

**Economic and Political Institutions and Exchange Rate Volatility in Nigeria: Evidence
from GARCH Models**

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Abstract

This study examined the effect of economic and political institutions on exchange-rate volatility in Nigeria over the period 1992–2022. Specifically, it investigated the effects of economic institutions, political institutions and their interaction on exchange-rate volatility. The study employed the Exponential Generalised Autoregressive Conditional Heteroskedasticity (EGARCH) model to estimate exchange-rate volatility and analyse the influence of institutional factors. The findings reveal that economic institutions have a positive and statistically significant effect on exchange-rate volatility. Similarly, the Polity II index has a positive and significant effect, whereas Constraints on Executive Power (CEP) exert a significant negative effect on exchange-rate volatility. Furthermore, the interaction between economic institutions and Polity II is positive and significant, while the interaction between economic institutions and CEP is negative and significant. The EGARCH results also confirm the presence of persistent exchange-rate volatility in Nigeria. The study concludes that the effect of institutions on exchange-rate volatility depends on the quality of economic and political governance. It recommends strengthening institutional checks and balances, enhancing the independence and credibility of the Central Bank of Nigeria, improving transparency and accountability, and reducing political interference in exchange-rate management to promote exchange-rate stability and long-run macroeconomic stability.

Keywords: Exchange-rate volatility; Economic institutions; Political institutions; EGARCH; Nigeria.

JEL Classification Numbers: C22, E44, E52, F31, O17

1. Introduction

Exchange-rate volatility has become one of the most persistent macroeconomic challenges facing Nigeria, with important implications for inflation, investment decisions, and external competitiveness

and economic growth (Azeez *et al.*, 2012; Akinlo and Gbenga, 2021; Oyadeyi, 2026). Recent empirical studies have increasingly highlighted institutional quality as an important determinant of exchange-rate dynamics and macroeconomic stability in developing economies (Maraoui *et al.*, 2022; Opuala & Orji, 2023). Evidence from transition economies also shows that strong institutions promote macroeconomic stability and sustainable economic development (Bartolini *et al.*, 2015; Nikolova, 2016).

Although institutions can be introduced relatively quickly, building effective institutional frameworks that support policy credibility and economic stability often requires considerable time (North, 1990; Knack & Keefer, 1995). Nigeria experienced considerable macroeconomic stress following the sharp decline in global crude oil prices after 2014, which significantly reduced export earnings, foreign exchange inflows and government revenues. The resulting external imbalance contributed to exchange-rate pressures and increased macroeconomic uncertainty (Mobosi & Madueme, 2016; Aliyu, 2009). Macroeconomic instability in Nigeria is therefore often attributed to a combination of policy failures, external shocks and weak institutional responses (Mobosi *et al.*, 2016; Dada, 2021; Oyadeyi, 2026).

Political authorities may sometimes adopt distortionary macroeconomic policies for short-term political considerations despite their adverse long-run consequences. However, institutional economists argue that weak institutions frequently underlie poor macroeconomic outcomes because they shape incentives, governance quality and policy effectiveness (North, 1990; Acemoglu *et al.*, 2003). Nigeria has experienced persistent institutional weaknesses characterised by policy inconsistency, multiple exchange-rate windows, widening exchange-rate premiums and declining investor confidence, all of which have contributed to exchange-rate instability (Anuli & Dennis, 2015; Akinlo & Gbenga, 2021; Opuala *et al.*, 2023).

Recent global and domestic shocks have renewed interest in the determinants of exchange-rate volatility in developing economies. Major global events such as the 2008–2009 global financial crisis, the 2015–2016 commodity price shocks and the COVID-19 pandemic significantly altered exchange-rate dynamics and heightened macroeconomic uncertainty across developing economies (Mobosi *et al.*, 2016; Oyadeyi, 2026). In Nigeria, these vulnerabilities became increasingly evident following foreign exchange shortages, exchange-rate reforms, the COVID-19 pandemic, the 2022

currency redesign policy and the 2023 fuel subsidy removal, all of which intensified exchange-rate fluctuations and macroeconomic uncertainty (Oyadeyi, 2026).

