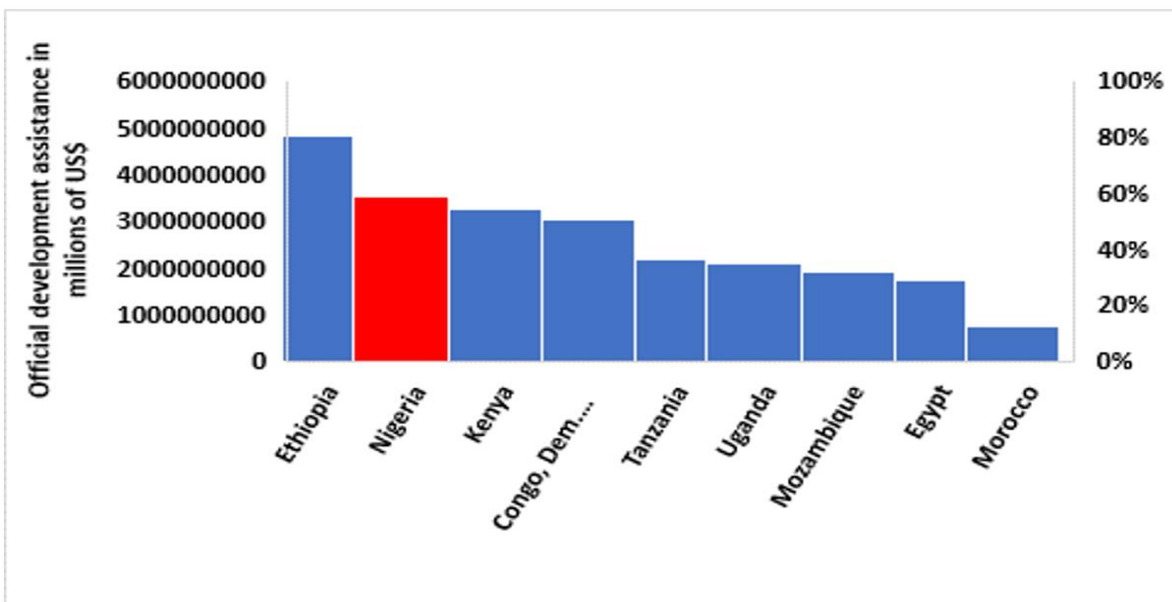


Figure 2. How Nigeria compares among other Africa's top foreign aid recipients.

Source: World Bank (2024).

The figure above shows that Nigeria ranks second among Africa's top foreign aid recipients after Ethiopia. Despite this, key macroeconomic indicators such as per capita income performance remain dismal (see Figure 3).

