Fluctuations in Exchange Rates and Economic Growth in Oil-Exporting African Countries

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Abstract

The paper analyses how exchange rate volatility affects economic growth in the oil-exporting African countries (OEACs) between the years 1980-2022 and how institutional quality and main macroeconomic control factors mediate the effects. The paper addresses a significant gap in the literature on the subject since most of the literature has been on either the developed or the developing economies without appropriately considering the dependency on commodities and vulnerability to structural shocks that the oil-exporting African nations experience. Based on the panel data obtained through the World Bank and the panel Fully Modified Least Squares (PFMLS) methodology, which implies cross-sectional dependence, unit root characteristics, and cointegration, it was learnt that the exchange rate volatility is a major impediment to the growth of the economy by creating uncertainty and deterring investments. In addition to that, poor institutional quality is observed to increase the negative impacts of exchange rate volatility on growth. The findings also suggest that money supply and exports have a positive impact on economic growth, whereas interest rates have a negative impact. However, the effect of inflation on growth in the period under consideration has no statistically significant effect. This paper finds that exchange rate volatility has been detrimental to the macroeconomic stability in OEACs, although proper and efficient policy structures can reduce these exposure risks. To this end, the paper suggests the build-up of sufficient foreign exchange reserves, the introduction of controlled and flexible exchange rate systems, the reinforcement of fiscal and monetary institutions, and diversification of exports other than oil as some of the essential measures toward the realisation of a higher level of economic resilience and sustainable development.

Keywords: Exchange rate fluctuations, Economic development institutions, Oil-exporting African nations, Economic stability
JEL Classification codes: E44, O43, Q37.

Introduction

Exchange rate instability has always been a serious concern for governments, firms and investors, especially in the case of commodity-dependent economies. African oil-exporting countries (OEACs) are vulnerable to exchange rate fluctuations due to their dependency on naturally changing global oil prices. The swings generate economic uncertainty that complicates investment decisions, trade competitiveness, and overall macro stability. Exchange rate volatility refers to the fluctuations in the value of a nation's currency against that of another currency over a period of time (Musa, 2021) Fluctuations may stem from a variety of sources such as global commodity price changes, shifts in the stance of monetary policy and mood change.

The volatility of the exchange rate is very important to Oil Exporting African Countries (OEACs) since their oil is valued in foreign currency, notably the American Dollar (Olamide, Ogujiuba, Maredza & Adeleke, 2022). Currency exchange rates can impact trade balances and inflation and thus the growth of the economy. According to (Noh, 2021) the revenues generated by global oil consumption has a significant impact on the economic growth of the OEACs. The variation in exchange rates may prevent growth as it increases uncertainty in trade and investment, leading to lower business and consumer confidence (Bush & Noria, 2021). According to Asamoah, Alagidede and Adu (2022), a situation in which exchange rates fluctuate chaotically causes uncertainty in the costs of imports and exports, which will impact the profits of exporters and increase the costs of importers. The disruptions caused by any economic turmoil in OEACs can have an impact on employment, fiscal policies, long term economic measures. For such countries, management of currency rates is an important segment of macroeconomic policy (Demir & Razmi, 2022). The relationship of the exchange rate volatility with economic growth has been a popular subject of research for quite some time. Yet, there is not much targeted research available on this subject about OEACs. Present literature often showcases findings across economic frameworks, or focuses mainly on advanced or rising countries, missing the own challenges and structural vulnerabilities of the other economies of African countries (OEACs). The research looks at how the growth of a country can impact the exchange rate volatility in the OEACs.

Also, the institutional quality is important in establishing the influence of exchange rate volatility on the performance in the oil-exporting African nations. Effective resource allocation, transparency in policies, and good macroeconomic management are the qualities that help strong institutions to offset the adverse impacts of currency fluctuations (Zheng, Umar, Safi & Khaddage-Soboh, 2024).). On the other hand, poor governance, corruption, and lack of appropriate fiscal management are the causes of weak institutions that tend to increase negative impacts of exchange rate volatility (Okinda, 2020). In a case where governance systems are weak, oil export revenues are usually poorly spent as a

result of economic instability, increasing inflation, and productive investment. Thus, institutional quality is a fundamental instrument in determining the actual scale of the effect of exchange rate volatility on economic growth in the respective economies.