Emerging economies, especially those in Sub-Saharan Africa, often face greater macroeconomic instability due to their reliance on primary commodity exports and their need to import manufactured products from advanced economies (Calderón et al., 2012; Franko, 2007). According to Acemoglu et al. (2003), there is an important relationship between institutional quality and macroeconomic instability. Their argument is based on the absence of institutional checks and balances in countries with weak institutions, which increases the likelihood of poor policy choices and economic volatility.

Furthermore, where political power is associated with access to substantial economic rents, the incentives to capture and retain political control become stronger. Consequently, countries with weak institutions may experience greater political and economic instability as competing groups struggle for control over these rents (Acemoglu et al., 2003; Rajan & Zingales, 2003). Conversely, stronger institutional arrangements may reduce opportunities for politically motivated redistribution and thereby contribute to greater macroeconomic stability (Satyanath & Subramanian, 2004; Sawyer, 2010).

Politicians may also be compelled to pursue unsustainable policies in societies characterised by institutional weaknesses to satisfy competing interests and maintain political support. When such policies become unsustainable and are eventually abandoned, substantial economic volatility may occur (Satyanath & Subramanian, 2004). Similarly, weak institutions may produce imperfect contractual arrangements and weak enforcement mechanisms, thereby making economic relationships more vulnerable to domestic and external shocks (North, 1990; La Porta et al., 1999). Recent exchange-rate reforms, particularly the foreign exchange market liberalisation and exchange-rate unification introduced in 2023, have renewed scholarly interest in the institutional determinants of exchange-rate management and macroeconomic stabilisation in Nigeria (Ayodeji, 2025). Weak economic institutions may undermine property rights protection, regulatory quality and market confidence, thereby increasing uncertainty in foreign exchange markets (Knack & Keefer, 1995; La Porta et al., 1999). Weak institutions may also encourage fiscal dominance, corruption and rent-seeking behaviour that undermine monetary policy credibility and increase uncertainty in foreign exchange markets (Acemoglu et al., 2003). Similarly, weak political

institutions may reduce policy credibility, weaken central bank independence and encourage politically motivated exchange-rate interventions, all of which may amplify exchange-rate volatility (Satyanath & Subramanian, 2004; Maraoui et al., 2022). Similar conclusions were reached by Opuala et al. (2023), who found that institutional quality moderates the relationship between foreign exchange management and economic performance in Nigeria.

Existing empirical studies generally suggest that institutions influence macroeconomic volatility through their effects on policy credibility, governance quality and market confidence. Satyanath and Subramanian (2004) found that weak institutions increase macroeconomic instability, while Arezki et al. (2011) reported that institutional quality influences the transmission of external shocks in resource-dependent economies. Similarly, Yevdokimov et al. (2018) showed that stronger institutions contribute to greater macroeconomic stability. More recent evidence for Nigeria also indicates that institutional quality significantly influences exchange-rate management, macroeconomic performance and investor confidence (Opuala et al., 2023; Ayodeji, 2025; Oyadeyi, 2026). However, evidence on the joint effects of political and economic institutions on exchange-rate volatility remains limited, particularly in the Nigerian context where institutional weaknesses and exchange-rate instability coexist.

The need for this study arises from the persistent exchange-rate instability experienced in Nigeria despite numerous monetary and exchange-rate policy interventions. Although previous studies have examined political institutions and economic institutions separately, relatively few studies have jointly examined their effects on exchange-rate volatility within a single empirical framework, particularly in the Nigerian context. Furthermore, while recent studies have examined exchange-rate volatility (Oyadeyi, 2026), exchange-rate unification (Ayodeji, 2025) and institutional quality (Opuala et al., 2023) separately, limited empirical evidence jointly examines the interaction between economic and political institutions in explaining exchange-rate volatility in Nigeria. This study therefore contributes to the literature by jointly examining the effects of economic and political institutions on exchange-rate volatility in Nigeria over the period 1992–2022.