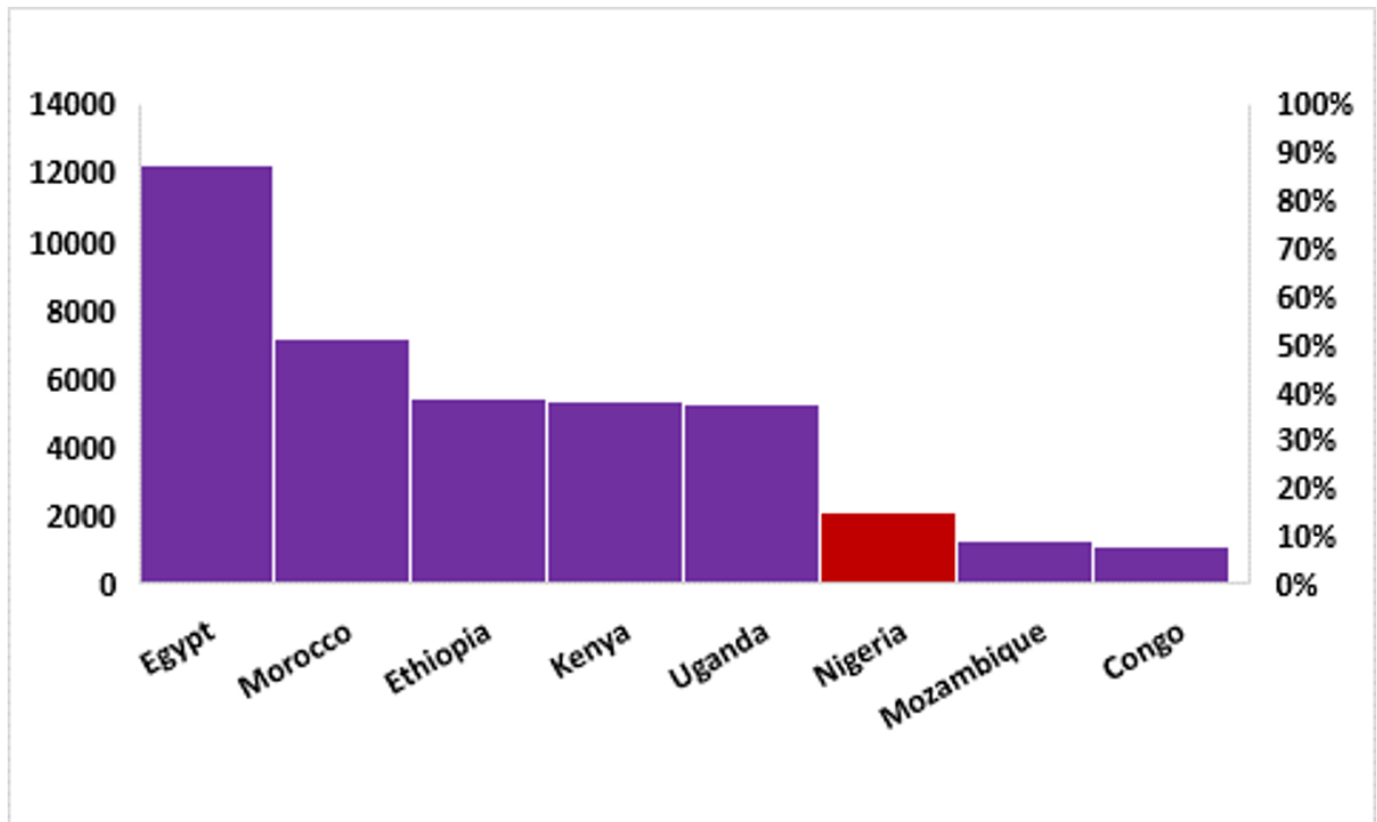


Figure 3. Comparing Nigeria's income per capita with other Africa's top aid recipients.

Source: World Bank (2024).

While there could be many factors explaining these, the poor institutional framework could raise a concern (Fasanya & Onakoya, 2012; Saibu & Obioesio, 2017). Despite this, Olofin (2013) pointed out that Western donors provided about \$4.14 trillion, more than seven times Nigeria's GDP in 2014, in aid to developing countries. These flows are supplemented by support from non-governmental organizations, private charities, and new donor countries. Yet, in many developing countries like Nigeria, poverty remains widespread, and underdevelopment persists.

Nevertheless, several countries in the world still participate in the process of foreign aid either as donors, recipients, or both donors and recipients. However, the impact of foreign aid in donor and recipient countries is largely unsettled in theory and data analysis, and this is due to the various arguments for and against the benefits of foreign aid (Khan & Ahmed, 2007). There is the expectation that foreign aid could translate to economic growth since it complements national resources as well as provides additional financial resources, which assist in a country's economic growth and development. Conversely, some argue that foreign aid can replace national savings and promote aid dependency, which may hinder growth and development.

According to Bräutigam and Knack (2004), foreign aid promotes aid dependency while serving as a side source of income to political elites who use the development fund provided to ensure their dominance in the political and economic scene. Lyons (2014) pointed out that in Africa, foreign aid has been used to foster the interests of influential elites instead of being used to develop the economy due to weak institutional frameworks. Therefore, it has been perceived that foreign aid in Africa remains highly ineffective owing to poor governance. Easterly (2006), Stevenson (2006), Maria and Ezenekwe (2015), Yiew and Lau (2018) and, Olofin (2013) clearly noted that the foreign aid which took effect in 1947 after World War II (WWII), with the institution of the Marshall Plan by the United States to assist in rebuilding Europe from WWII devastation, was later extended to developing countries. However, the version provided for poor countries has been understood by some scholars to be arduous. No doubt, Easterly (2006) branded the aid "white man's burden," as it is believed to be derived from the West's self-pleasing fantasy that they are the ones chosen to save the rest. According to Easterly (2006), even though developed countries became developed without any assistance, developing countries cannot do the same.

The summary of Easterly's (2006) argument is that aid has done more harm than good, as substantial evidence shows that foreign aid programs hinder countries and create dependency (Bräutigam & Knack, 2004; Burnside & Dollar, 2000). Bräutigam and Knack (2004) believe Easterly's views are logical, especially since many African countries cannot perform basic functions such as establishing or maintaining structures or providing essential public services and infrastructure without foreign aid. Most items in these countries' annual budgets go unfulfilled due to over-dependency and under-utilization of aid, which is often linked to corruption and poor governance (Bräutigam & Knack, 2004). In Nigeria, the case is not different from what has been noticed with other aid recipients. The performance of key macroeconomic and social indicators remains dismal despite the continuous inflow of aid (Figures 1, 2 & 3). Obviously, poverty still ravages majority of the country's populace as income per capita remains very low (Figure 3). There are notions that the country's quality of institutions could be culpable.

Quality of institutions, which in recent times has been believed to be a propelling force for better economic performance (Abubakar, 2020), was first discussed in North (1990), and since then, there has been extensive literature on its effectiveness. Kormendi and Meguire (1985) and Tullock (1987) reveal that countries with a sound quality of institutions experience optimal resource allocation and utilization. The Organisation for Economic Co-operation and Development (2001) pointed out that institutional performance largely influences the use of scarce resources. Stiglitz (2001) is prominent in arguments for strong institutional quality for growth and development.