The study of the connection between exchange rate volatility, the institutional quality, and economic development in the oil-exporting African states would offer significant background to policymakers. With the global energy markets becoming more unsustainable with technology and geopolitical issues, these countries have to ensure that they have robust economic systems that can withstand the external forces. Diversification of the economic base, strengthening the governance structure, and better coordination of the monetary policy might assist in stabilizing the exchange rates and support the long-term growth (Fabris, 2024). Therefore, the proposed study aims at filling the gap within current literature by exploring the interaction between exchange rate volatility and the institutional quality in the determinants of economic growth in the Oil-Exporting African Countries (OEACs) to provide evidence-based suggestions on ways of attaining macroeconomic stability and sustainable development.

Research Hypothesis

H_0: There is no significant relationship between exchange rate volatility and the institutional quality in the determinants of economic growth in the Oil-Exporting African Countries

H_1: There is significant relationship between exchange rate volatility and the institutional quality in the determinants of economic growth in the Oil-Exporting African Countries

Literature Review and Theoretical Framework

According to Dada (2022), in the Mundell-Fleming Model, exchange rate fluctuations can impact many other economic variables. This is also known as the IS-LM-BP model. In the 1960s, economics specialists Robert Mundell and Marcus Fleming created this model. As Danladi, Akomolafe, Babalola and Akpan (2015), outlined the Mundell-Fleming model defines an open economy with four equations. The four equations are delineated in Equations 1 to 4.

$$Y = C(Y - T) + I(r) + G + NX(\varepsilon) \quad (1)$$

$$e = (1 + i)Ee'/(1 + i^*) \quad (2)$$

$$\varepsilon = ep/P^* \quad (3)$$

$$r = i - E\pi \quad (4)$$

Where: Y = Aggregate output (income); C = Private consumption expenditure; T = Taxes; I= Investment; r= Real interest rate; G = Government expenditure; NX = Net exports; ε = Real exchange rate; e = Nominal exchange rate; i = Domestic nominal interest rate; $i*$ = Foreign nominal interest rate; E = Expectations operator; e'= Expected future exchange rate; P = Domestic price level; $P*$ = Foreign price level; πe = Expected inflation rate.

Equation (1) is the equation of equilibrium in the goods market whereas Equation (2) is the principle of interest rate parity that creates equilibrium in the foreign exchange market. Equation (3) is the actual exchange rate and Equation (4) the

Fisher relationship which relates the real interest rate, nominal interest rate, and expected inflation rate. A combination of these four equations will establish the equilibrium value of the principal endogenous variables, that is, national income (Y), nominal exchange rate (e), real exchange rate, and real interest rate (r). The Mundell -Fleming model is informative on the effects of changes in the exchange rate on economic growth because it reveals that exchange rate changes affect the macroeconomic aggregates, including consumption (C), investment (I), government spending (G), and net exports (NX).

Studies of the relationship between the exchange rate volatility and net exports, specifically on the economy of Asia including India and Malaysia until November 2019, have established that the unstable exchange rates tend to create uncertainties in the values of trade and therefore, have effects on exports and imports. It was shown that scholars like Musa (2021) and Dada (2022) analyzed the impact of bilateral exchange rate changes on the macroeconomic indicators based on the Mundell-Fleming model. Their findings indicate that fluctuations in exchange rates are likely to undermine economic stability and low performance in growth.

This opinion is evidenced by empirical data provided by Ramoni-Perazzi and Romero (2022) in their research study that covered 194 countries in the years 1995-2019. They also discovered that exchange rate instability negatively affects economic growth through the use of GARCH models to determine volatility, and by the application of both Difference and System GMM estimators to carry out dynamic panel analysis. The effect however fades away with the development of financial systems. Interestingly, the countries that ranked higher in terms of corruption were not so affected, maybe because they have adjusted to the constant instability. The research also reveals that financial development is able to mitigate wealth impacts of fluctuation of foreign exchange rates on growth.