Methodologically, the study employs Generalised Autoregressive Conditional Heteroskedasticity (GARCH) family models to estimate exchange-rate volatility and evaluate the influence of institutional factors on exchange-rate dynamics (Engle, 1982; Bollerslev, 1986).

Specifically, the study seeks to:

- i. examine the effect of economic institutions on exchange-rate volatility in Nigeria;
- ii. investigate the effect of political institutions on exchange-rate volatility in Nigeria; and
- iii. examine whether interactions between economic and political institutions influence exchange-rate volatility in Nigeria.

2. Literature Review

Institutions and Exchange-Rate Volatility

Exchange-rate volatility remains one of the major sources of macroeconomic instability in developing economies because it affects inflation, investment, trade competitiveness and economic growth (Aliyu, 2009; Maraoui et al., 2022). While exchange-rate movements are commonly explained by macroeconomic fundamentals such as inflation, interest-rate differentials and external shocks, recent studies increasingly recognise institutional quality as an important determinant of exchange-rate behaviour (Acemoglu et al., 2003; Opuala & Orji, 2023).

Institutional quality refers to the effectiveness of formal and informal rules governing political and economic interactions (North, 1990). Strong institutions improve regulatory quality, policy credibility, property-rights protection and investor confidence, thereby reducing uncertainty within foreign exchange markets (Knack & Keefer, 1995; La Porta et al., 1999). Conversely, weak institutions encourage policy inconsistency, corruption, rent-seeking and weak regulatory enforcement, increasing exchange-rate instability and reducing market confidence (Easterly, 2005).

Empirical evidence generally supports this relationship. Bartolini et al. (2015), Nikolova (2016) and Yevdokimov et al. (2018) report that countries with stronger institutions experience lower macroeconomic volatility and more stable exchange-rate environments. Similar evidence for developing economies indicates that institutional quality enhances policy credibility and improves exchange-rate management (Maraoui et al., 2022; Opuala & Orji, 2023). Likewise, Oniyide et al. (2024) argue that improvements in governance and institutional effectiveness strengthen macroeconomic policy transmission and promote greater economic stability.

Despite this growing evidence, the literature remains inconclusive regarding whether political institutions or economic institutions exert greater influence on exchange-rate volatility, particularly in developing economies.

Political and Economic Institutions as Drivers of Exchange-Rate Volatility

Political institutions influence exchange-rate stability by determining the credibility, consistency and accountability of macroeconomic policy. Effective democratic institutions, political stability and strong governance reduce policy uncertainty and improve investor confidence, thereby limiting exchange-rate fluctuations (Rodrik, 1999; Acemoglu et al., 2003; Satyanath & Subramanian, 2004). Economic institutions complement this process by strengthening market efficiency, regulatory quality and property-rights protection. Strong economic institutions facilitate efficient financial intermediation, encourage investment and improve resource allocation, thereby reducing uncertainty in foreign exchange markets (North, 1990; Franko, 2007). In addition, greater economic openness and stronger market institutions enhance monetary-policy credibility and reduce inflationary pressures, contributing to exchange-rate stability (Romer, 1993; Rogoff, 2003; Rajan & Zingales, 2003).

Since political institutions influence policy formulation while economic institutions determine the efficiency of policy implementation, exchange-rate stability is likely to depend on the combined effectiveness of both institutional dimensions rather than either dimension in isolation.

Theoretical Review

This study is anchored in Keynesian Uncertainty Theory (Keynes, 1936), which explains how uncertainty arising from policy and institutional environments influences economic behaviour. Keynes argued that investment and financial decisions are based largely on expectations about an uncertain future rather than perfect information. Consequently, when economic agents perceive policy inconsistency, political instability or weak governance, confidence declines, and market participants respond more cautiously.