Additionally, studies such as Thorbecke (2013), Iheonu, Ihedimma, and Onwuanaku (2017), and Parks, Buntaine, and Buch (2017) have emphasized strong institutional quality for sustainable growth and development. This is because it is believed that foreign aid is often misused by bureaucratic and corrupt governments. Institutional quality in Nigeria has been characterized as poor and weak, with no clearly defined property rights, manipulation of the judiciary, corruption, bribery, tax evasion, little or no regard for the rule of law, and poor regulatory quality (Iheonu et al., 2017). The unattractive nature of institutions in Nigeria (Figure 4) and the crucial role they are believed to play in a country's development make it plausible to reason that the huge waste of scarce economic resources, such as foreign aid, may be connected to the country's poor institutional quality.

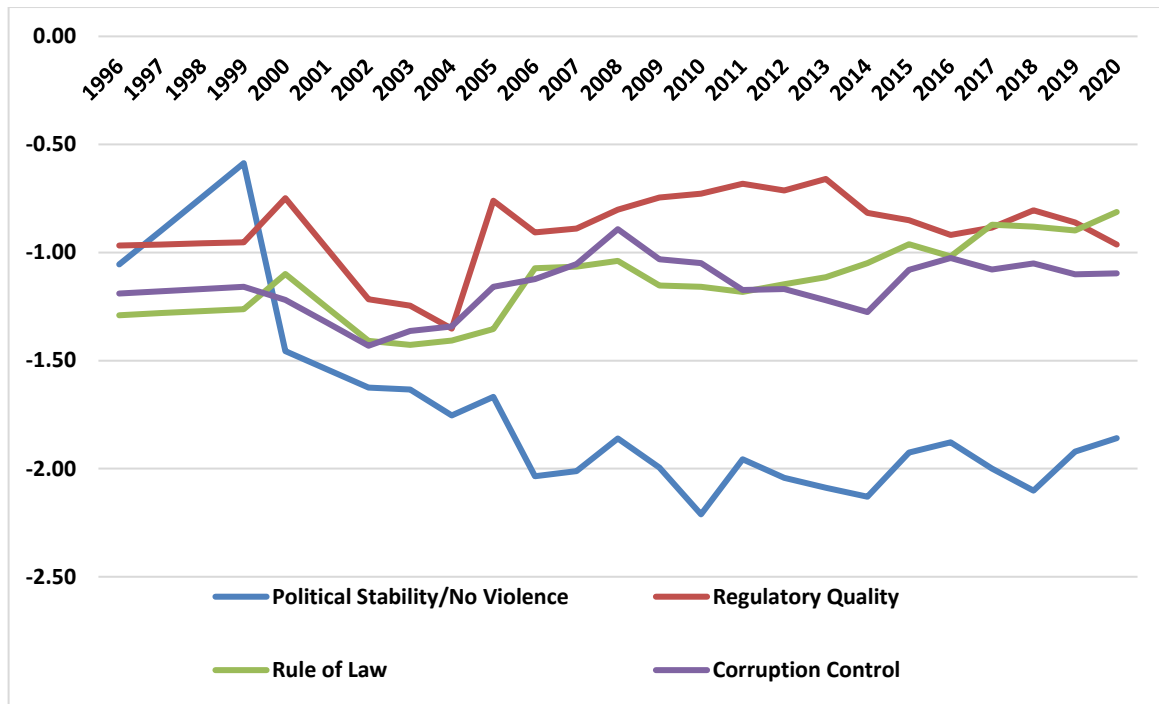


Figure 4. Trend of Nigeria's institutional quality indicators.

Source: World Bank (2024).

Figure 4 is a visualization of Nigeria's institutional factors trend, which shows estimates ranging from -2.5 to 2.5. The former indicates a failed institutional framework, while the latter suggests a good one. According to Figure 4, all institutional quality indicators for Nigeria are in the negative zone, below zero, indicating poor institutional quality. It is quite difficult to determine what exactly causes Nigeria's weak institutional framework (Kilishi, Mobolaji, Yaru, & Yakubu, 2013) despite efforts by successive governments. To address institutional decay, the Code of Conduct Bureau (CCB), Corrupt Practices Investigation Bureau (CPIB), and Public Complaints Commission (PCC) were established in 1979. Further efforts were made after Nigeria adopted democracy in 1999, leading to the creation of additional anti-corruption agencies. For example, in 2000, the Independent Corrupt Practices Commission (ICPC) was established; in 2004, the Economic and Financial Crimes Commission (EFCC) and Nigerian Financial Intelligence Unit (NFIU) were created; and in 2007, the Fiscal Responsibility Commission (FRC) was formed. These agencies aim to combat corruption and promote prudence and accountability in resource allocation and utilization, which should contribute to sustainable economic growth and development (Abubakar, 2020).