Also, Yensu et al. (2022) examined the nature of the exchange rate volatility and economic growth in Ghana between the year 2000 and 2020. Through a descriptive, regression and correlation analysis, they found that the volatility in the exchange rates is clustered and negatively correlated with the trade openness, government expenditures, money supply, foreign direct investment, output and credit in the private sector. The exchange rate volatility has negative effect to economic growth and mostly affected over the longer run. The research specified that exchange rate volatility will not only affect economy growth, but will also suggest industrial diversification while following a stricter monetary policy.

Research conducted by Bilgili et al. 2021 considered the impact of fluctuations in currency rates on the performance of Turkish exports from January 2003 to April 2015 with various regime changes. The researchers use the Hatemi-J regime-switching models. Dynamic Ordinary Least Squares (DOLS), Fully Modified OLS

Structural break and cointegration tests. The findings showed that the exchange rate was quite important among the factors determining the Turkish exports. Moreover, regime shifts significantly affect the export behavior. Yunusa (2020) in his work has analyzed the effect of the currency rate fluctuation on Nigeria's crude oil exported to seven trading partner countries. The work used monthly data spanning from 2006 to 2019. The study observed volatility using GARCH model. Also, the work utilized ARDL to study the impact on export. As indicated by the results, the variance of the exchange rate was statistically significant across all partners, albeit in varying degrees, along with a significant impact on crude oil export. The real exchange rate and the income of trading partners also had a sizeable effect.

Based on quarterly data between 2008 and 2018, Habanabakize (2020) investigated the effects of economic growth and exchange rate movements on the performance of the South African imports and exports in the post-2008 period. The Autoregressive Distributed Lag (ARDL) method was used in the analysis. The findings demonstrated that there exists a long-run correlation of economic growth, exchange rates and trade activities. Precisely, the economic growth was a positive impact on trade performance and appreciation of the exchange rate promoted increased imports and discouraged exports. The results of the Granger causality test also revealed that exchange rates had a bidirectional relationship with imports, economic growth and imports and also between exchange rates and economic growth.

Equally, Ehikioya, Omankhanlen, Babajide, Osuma and Omodero (2020) examined the dynamic interdependence between the movements in oil price and movements in real exchange rates in the individual Sub-Saharan African countries with the time frame 2004 to 2017. Using the Johansen cointegration method, as well as Vector Error Correction Model (VECM), their findings proved the existence of a long-run equilibrium between the variables. The findings revealed that the fluctuation of the oil prices does play an important role in the volatility of the exchange rate in Nigeria, Angola, Congo, Equatorial Guinea and Gabon.

Duru, Eze, Saleh, Uzoechina, Ebenyi and Chukwuka (2022) presented the impact of exchange rate instability on the performance of Nigeria export activities between the years 2005 and 2020 in the same line of investigation. Their research helped in knowing the impact of the fluctuations in the foreign exchange market on the external trade position of the country. The study assessed volatility with the help of ARCH, GARCH, TARCH and EGARCH models. The researcher also employed the ARDL bounds testing approach. The study found that the fluctuation of the exchange rate harms exports but not significantly. It was established that stable exchange rate policies are central for trade performance. Abere (2023) employed Chow test, NARDL, and Scaled Coefficients techniques to analyze exchange rate

misalignment and Nigeria's trade balance from 1981 to 2021. According to the findings, positive misalignment and negative misalignment both enhance trade balance, but the negative misalignment has a higher impact, which implies that naira is continuously undervalued.