Within the foreign exchange market, such uncertainty may encourage speculative behaviour, capital flight and exchange-rate fluctuations. Strong institutions reduce uncertainty by improving policy credibility, strengthening regulatory enforcement and providing predictable rules for economic interactions (North, 1990). Conversely, weak institutions undermine confidence, reduce policy effectiveness and amplify exchange-rate volatility (La Porta et al., 1999; Acemoglu et al., 2003).

Drawing on Keynesian Uncertainty Theory, this study argues that political and economic institutions influence exchange-rate volatility by shaping expectations, confidence and the credibility of macroeconomic policy. Accordingly, stronger institutions are expected to reduce exchange-rate volatility, while weaker institutions are expected to increase exchange-rate instability.

Empirical Evidence and Research Gap

Empirical studies have investigated exchange-rate volatility from different perspectives. Anuli and Dennis (2015) reported that exchange-rate stability contributed positively to economic growth in Nigeria, although its short-run effect on inflation was insignificant. Mobosi and Madueme (2016) found that macroeconomic uncertainty significantly reduced foreign investment inflows, while Abere and Akinbobola (2020) concluded that external shocks exert stronger effects on macroeconomic performance than institutional quality.

Cross-country evidence similarly indicates that stronger institutions improve macroeconomic stability by enhancing policy credibility and reducing economic uncertainty (Satyanath & Subramanian, 2004; Bartolini et al., 2015; Nikolova, 2016). More recent Nigerian studies also report that institutional quality significantly influences exchange-rate management, foreign exchange policy effectiveness and macroeconomic performance (Opuala & Orji, 2023; Ayodeji, 2025; Oyadeyi, 2026).

Despite these contributions, important gaps remain. First, existing Nigerian studies largely examine political institutions and economic institutions independently rather than jointly within a unified analytical framework. Second, much of the literature focuses on macroeconomic determinants of exchange-rate volatility such as inflation, oil prices, interest rates and foreign direct investment, with limited attention to the interaction between political and economic institutions. Third, relatively few studies employ GARCH-family models to analyse institutional determinants of exchange-rate volatility despite the ability of these models to capture volatility clustering and persistence.

This study addresses these gaps by jointly examining the effects of political and economic institutions on exchange-rate volatility in Nigeria using GARCH-family models over the period

1992–2022. By integrating both institutional dimensions within a single empirical framework, the study provides additional evidence on how institutional quality influences exchange-rate dynamics in a developing economy characterised by persistent macroeconomic and policy uncertainty.

Methodology

Model Specification

The specification follows the framework developed by Maraoui et al. (2022), who investigated the relationship between institutional factors and exchange-rate regimes in selected MENA economies.

Mean Equation

$$ER_t = \mu + \phi ER_{t-1} + \varepsilon_t \quad (1)$$

Where ER_t denotes exchange rate at time t ; ER_{t-1} denotes lagged exchange rate; μ denotes constant term; ϕ denotes autoregressive coefficient and ε_t denotes error term

Variance Equation: Baseline EGARCH Model

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1})$$

Where h_t denotes conditional variance (exchange-rate volatility); α denotes the ARCH effect; γ denotes asymmetry effect; and β denotes persistence effect.

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1}) + \delta_1 EINS_t \quad (2)$$

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1}) + \delta_2 POLII_t \quad (3)$$

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1}) + \delta_3 CEP_t \quad (4)$$

Interaction models

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1}) + \delta_4 (EINS_t \times POLII_t) \quad (5)$$

$$\ln(h_t) = \omega + \alpha \left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) + \beta \ln(h_{t-1}) + \delta_5 (EINS_t \times CEP_t) \quad (6)$$