Nigeria, on the other hand, has continued to benefit from international development as it receives foreign assistance (Figure 1) and still receives as much as it did in the early 1980s, ranking highest among Africa's top foreign aid recipients except for Ethiopia (Figure 2). However, despite the continuous inflow of aid and the country's vast oil and natural endowments, there remains significant wealth inequality, low per capita income, and over 60 million people living below the national poverty line (World Bank, 2024). Life expectancy is relatively low at 49 years in 2019, with a high infant mortality rate of 100 child deaths per 1,000 live births, a low literacy rate where only 44% of children attend secondary school, and a high death rate from malaria (World Bank, 2024).

In addition, the unemployment rate has been on the rise, coupled with very low industrial capacity utilization. The dismal situations have raised serious concerns, while some scholars blame it on the country's overdependence on foreign aid. Others believe that the country's institutional quality remains culpable, as it is often linked with corruption and poor governance (Bräutigam & Knack, 2004). The quality of institutions is believed to be a driving force for better economic performance (Abubakar, 2020), and Kormendi and Meguire (1985), Tullock (1987) argued that countries with sound institutional quality experience optimal resource allocation and utilization. The Organisation for Economic Co-operation and Development (2001) pointed out that institutional performance largely influences the use of scarce resources, while Stiglitz (2001), Thorbecke (2013), Iheonu et al. (2017), and Parks et al. (2017) emphasize strong institutional quality for sustainable growth and development, as it is believed that foreign aid is often misused under bureaucratic and corrupt governments.

Unfortunately, despite the establishment of anti-corruption agencies such as CCB, CPIB, PCC, ICPC, EFCC, NFIU, and FRC, the quality of institutions is still characterized as poor and weak (Figure 4) with no clearly defined property rights, manipulation of the judiciary, corruption, bribery, tax evasion, little or no regard for the rule of law, and poor regulatory quality. All the institutional quality indicators for Nigeria lie in the negative zone, implying a deterioration in institutional quality. It is, however, pretty difficult to trace what is actually responsible for the poor institutional framework. The weak nature of the country's institutional framework could be linked to the huge wastage of foreign aid and scarce resources. However, there is no clear consensus on the role of institutions in the foreign aid and economic growth nexus in Nigeria due to a dearth of credible empirical evidence on the account, hence making a study such as this sacrosanct.

2. Review of Literature

Various literature was reviewed extensively under two headings: foreign aid and economic growth, and institutional quality and economic growth.

2.1. Foreign Aid and Economic Growth

Several studies, such as Tadesse (2011), Salisu and Ogwumike (2010), Kargbo (2012), Ojiambo (2013), Hossain (2014), Trinh (2014), and Ojiambo and Ocharo (2016), found a positive and significant impact of foreign aid on economic growth using different methodologies or techniques both within and across countries. Conversely, other studies, including Bakare (2011), Abera, Debele, and Wegary (2017), and Dreher and Langlotz (2015), found a negative and significant impact of foreign aid on economic growth using various methodologies. Additionally, some studies showed mixed outcomes (Ekanayake & Chatrna, 2010; Ojiambo, Oduor, Mburu, & Wawire, 2015) while Chamlagai (2015) found no significant impact. It is also noteworthy that some empirical findings employing ARDL estimation found a positive relationship in either the short run or long run, while others identified a negative and significant relationship.

2.2. Institutional Quality and Economic Growth

Several studies conducted both within and outside the country have examined this aspect, yielding different outcomes. Some found a positive impact of institutional quality on economic growth, while others found a negative impact, no impact, or mixed results. Studies reporting a positive and significant relationship include (Abubakar, 2020; Dandume, 2013; Iheonu et al., 2017; Kilishi et al., 2013; Nguyen, Su, & Nguyen, 2018; Olayungbo & Adediran, 2017; Radzeviča, Bulderberga, & Krasnopjorovs, 2018; Udah & Ayara, 2014; Valeriani & Peluso, 2011; Yıldırım & Gökalp, 2016; Yusuf & Malarvizhi, 2014). Conversely, authors like Ogbuabor, Omigbo, Orji, and Anthony-Orji (2020); Izilein and Mohammed (2017) and Alexiou, Tsaliki, and Osman (2014) found a negative and significant impact using different techniques. Other authors, such as Dandume (2013) and Butkiewicz and Yanikkaya (2006), also found a mixed outcome; Okoi and Bassey (2015) found no impact.

However, the only and most recent study that examined the moderating effect of institutional quality on the impact of foreign aid on economic growth, though different in scope, measurement, and technique, was conducted by Ogbonna, Nwosu, and Okoye (2021). In their study, they examined how the institutional quality variable moderates the impact of foreign aid on economic growth in Africa through an interaction term using a system generalized method of moments estimation technique. The results show that for foreign aid to contribute meaningfully to economic growth, the quality of institutions must improve beyond a certain threshold. This study will differ from the above in scope, measurement, and estimation technique, and therefore, the gap.