Many studies, such as those by Yunusa (2020), Duru et al. (2022), and Bilgili et al. (2021), mainly used ARDL and GARCH family models to estimate the short-run and long-run effects of exchange rate volatility. Yunusa (2020) and Bilgili et al. (2021) reported that currency rate volatility has significant and mostly negative effects on exports. However, Duru et al. (2022) found a negative effect that is statistically insignificant with respect to Nigeria. Ehikioya et al. (2020) and Habanabakize (2020), on the other hand, included exogenous variables of oil price volatility and economic growth in their multi-country and single-country models, respectively. The studies used both VECM and ARDL confirming long-run relationships between macro fundamentals and trade variables. The results highlighted the impact of external shocks and macro-economic stability on exchange rates. Abere (2023) used NARDL and Scaled Coefficients to show how exchange rate misalignment, not volatility, has asymmetric effects. The analysis found that negative misalignments (undervaluation) were more effective at improving Nigeria's trade balance over four decades.

Methodology

Specification of the Model

This study's model was based on the work of Abere (2023). The implicit functional model for this research is articulated as:

$$GDP_{it} = f(EXCVO_{it}, INQ_{it}) \quad (5)$$

GDPit denotes Gross Domestic Product per capita for all relevant countries during time t, serving as an indicator of economic growth; EXCVOit signifies exchange rate volatility for all pertinent countries in period t. Consequently, to fulfill the study's purpose of analyzing the impact of exchange rate volatility on economic growth, this research incorporates additional control variables into the estimated model. Therefore, Equation (5) is reformulated as:

$$\mathrm{GDP_{it}} = (\mathrm{EXCVO_{it}}, \mathrm{INQ_{it}}, \mathrm{EXP_{it}}, \mathrm{INF_{it}}, \mathrm{MS_{it}}, \mathrm{INT_{it}}) \quad (6)$$

Explicitly in semi-log form, Equation (6) becomes

$$\mathrm{LNGDP_{it}} = \beta_0 + \beta_1 \mathrm{EXCVO_{it}} + \beta_2 \mathrm{INQ_{it}} + \beta_3 \mathrm{LN(EXP_{it})} + \beta_4 \mathrm{LN(INF_{it})} + \beta_5 \mathrm{LN(MS_{it})} + \beta_6 \mathrm{LN(INT_{it})} + \mu \quad (7)$$

INF_{it} denotes the Inflation Rate for all relevant nations during period t; EXP_{it} signifies Export for all relevant countries during period t; MS_{it} indicates Money Supply for all relevant countries during period t; and INT_{it} represents the Interest Rate for all relevant countries during period t. Where β1, β2, β3, β4, β5, β6, and β7 are the coefficients of the independent variables, and μ signifies the error term or residual.

Estimation Methodologies

To achieve the objectives of this research, the analytical techniques are carefully chosen to fit the nature and scope of the study. The analysis begins with descriptive statistics, which help identify general patterns and trends in the data and provide an initial understanding before conducting more advanced econometric tests. To capture the fluctuations in exchange rates, the study applies time-series volatility models, specifically the Autoregressive Conditional Heteroskedasticity (ARCH) and Generalized ARCH (GARCH) frameworks. These models make it possible to detect both the trend and cyclical movements in exchange rate behaviour. Furthermore, to assess how exchange rate volatility influences economic growth across Oil-Exporting African Countries (OEACs), the research employs a panel data estimation approach based on the Panel Fully Modified Least Squares (PFMLS) technique, which is suitable for exploring long-run relationships among the variables.

Measurement and sources of data

This study utilizes a panel dataset covering selected countries from 1980-2022 to analyse the relationship among the chosen variables. Economic growth is represented by Gross Domestic Product (GDP), measured at constant prices and obtained from the World Development Indicators (WDI). Data on exchange rate volatility (EXCVO) were also derived from the WDI. Institutional Quality (INQ) is assessed through six dimensions of the World Governance Indicators (WGI), which include Regulatory Quality (RQ), Rule of Law (ROL), Control of Corruption (COC), Voice and Accountability (VA), Government Effectiveness (GOVE), and Political Stability and Absence of Violence (POAV)-all sourced from the World Bank. The export variable (EXP) captures the total value of goods and services sold abroad, while inflation (INF) is measured as the annual percentage change in consumer prices. Money supply (MS) is defined as broad money expressed as a percentage of GDP, and interest rate (INT) refers to the lending rate. All other relevant macroeconomic indicators used in the analysis were obtained from the World Development Indicators (WDI) database.