Where $EINS_t$ denotes Economic Institution Index; $POLII_t$ denotes Polity II; CEP_t denotes Constraints on Executive Power (Polity IV); $EINS_t \times POLII_t$ denotes Interaction between political and economic institutions; and $EINS_t \times CEP_t$ denotes Interaction between executive

constraints and economic institutions. Economic and political institutional indicators enter the variance equation as exogenous variables to examine their effects on exchange-rate volatility rather than on the mean exchange-rate process. The interaction terms capture whether the effect of economic institutions on exchange-rate volatility depends on the quality of political institutions. The EGARCH specification was preferred to conventional ARCH and GARCH models because it captures asymmetric responses of exchange-rate volatility to positive and negative shocks while avoiding the non-negativity restrictions imposed by standard GARCH models. The preferred specification was selected based on model selection criteria including the Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC), log-likelihood values and residual diagnostic tests. Volatility persistence is evaluated through the magnitude of the GARCH coefficient, with values close to unity indicating highly persistent exchange-rate volatility. However, a positive institutional coefficient implies that stronger institutions increase exchange-rate volatility, while a negative coefficient indicates that improvements in institutional quality reduce exchange-rate volatility and promote exchange-rate stability.

Data and Sources

The study covers Nigeria over the period 1992–2022 with emphasis on the relationship between institutional quality and exchange-rate volatility. Thus, the study uses quarterly time series data covering the period 1992Q1 to 2022Q4. These data were collected through a secondary source from various studies ranging from the Heritage Foundation Economic Freedom Index database, the Polity IV Project dataset published by the Centre for Systemic Peace and the Central Bank of Nigeria Statistical Bulletin.

Method of Analysis

Modelling Exchange-rate Volatility

There are different approaches to modelling volatility, which have been used by numerous researchers within the scope of the research topic. The most popular ones are the moving standard deviation or standard deviation of a rate of change, as well as different versions of the Generalised Autoregressive conditional heteroskedasticity (GARCH) and Autoregressive conditional

heteroskedasticity (ARCH) methods (Funyina, 2015). The first approach, the standard deviation methodology, calculates the departure of each value in a series from the mean to quantify volatility. However, it is important to remember that the standard deviation is considered inadequate for assessing exchange-rate volatility due to its skewness with regard to the distribution (Froot and Stein, 1991). Furthermore, Engle (1982) criticised different standard deviation variations as a gauge of exchange-rate volatility because they are unconditional measures that ignore the stochastic process that determines exchange rates and fail to account for the occurrence of clustered volatility. Because of this, the standard deviation method for measuring exchange-rate volatility only recorded fluctuations and disregarded uncertainty (Funyina, 2015).

However, to provide a solution for the deficiencies attributed to the standard deviation techniques of estimating exchange-rate volatility, the Generalised Autoregressive conditional heteroskedasticity (GARCH) was developed by Bollerslev (1986) following Engle's (1982) development of the Autoregressive conditional heteroskedasticity (ARCH) to solve the standard deviation's alleged flaws as a volatility indicator.

The Generalised Autoregressive conditional heteroskedasticity (GARCH) model is used in this work to estimate the volatility of exchange-rate variables due to the previously mentioned reasons. This same estimating technique has been utilised in prior extant literature such as Akinlo et al. (2021), Dada (2021), Funyina (2015), Asmae et al. (2019), Bahri (2019), Durairaj et al. (2012), among others, to capture exchange-rate volatility. The above-mentioned studies stated that the GARCH model is considered to be reliable and capable of producing accurate predictions of exchange-rate volatility.

Diagnostic Test

(i) Unit Root Test

The Augmented Dickey-Fuller and Phillips-Perron tests were employed to determine the stationarity properties of the series.

(ii) Testing for ARCH Effects

The ARCH-LM test proposed by Engle (1982) was employed to determine the presence of conditional heteroskedasticity in the residual series.

$$\hat{\varepsilon}_t^2 = \delta_0 + \delta_1 \hat{\varepsilon}_{t-1}^2 + v_t \quad (7)$$

(iii) Serial Correlation Test

The Ljung-Box Q-statistic was employed to test for serial correlation in the residuals.

(iv) Residual Diagnostics

Residual diagnostics, including the Jarque-Bera normality test and standardised residual plots, were examined to assess model adequacy.