3. Methodology

3.1. Theoretical Framework

This study employs a dynamic estimation technique to address its objectives and hypotheses. The framework is based on the theoretical argument that aid can promote economic development, hence the nomenclature, the 2-gap model (McKinnon, 1964). It suggests that development may be hindered in developing countries by two gaps: the savings gap and the foreign exchange gap. The savings gap results from low domestic savings, which is common in developing countries. The 2-gap model is similar to the original Harrod-Domar model, indicating that investment is limited by insufficient domestic savings or limited foreign exchange needed to import capital goods. This study modifies the theory to incorporate institutional quality. The autoregressive distributed lag (ARDL) model, developed by Pesaran, Shin, and Smith (2001), is used to achieve the study's objectives. The ARDL model is one of the most flexible dynamic models, starting from general to specific. According to Ghouse, Khan, and Rehman (2018), it can address key econometric issues such as model misspecification, missing variables (especially lagged values), spurious regression, and serial correlation, producing more accurate and interpretable results.

3.2. Model Specification

A simple ARDL (1,1) model is given below.

$$y_t = \vartheta + \phi y_{t-1} + \rho_0 x_t + \rho_1 x_{t-1} + \mu_t \quad (1)$$

Equation 1 can be estimated with a T sample of observations and $T - \max(1,1)$ provided the error term, μ_t . It is believed to be a white noise that is $\mu_t \sim iid(0, \delta^2)$. Alternatively, that the μ_t is stationary and at the same time independent of y_t, y_{t-1}, x_t and x_{t-1} .

The model for the objectives takes the functional form:

$$lngdp_t = f(oda, iq, oda * iq, ms, rem, inf, fdi)_t \quad (2)$$

From Equation 2, $\Delta LNGDP = \log$ of growth rate of GDP, ODA=Official development assistance, which is a proxy for foreign aid, IQ=Institutional quality index, ODA*IQ=Interaction term of foreign aid and institutional quality index, MS=Money supply, INF=Inflation, FDI=Foreign direct investment. The inclusion of these variables aligns with economic theories and literature. As previously stated, this study employs the ARDL estimation technique to achieve its objectives. The ARDL ECM for short-run and long-run dynamics is specified as follows:

$$\begin{aligned} \Delta lngdp_t = & \beta_0 + \beta_1 lngdp_{t-1} + \beta_2 lnoda_{t-1} + \beta_3 iq_{t-1} + \beta_4 lnoda * iq_{t-1} + \beta_5 lnms_{t-1} + \beta_6 lnrem_{t-1} + \\ & \beta_7 lninf_{t-1} + \beta_8 fdi_{t-1} + \sum_{i=1}^q \delta_i \Delta lngdp_{t-i} + \sum_{i=1}^q \varphi_i \Delta oda_{t-i} + \sum_{i=1}^q \theta_i \Delta iq_{t-i} + \sum_{i=1}^q \vartheta_i \Delta lnoda * iq_{t-i} + \\ & \sum_{i=1}^q \vartheta_i \Delta lnMS_{t-i} + \sum_{i=1}^q \delta_i \Delta lnrem_{t-i} + \sum_{i=1}^q \varphi_i \Delta inf_{t-i} + \sum_{i=1}^q \theta_i \Delta lnfdi_{t-i} + \varepsilon_t \quad (3) \end{aligned}$$

The short and long-run relationships are confirmed from the models above, while the variables in the models remain as previously described. The order of the ARDL models is represented: (p, q) . The subscripts i and t denote lags and time, respectively. The term ε_t is the well-behaved error term.

The ARDL bounds test incorporated in the models mentioned above was developed by Pesaran et al. (2001) and is a new method for ascertaining the cointegration/long-run relationship among variables. The ARDL bounds test is performed in two ways: either by the F-statistic or by the Wald test to determine whether the lagged coefficients are significant. It is held that, with small sample data, the ARDL remains efficient. The steps of the ARDL bounds testing are primarily to determine the long-run relationship among the variables using either the F-statistic or the Wald test. The Wald test involves equating all lagged variables' coefficients in the models above to zero. The F-statistic from the estimated model is compared with Pesaran et al. (2001) table's bounds critical values, which include upper and lower bounds at 1%, 5%, and 10% levels of significance.

The null hypothesis of no cointegration is rejected if the estimated F-statistic value exceeds the upper and lower bounds of the critical values. The decision on cointegration becomes inconclusive when the estimated F-statistic falls between the bounds. However, the null hypothesis of no cointegration is not rejected if the F-statistic is below the bounds.

3.3. Definition of Variables and Sources

This section presents the variables and their sources. Table 1 shows the variable names in column 1, short descriptions in column 2, and the data source for each variable in column 3.