Analysis and Discussion of Findings

Cross Section Dependence

The outcomes of the Lagrange Multiplier (LM) tests used to examine cross-sectional dependence among the panel data variables are presented in Table 1. The tests conducted include the Breusch-Pagan LM (BP-LM), Pesaran scaled LM (PS-LM), Bias-Corrected Scaled LM (BCS-LM), and Pesaran Cross-sectional Dependence (PCD) tests. For each variable—LGDP, EXCVO, INQ, LINF, LINT, LEXP, and LMS the corresponding test statistics and p-values are reported. The results show that, for all variables, the LM-based tests produced highly significant statistics, with p-values equal to 0.0000, denoted by triple asterisks (***). This implies the existence of strong cross-sectional dependence across most variables in the dataset. However, the PCD test for Institutional Quality (INQ) stands out as an exception, showing no statistical significance, even at the 10% level ($p = 0.1616$). This outcome suggests weak or negligible cross-sectional dependence in institutional quality compared with other variables in the panel.

Table 1: Cross Section Dependence

	BP-LM	PS-LM	BCS-LM	PCD	Remark
LGDP	1196.916*** (0.0000)	121.4226*** (0.0000)	121.3036*** (0.0000)	24.39316*** (0.0000)	Cross Section dependence
EXCVO	270.4863*** (0.0000)	22.71425*** (0.0000)	22.59520*** (0.0000)	4.832832*** (0.0000)	Cross Section dependence
INQ	1367.339*** (0.0000)	139.3868*** (0.0000)	139.2677*** (0.0000)	1.39961* (0.16I6)	Cross Section dependence
LINF	193.9271*** (0.0000)	15.69829*** (0.0000)	15.57924*** (0.0000)	8.511306*** (0.0000)	Cross Section dependence
LINT	1038.682*** (0.0000)	104.7433*** (0.0000)	104.6243*** (0.0000)	19.10052*** (0.0000)	Cross Section dependence
LEXP	746.1929*** (0.0000)	73.91222*** (0.0000)	73.79317*** (0.0000)	0.308487*** (0.0000)	Cross Section dependence
MS	1363.669*** (0.0000)	139*** (0.0000)	138.8809*** (0.0000)	36.30405*** (0.0000)	Cross Section dependence

Source: Authors' Computation (2025)

The Panel Unit Root Result

The panel unit root tests result show that the variables in the analysis are stationary meaning that their statistical properties do not change with time. The condition of stationarity is important in econometrics of time- series and panel data when estimating a series where the important aspect is that the mean and variance of the series remain constant with time. To confirm this, three complementary tests were used namely the Levin, Lin and Chu (LLC), Fisher-ADF and Fisher-PP tests with the specification of the individual effects model and the individual effects with linear trends model. As under the section of Individual Effects, the LLC test results test the null hypothesis of a unit root of each of the variables. All the variables have reported p-values that are near to zero, or statistically significant and acceptance of null hypothesis of unit root is rejected.

The results of the variables of GDP, EXCVO, INQ, INF, INT, EXP and MS are given in Table 2 where their stationarity characteristics are provided. The findings indicate that the variables are differently ordered in terms of their integration. Particularly, the inflation (INF) proves to be stationary at level at various levels of significance (0.1, 0.2, 0.3 and 0.4)

meaning that it is integrated of level zero, that is, it does not need differentiation to attain the stationarity. On the other hand, the variables include GDP, EXCVO, INQ, INT, EXP and MS which are non-stationary but they become stationary after first differencing which implies that they are order one or I(1) integrated. This is also the conclusion in the vast majority of testing procedures, the LLC, Hadri, IPS, ADF and PP tests, all of which reveal highly significant statistics on the first differences.