Data Analysis, Discussion of Results

Table 1: Summary of Descriptive Statistics

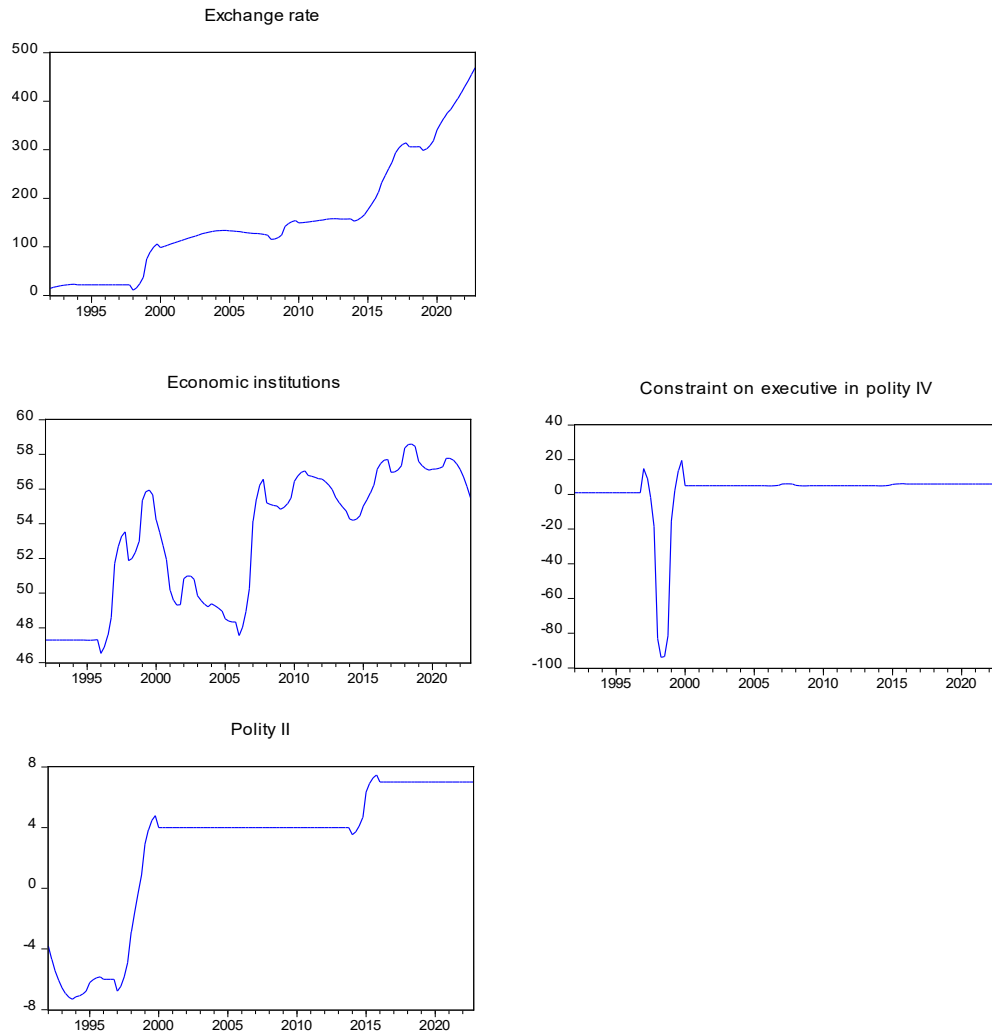
	Mean	Max	Min	Std.Dev.	Skew	Kurt	J-Bera	Obs
Exchange-rate	156.26	468.95	10.82	115.27	0.88	3.11	16.23***	124
Economic institution	53.19	58.59	46.53	3.87	-0.38	1.59	13.23***	124
CEP (PolityIV)	1.52	19.53	-93.94	16.87	-4.93	26.68	3399.04***	124
PolityII	2.65	7.47	-7.31	4.66	-1.16	2.88	27.67***	124