Table 1. Variables, description and sources.

Variable	Description	Source
Gross domestic product	Gross domestic product, which proxies economic growth, refers to the increase in the market value of all final goods and services produced in an economy over time. It also refers to growth in both social and economic activities. It is usually measured as the percent rate of increase in real gross domestic product.	World Bank (2024)
Foreign aid	Foreign aid refers to the voluntary transfer of resources from one country to another. This transfer includes any flow of capital and is expected to positively relate to economic growth.	World Bank (2024)
Institutional Quality	Institutions can be seen as a set of guidelines to govern and direct the actions and inactions of humans. According to North (1990), institutions are those rules that govern society. To measure institutional quality, the Freedom House governance index was employed.	World Bank (2024)
Money supply	Money supply refers to the total quantity of money, such as cash, coins, and balances in bank accounts, that is in circulation. It is commonly known as a group of safe assets that households and businesses can use for transactions, make payments, or hold as short-term investments.	World Bank (2024)
Inflation rate	The inflation rate is a sustained increase in the general price levels of goods and services in an economy over time. Inflation indicates a fall in the purchasing power per unit of money in the economy.	World Bank (2024)
Remittances	Remittances are funds transferred from migrants to their home country. They are private savings made by workers abroad and spent in the home country. It is believed that they can drive the home country's economy.	World Bank (2024)
Foreign Direct Investment	Foreign direct investment (FDI) is an investment from a party in one country into a business in another country with the purpose of operating for profit. The FDI provides an opportunity to earn foreign reserves through investments and foreign aid from other countries, especially advanced nations. The positive spillover effect is evident in the transfer of innovations and inventions to the host country.	World Bank (2024)

4. Results and Discussions

The ADF's unit root test results shown in Table 2 indicate that all variables except foreign aid (ODA) and inflation rate (INF) are stationary at first difference I(1), while ODA and INF are stationary at the level. This outcome aligns with the conditions for using the ARDL estimation technique.

Table 3 shows the descriptive statistics of the variables in the model. It shows the mean, median, maximum, minimum, and standard deviation of individual variables. The ODA has the highest value of 31.65E+11 as the maximum between 1980 and 2020 and the minimum value of 8.43E+09, with a mean value and standard deviation of 17.37E+10 and 4.92E+10, respectively. In the same vein, gross domestic product (GDP) averaged 5.04E+10 approximately between 1980 and 2020, with a median value of 3.70E+10. It recorded an all-time high and low of 1.47E+11 and 1.23E+10, respectively, with a standard deviation of 3.37E+09. Institutional quality (IQ) averaged about 1.2 between 1980 and 2020, with a median of 1.00. Its all-time maximum and minimum values are 2.00 and 1.00, respectively, with a standard deviation of 0.55.

Table 2. ADF unit root test results.

Variable	ADF Test Stat at Level	5% Critical Value	ADF Test Stat at 1st Diff	5% Critical Value	Order of Integration
GDP	-1.721	-2.937	-7.501	-2.939	I(1)
ODA	-3.054	-2.937	-6.112	-2.939	I(0)
IQ	0.206	-2.943	-4.270	-2.943	I(1)
REM	-2.270	-2.939	-5.561	-2.943	I(1)
MS	5.228	-2.937	-3.011	-1.950	I(1)
INF	-2.390	-2.937	-5.422	-2.941	I(0)
FDI	0.544	-2.943	-5.053	-2.943	I(1)

Table 3. Descriptive statistics.

Statistics	REM	IQ	GDP	INF	MS	ODA	FDI
Mean	407.550	1.210	5.04E+10	9.355	7.65E+12	17.37E+10	2.12E+10
Median	391.843	1.000	3.70E+10	8.235	1.04E+12	16.93E+10	1.48E+10
Maximum	515.810	2.000	1.47E+11	19.626	3.86E+13	31.65E+11	5.48E+10
Minimum	361.968	1.000	1.23E+10	4.958	1.44E+10	8.43E+09	5.10E+09
Std.Dev.	413.347	0.557	3.37E+10	3.526	1.14E+13	4.92E+10	1.42E+10
Observations	41	41	41	41	41	41	41

Table 4. ARDL bounds test.

Significance level	Lower bound value	Upper bound value
10%	1.92	2.89
5%	2.17	3.21
1%	2.73	3.51

Note: Computed F-statistic: 3.869; K=7 (Significant at 10%, 5%, and 1% significance level with critical values: 1.92, 2.17, and 2.73 as lower bound values, and 2.89, 3.21, and 3.51 as upper bound values).

Table 4 presents the result of the ARDL bounds test for cointegration. The lower and upper bound values are extracted from Narayan's (2005) critical table. The F-statistic value is 3.869, while k represents the number of parameters, which in this case is 7. Since the F-statistic exceeds both bounds at the 5% significance level, a long-run relationship exists. The next step is to estimate the ARDL error correction model.