Table 2: Panel Unit Root Examination

PANEL UNIT ROOT TEST												
	Individual Effects					Individual Effects, Individual Linear Trends						
VARIABLE	LLC P<0.05	HADRI P>0.05	IPS P<0.05	ADF P<0.05	PP P<0.05	LLC P<0.05	HADRI P>0.05	IPS P<0.05	ADF P<0.05	PP P<0.05	BS P<0.05	REMARK
GDP	-1.262	12.226***	1.943	8.941	15.671	1.943	6.043***	0.87625	19.151	29.339	-0.0423	I(1)
	(0.1035)	(0.0000)	(0.9740)	(0.9836)	(0.7368)	(0.9740)	(0.0000)	(0.8096)	(0.5121)	(0.0813)	(0.4831)	
ΔGDP	-5.572***	1.854*	-7.747***	102.769***	146.270***	-5.036***	1.94300	-5.950***	74.646***	362.506***	-4.755***	
	(0.0000)	(0.0319)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.9740)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
EXCVO	1.935	1.990**	-4.923***	83.687***	125.212***	4.384	3.959***	-3.082**	59.891***	107.004***	4.214	I(1)
	(0.9735)	(0.0234)	(0.0000)	(0.0000)	(0.0000)	(1.0000)	(0.0000)	(0.0010)	(0.0000)	(0.0000)	(1.0000)	
ΔEXCVO	-5.786***	0.461	-14.48***	229.575***	259.331***	-3.297*	0.267	-13.166***	212.180***	1136.26***	4.270	
	(0.0000)	(0.3224)	(0.0000)	(0.0000)	(0.0000)	(0.0005)	(0.3949)	(0.0000)	(0.0000)	(0.0000)	(1.0000)	
INQ	-2.377**	12.944***	0.290	18.554	17.565	-0.356	7.584***	-2.718*	38.333*	46.572***	0.645	I(1)
	(0.0087)	(0.0000)	(0.6139)	(0.5509)	(0.6160)	(0.3609)	(0.0000)	(0.0033)	(0.0081)	(0.0007)	(0.7407)	
ΔINQ	-7.062***	1.927***	-10.644***	145.899***	283.571***	-5.385***	-0.166	-9.235***	115.277***	345.433***	-6.683	
	(0.0000)	(0.0270)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.5658)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
INF	-4.502***	7.599***	-5.778***	82.623***	84.376***	-4.398***	4.333***	-4.617***	66.127***	63.452***	-4.609***	I(0)
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
ΔINF	-1.102	-7.062	-16.773***	243.024***	313.066***	-12.084***	1.554	-15.429***	216.238***	999.278***	-8.891***	
	(0.8647)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0601)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
INT	2.524	12.191***	3.144	12.468	13.749	0.509	4.701***	0.281	19.235	29.873	1.106	I(1)
	(0.9942)	(0.0000)	(0.9992)	(0.8990)	(0.8430)	(0.6947)	(0.0000)	(0.6105)	(0.5066)	(0.0719)	(0.8656)	
ΔINT	-11.935***	-0.223	-11.944***	166.809***	230.040***	-11.439***	1.776	-10.993***	140.030***	459.729***	-7.380***	
	(0.0000)	(0.5884)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0378)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
EXP	-0.789	9.465***	1.119	13.320	9.027	-1.838	4.517***	-1.522	30.373	25.464	-4.969***	I(1)
	(0.2150)	(0.0000)	(0.8685)	(0.8632)	(0.9826)	(0.0331)	(0.0000)	(0.0640)	(0.0640)	(0.1843)	(0.0000)	
ΔEXP	-10.727***	-1.139	-11.984***	167.419***	204.393***	-9.416***	1.019	-10.527***	132.857***	432.554***	-1.096	
	(0.0000)	(0.8727)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.1540)	(0.0000)	(0.0000)	(0.0000)	(0.1366)	
MS	8.589	12.165***	10.216	7.863	28.208	5.072	10.080***	7.315	8.801	35.677	6.431	I(1)
	(1.0000)	(0.0000)	(1.0000)	(0.9927)	(0.1046)	(1.0000)	(0.0000)	(1.0000)	(0.9851)	(0.0168)	(1.0000)	
ΔMS	0.680	9.843***	-2.887**	55.766***	118.692***	-1.398	8.662***	-4.340***	65.839***	126.713***	1.438	
	(0.7516)	(0.0000)	(0.0019)	(0.0000)	(0.0000)	(0.0811)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.9248)	