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's computation, 2023

The descriptive statistics indicate considerable variation in the exchange rate over the sample period, reflecting persistent exchange-rate fluctuations in Nigeria. The average exchange rate was ₦156.26 per US dollar, ranging from ₦10.82 to ₦468.95. Economic institutions recorded relatively low variability, suggesting gradual changes in institutional quality over time. Political institutions, measured by Polity II and Constraints on Executive Power (CEP), indicate relatively weak institutional constraints during parts of the study period. The statistically significant Jarque-Bera statistics suggest that the variables are not normally distributed.

Figure 1: Plot of Trend Analysis of variables



Source: Author's computation, 2023

Figure 1 presents the time-series plots of the variables. The exchange rate exhibits noticeable fluctuations and periods of persistence, suggesting possible volatility clustering that justifies the use of GARCH-family models. Economic institutions and political institutions display periods of structural shifts and persistence, reflecting changes in institutional quality over time.

Stationarity Tests

A preliminary step in the analysis is determining how integrated each variable is. The methodological analysis is based on time series that assume that observed data remain constant.

By testing the series for stability and integrating them in the correct order, the unit root test procedure eliminates this assumption. This study uses the Dickey-Fuller Augmented (1981) and the Phillips-Perron (1988) tests. The PP test is semiparametric and has hypotheses similar to those of ADF.

Table 2: The Results of Stationarity Tests

Test Type	Augmented Dickey-Fuller			Phillips-Perron		
Variable	Level (t-Stat)	1 st Diff (t-Stat)	Decision	Level (t-Stat)	1 st Diff (t-Stat)	Decision
Exchange-rate	-2.468	-6.802***	<i>I</i> (1)	-2.092	-7.172***	<i>I</i> (1)
Economic institution	-2.197	-2.806***	<i>I</i> (1)	-1.660	-5.425***	<i>I</i> (1)
CEP(PolityIV)	-2.953***		<i>I</i> (0)	-2.706*		<i>I</i> (0)
PolityII	-2.581	-3.273*	<i>I</i> (1)	-1.728	-4.701***	<i>I</i> (1)
Significant level		1 % level	-4.015	1 % level		-3.470
		5 % level	-3.437	5 % level		-2.879
		10 %level	-3.142	10 %level		-2.576

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's computation, 2023

The ADF and PP results indicate that exchange rate, economic institutions and Polity II become stationary after first differencing and are therefore integrated of order one, *I*(1). Constraints on Executive Power is stationary at level and therefore integrated of order zero, *I*(0). Since none of the variables is integrated of order two, *I*(2), the variables satisfy the requirements for EGARCH estimation.

Test for the Presence of ARCH Effects

Table 3: Results of LM Tests

Variable	LM statistics	P-value
Exchange-rate	3.60	0.057

Source: Author's computation, 2023

The ARCH-LM test produced a p-value of 0.057, which is insignificant at the 5 per cent level but significant at the 10 per cent level. This provides weak evidence of conditional heteroskedasticity and supports the application of EGARCH models for exchange-rate volatility estimation.

Estimation Analysis: EGARCH model

Model identification, parameter estimation, and diagnostics are all part of the GARCH forecasting approach. The first step is to identify the model.