Table 5. ARDL estimation results.

Dependent Variable: LOG(GDP)				
Regressors	Coefficient	Std. Error	t-Statistic	Prob.*
LOG (GDP (-1))	0.601	0.096	6.260	0.0000*
LOG (ODA)	0.048	0.029	1.655	0.1127
LOG (ODA (-1))	-0.097	0.028	-3.464	0.0023**
LOG (ODA (-2))	0.021	0.006	3.500	0.0013*
IQ	1.926	1.091	1.765	0.0918
IQ (-1)	-3.978	1.042	-3.818	0.0010*
IQ (-2)	0.171	0.035	4.886	0.0000*
LOG (ODA*IQ)	-0.050	0.029	-1.724	0.1025
LOG (ODA*IQ (-1))	-0.100	0.028	3.571	0.0015*
LOG (REM)	0.614	0.076	8.079	0.0000*
LOG (REM (-1))	-0.483	0.125	-3.864	0.0009*
INF	-0.008	0.006	-1.333	0.2023
INF (-1)	-0.022	0.006	-3.667	0.0015*
LOG (MS)	0.069	0.017	4.059	0.0006*
LOG (FDI)	0.015	0.005	-3.000	0.0102**
LOG (FDI (-1))	-0.010	0.006	1.667	0.0934
LOG (FDI (-2))	0.010	0.005	-2.000	0.0479**
CONSTANT	5.829	1.992	2.926	0.0081*
R-squared	0.796	Durbin-Watson stat		1.801717
Adjusted R-squared	0.692			
F-statistic	274.440			
Prob(F-statistic)	0.000			

Note: ** and *significant at the 5% level and 1% respectively.

Table 5 above presents the results of the estimated long-run ARDL model of the moderating effect of institutional quality on the impact of foreign aid on economic growth in Nigeria. From the left-hand side of the table, the independent variables are in the first column, and the long-run coefficients of the independent variables, which show the degree of impact on the dependent variables, are in the second column. The third column projects the standard errors, the fourth column contains the t-statistics, which show the level of significance for each independent variable, while the fifth column contains their respective probability values. The R-squared obtained from the estimated ARDL model is 0.796, while the F-statistic is 274.4396 with a probability value of 0.0000, implying that about 79% of the variation in the dependent variable is explained by the independent variables and that the model, overall, is statistically significant at the 5% level of significance.

From the estimation, it was found that the coefficient of the previous year's gross domestic product (GDP (-1)) is 0.6005 and statistically significant at the 5% level. This conforms to a priori expectations, as economic theory holds that past values of economic indicators tend to influence their present values. The result obtained is consistent with the findings of Behun, Gavurova, Tkáčová, and Košičiarová (2018), among others, who found that past values of economic variables influence their present values.

Also, the results in Table 5 show that the coefficient of the present value of official development aid (ODA) is 0.0475 and statistically insignificant at the 5% level of significance, suggesting that the variable influences Nigeria's GDP growth positively. This outcome conforms to a priori expectations, as it is expected that increases in foreign financial inflows raise GDP value. This result agrees with the findings of Kareem, Bakare, and Ologunla (2013), who found that foreign aid has a significant and positive effect on the Nigerian economy. However, the additive impact of ODA on economic growth is -0.028616 and is statistically significant. This means that, on average, a 1% increase in ODA leads to a -0.03% decrease in economic growth. This suggests that ODA is a major factor exerting a significant impact on economic growth, but because such funds were not channeled into productive sectors or were mishandled due to corruption, its cumulative impact has become negative.

Furthermore, the result of the estimation shows that the coefficient of the present value of institutional quality (IQ) is -1.926 and statistically significant at the 10% level, while the previous year period and the previous two-year

period show -3.978 and 0.799 impacts on economic growth, respectively, and are statistically significant. This implies that the quality of institutions is important and plays a major role in Nigeria's economic performance. However, the additive or cumulative impact of IQ on economic growth is negative and significant at -1.87%. This result conforms to a priori expectations, as both literature and reports from international organizations such as Transparency International, the World Governance Index, and Freedom House have shown that the country ranks high among countries with low institutional quality. Undoubtedly, weak and low institutional quality has not encouraged productive economic activities such as private and foreign investments that could have accelerated the country's economic growth. This indicator has shown a depressing effect on Nigeria's economic performance, attributable to high levels of corruption, poor governance, and other institutional quality variables. This result agrees with Iheonu (2019), who found that Nigeria's low institutional quality remains a hindrance to its economic growth and development pathway.