Source: Authors' Computation (2025)

LLC = Levin, Lin and Chu (2002) panel unit root test; HADRI = Hadri (2000) panel stationarity test; IPS = Im, Pesaran and Shin (2003) panel unit root test; ADF = Augmented Dickey–Fuller Fisher panel unit root test; PP = Phillips–Perron Fisher panel unit root test; BS = Breitung (2000) panel unit root test; GDP = Gross Domestic Product per capita; ΔGDP = First difference of Gross Domestic Product per capita; EXCVO = Exchange Rate Volatility; ΔEXCVO = First difference of Exchange Rate Volatility; INQ = Institutional Quality; ΔINQ = First difference of Institutional Quality; INF = Inflation rate; ΔINF = First difference of Inflation rate; INT = Interest rate; ΔINT = First difference of Interest rate; EXP = Exports; ΔEXP = First difference of Exports; MS = Money Supply; ΔMS = First difference of Money Supply. Also, the *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. Probability values are reported in parentheses, while Δ indicates first-differenced series.

Cointegration Result Analysis

Johansen Fisher Panel Cointegration Test

Series: LGDP EXCVO INQ LINF LINT LMS LEXP

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.
None	244.3	0.0000	144.7	0.0000
At most 1	125.1	0.0000	81.02	0.0000
At most 2	56.19	0.0000	33.65	0.0286
At most 3	33.10	0.0329	12.55	0.8960
At most 4	26.65	0.1454	17.95	0.5906
At most 5	18.35	0.5645	13.66	0.8473
At most 6	15.55	0.7444	15.55	0.7444

Source: Authors' Computation (2025)

The results of the Johansen Fisher Panel Cointegration Test signify that the variables are cointegrated. The trace test and maximum eigenvalue tests are part of this assessment. The Fisher trace and max-eigen statistics at 244.3 and 144.7 respectively and also p-values at 0.0000 imply a striking rejection of the null hypothesis of no cointegration. There is at least one cointegrating link, according to this. Following tests for a maximum of one cointegrating equation also rejects the null hypothesis, with Fisher statistics of 125.1 and 81.02 and p-values of 0.0000. The trace test rejects the null hypothesis of at most two cointegrating equations with a Fisher statistic of 56.19 (p-value 0.0000), while the max-eigen test marginally rejects this hypothesis with a statistic of 33.65 (p-value 0.0286). The results owing to high p values of the rest null hypothesis ranging from 0.0329 to 0.7444, we do not reject these null. The Johansen Fisher Panel Cointegration Test results reveal the variables' cointegration is very stable in the long term.

Table 4: Fully Modified Least Squares Panel

Dependent Variable: LGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCVO	-0.120	0.050	-2.394	0.01710
INQ	-0.027	0.013	-2.069	0.03910
LINF	0.023	0.037	0.619	0.53630
LINT	-0.214	0.015	-14.764	0.00000
LMS	0.904	0.009	98.726	0.00000
LEXP	0.142	0.013	10.616	0.00000
R-squared	0.895			
Adjusted R-squared	0.892			

Source: Authors' Computation (2025)

Results of the Panel Fully Modified Least Squares (PFMLS)

The results indicate that exchange rate volatility (EXCVO) has a negative impact on economic growth in OEACs. To illustrate, EXCVO is given a β of -0.12. This indicates that a 1% rise in the EXCVO leads to a close 0.120% dropped in the Log of Gross Domestic Product (LGDP). This with a t-value of -2.394 and $\rho < 0.05$. High levels of EXCVO associate with a slight and yet relevant reduction in economic growth. The unfavorable consequence of exchange rate fluctuation on economic growth in OEACs indicates that uncertainty in current values lowers local and international investments. The changing of exchange rates increases the cost of transactions and risk for businesses. This results in reduced volume of trade and lower competitiveness in global markets. Growing volatility could add to inflation as the costs of imports will change unpredictably. This will lead to cost-push inflation. As indicated by research, by Ramoni-Perazzi and Romero (2022) and Yensu et al. (2022), the present conclusion is confirmed.

A rise of one percent in the Institutional Quality will have an impact of 0.027 per cent drop in the LGDP. When institutions are fragile, the economy will do less well because people will not trust the market and there will be an inefficiency in economic governance. The poor institutions cause instability in regulations, corruptness, and misallocation of resources. The negative effects of currency exchange rate changes in OEACs have intensified, as seen here. Husnain, Guo, Pan and Manjang (2024) as well as Kouadio and Gakpa (2022) obtained similar findings.

The Logarithm of Money Supply (LMS) has the highest degree of influence, as shown by the coefficient of 0.904, indicating that an increase of 1% in LMS leads to an increase of approximately 0.904% in LGDP. This shows that LMS is a significant factor in changing LGDP. An increase in money supply can contribute to economic growth as it leads to liquidity. When

liquidity increases, an increase in investment also takes place which boosts economic growth. If more money is created but there is no increase in wealth, there might be inflation. The coefficient of logarithm of exports (LEXP) is 0.142, indicating that a 1% rise in LEXP leads to a rise of nearly 0.142% in LGDP. Exports enhance economic growth in OEACs and hence, foreign trade is very significant for these countries. Currency will depreciate stable and predictable helps make exports more competitive as goods become less expensive in international markets. However, oil exporting states are vulnerable to external shocks like swings in global oil prices.

On the other hand, the Log of Interest Rate (LINT) shows a strong negative coefficient of -0.214; meaning, a 1% increase in LINT will produce approximately a 0.214% fall in LGDP. Higher interest rates make it more difficult for businesses to borrow and invest when loans are more expensive. As a result, economic growth suffers. So the authorities must set interest rates just right so that prices continue to be stable yet credit to firms and households remains available. The coefficient of logarithm inflation rate (LINF) is 0.023, which a statistically significant variable having a slightly effect. Inflation has a minimal impact on economic growth. There are other macroeconomics variables, such as exchange rate stability and the quality of institutions, that affect economic outcomes. This shows that there is a need for complete economic policies that can use the exchange rate, monetary, and fiscal methods.

Conclusion and Recommendations

According to the study, exchange rate volatility has a negative impact on the economic growth of oil-exporting African countries (OEACs). It creates uncertainty which deters investment. Therefore, stable currency rates are required to attract foreign investment and optimize resource utilization. Inadequate institutional quality also hampers growth. It shows that we need strong institutions for stability, transparency, and smooth governance. Growth gets a favorable impact from either money supply, which spurs spending, or exports, which provide earnings and competitiveness.

On the other hand, by increasing the cost of borrowing and lowering investments, the rates of interest adversely affect the GDP. In the end, it was found that inflation does not significantly affect economic growth. Other factors like exchange rate variables and institutional quality are more decisive in determining economic outcomes in OEACs. The essay talks about policies regarding the fluctuation of the exchange rate. Foreign exchange reserves must be maintained. Further, exchange rate must be flexible but with some control over it. African countries may establish currency swap agreements and regional monetary cooperation to lessen vulnerability to fluctuations in foreign currencies. We must strengthen the institutions responsible for fiscal and monetary policies to ensure consistent and predictable implementation of policies. African oil-exporting nations should cut down dependency on oil exports by investing in businesses that are value-added and thus enhance their competitiveness in exports and secure sustainable foreign exchange revenues.

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