Similarly, the results in Table 5 show that the coefficient of the interaction variable (ODA*IQ) at the present year is -0.049 and statistically insignificant at the 5% level of significance, while the result of the previous year shows a negative and significant value of -0.1003. However, the additive or cumulative value of the interaction term is -1.50, indicating a negative impact on economic growth, implying that Nigerian institutional factors combined with external financial inflows produce sub-optimal economic performance. This outcome is as expected, as the cumulative value of both ODA and IQ showed a negative impact on Nigeria's economic growth. Additionally, government policies and other institutional factors may not have encouraged private domestic and foreign investments that could enable the country to grow as it should. This result aligns with the findings of Ouedraogo, Tabi, and Ondo (2020), among others, who found that institutional quality is a significant determinant of a country's economic performance.

In the same vein, Table 5 reveals that the coefficient of remittances (REM) is 0.6139 and is statistically significant at the 5% level of significance, implying that remittances are a major factor contributing to economic growth in Nigeria. Specifically, the result obtained after estimation suggests that, at the 5% level of significance, all else being equal and on average, any 1% increase in migrants' remittance results in a 0.61% increase in economic growth in Nigeria. This outcome is as expected, as it is believed that remittances from abroad play an important role in augmenting shortfalls in private capital needed to boost output of goods and services. Remittances from abroad are generally desirable because of their high multiplier effect, which occurs through increases in household consumption expenditure and private sector investment. Agunuwa and Nomuoja (2010) noted that if migrant remittances are judiciously used, they can stimulate the economy. This result agrees with the findings of Chikelu and Okoro (2016) and others, who found that remittances have a significant and positive impact on economic growth in Nigeria.

Likewise, the results in Table 5 show that the coefficient of inflation (INF) is -0.0216 and statistically significant at the 5% level of significance, suggesting that it influences Nigeria's economic performance. According to the result in Table 5, it follows that, all else being equal and on average, a 1% increase in the inflation rate will reduce economic growth by approximately -0.02%. This result is not as expected, as it is perceived that high GDP values in developing countries such as Nigeria are influenced by high inflation rates. However, the negative relationship between inflation and economic growth in this case could be traced to the demand side of the economy. Traditional economic law holds that high prices reduce demand and ultimately lead to a reduction in the output of goods and services. This result does not agree with the findings of Ebi and Emmanuel (2014), who found that inflation impacts economic growth positively in Nigeria. However, the finding agrees with Imoughele and Ismaila (2013), whose study concludes that a high rate of inflation negates economic growth.

The result from Table 5 also shows that the coefficient of broad money supply (MS) is 0.0685 and statistically significant at the 5% level of significance, suggesting that money supply contributes positively to economic growth in Nigeria. It follows that, all things being equal and on average, a 1% increase in money supply increases economic growth by approximately 0.07%. This result is also in conformity with a priori expectations. Economic literature indicates that the relationship between money supply and output is positive. However, economic law states that to prevent prices from decreasing (deflation) or increasing (inflation), money supply and output should be at the same level. This is because, although money supply leads to expansion in output according to economic theories, it can also result in an increase in prices. This finding aligns with the results of Osakwe, Ibenta, and Ezeabasili (2019), who found that monetary policy, such as money supply, contributes positively and significantly to economic growth in Nigeria.

Also, the result of the estimation in Table 5 shows that the coefficient of foreign direct investment (FDI) is 0.0152 and statistically significant at the 5% level of significance, suggesting that FDI is a major factor influencing economic growth in Nigeria. According to the result, all factors held constant, and on average, an increase in FDI inflow increases economic growth by approximately 0.015%. This result conforms to the a priori expectation because FDI confers positive externalities such as new knowledge and technology, competitiveness, human capital development, and reduction in unemployment, among other benefits, on the recipient country. These factors likely explain the positive relationship between FDI and economic growth. This result is consistent with the findings of Obute, Adyorough, and Itodo (2012), who found that FDI inflow significantly impacts economic growth in Nigeria.

5. Conclusion and Recommendations

This study provides compelling evidence that foreign aid has not translated into meaningful economic growth in Nigeria, largely due to poor institutional quality. While aid inflows exhibit some positive short-term effects, their cumulative impact is negative, underscoring inefficiencies in allocation and utilization. More critically, the interaction between foreign aid and institutional quality reveals that poor governance structures significantly undermine the growth-enhancing potential of aid. These findings reinforce the argument that institutional quality is a decisive factor in determining whether foreign aid becomes a catalyst for development or a conduit for inefficiency.

In light of these findings, the study recommends that policymakers prioritize institutional reforms aimed at strengthening governance, transparency, and accountability. Anti-corruption agencies should be empowered and made more effective, while regulatory frameworks should be improved to ensure proper monitoring and evaluation

of aid utilization. Additionally, aligning foreign aid with productive sectors of the economy, such as infrastructure, education, and health, will enhance its developmental impact. Donor agencies should also incorporate institutional performance benchmarks into aid disbursement frameworks to encourage reforms. Ultimately, sustainable economic growth in Nigeria depends not merely on the volume of aid received but on the strength and effectiveness of the institutions that manage it.

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