Table 4: The Results of Estimated coefficients of Exchange-rate volatility

	(1)	(2)	(3)	(4)	(5)	(6)
Mean equation						
Constant	-2.610 (0.246)	-0.173 (0.363)	-1.162*** (0.419)	-1.703 (0.235)	-1.255*** (0.390)	-1.796*** (0.217)
Exchange-rate(-1)	1.035*** (0.001)	1.007*** (0.003)	1.017*** (0.004)	1.033*** (0.001)	1.017*** (0.003)	1.034*** (0.001)
Variance equation						
Constant	-0.999*** (0.203)	-11.12*** (4.245)	0.699* (0.447)	-0.676*** (0.212)	-607 (0.427)	-0.746*** (0.210)
ARCH(-1)	1.246*** (0.173)	0.746*** (0.212)	1.094*** (0.257)	1.095*** (0.174)	1.116*** (0.262)	1.150*** (0.175)
Asymmetric(-1)	-0.115 (0.096)	0.638*** (0.114)	0.838*** (0.167)	-0.112 (0.109)	0.834*** (0.169)	-0.111 (0.110)
GARCH(-1)	0.997*** (0.039)	0.343 (0.222)	0.302** (0.136)	0.939** (0.043)	0.305** (0.138)	0.949*** (0.043)
Economic Institution PolityII		0.229*** (0.085)	0.153*** (0.056)			
CEP(PolityIV)				-0.020*** (0.004)		
PolityII*Institution					0.003*** (0.001)	
PolityIV*Institution						-0.0003*** (0.00007)
Variance model	EGARCH	EGARCH	EGARCH	EGARCH	EGARCH	EGARCH
R-squared	0.997	0.995	0.997	0.997	0.997	0.997
ARCH LM test	0.443	1.085	0.168	0.468	0.176	0.467
Normality test	32.43**	14.95***	266.8***	27.83***	246.6***	26.06***

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Author's computation, 2023

By considering the order of differencing expected to make the series stationary, the data were estimated to determine which GARCH process was most appropriate. The order in which the regular and seasonal autoregressive and moving average models should be ordered is necessary for the appropriate representation of the time series model. Based on the necessary estimation to determine which GARCH was appropriate, the Exponential GARCH (E-GARCH) was determined to be the most appropriate to check the volatility clustering. This result is presented in Table 4. The exchange-rate volatility models' results are shown in Table 4 (columns 1–6).

The estimate reported in Column (2) of Table 4 shows that economic institutions have a positive and statistically significant relationship with exchange-rate volatility in Nigeria. The coefficient of 0.229, significant at the 1 per cent level, suggests that improvements in economic institutions during the period under consideration were associated with increases rather than reductions in exchange-rate fluctuations. At first glance, this outcome appears counterintuitive because stronger institutions are generally expected to improve macroeconomic stability. The Nigerian experience during the sample period, however, provides a plausible explanation for this result. Many of the institutional reforms implemented over the years were accompanied by market-oriented policies such as financial liberalisation, exchange-rate deregulation, foreign exchange market reforms and, more recently, exchange-rate unification. While these reforms were intended to improve efficiency and price discovery in the foreign exchange market, they also exposed the exchange rate more directly to domestic and external shocks. In a highly import-dependent economy with substantial exposure to oil price movements and foreign capital flows, increased market responsiveness can translate into higher observed volatility in the short run.

The result is broadly in line with the findings of Akinlo et al. (2021), who showed that exchange-rate behaviour in West African economies is closely linked to the quality of institutions and the policy environment. It differs, however, from the conclusions reached by Arezki et al. (2011), who argued that stronger institutions tend to shield resource-dependent economies from macroeconomic instability arising from external shocks. The difference may reflect the fact that institutional reforms in Nigeria have often occurred alongside major structural adjustments and exchange-rate reforms, particularly during the post-2015 period when exchange-rate pressures intensified following the collapse in oil prices and the subsequent foreign exchange shortages. The

evidence therefore suggests that institutional reform alone may not be sufficient to deliver exchange-rate stability. The effectiveness of such reforms depends largely on the extent to which they are accompanied by credible macroeconomic policies, policy coordination and effective regulatory oversight of the foreign exchange market.

The positive and significant coefficient attached to the Polity II variable in Column (3) indicates that improvements in democratic participation and political openness were associated with higher exchange-rate volatility during the study period. This finding suggests that periods characterised by increased political competition and democratic transitions may have introduced additional uncertainty into the policy environment, particularly where political actors pursued short-term objectives that conflicted with macroeconomic stabilisation efforts. Nigeria's political experience over the last three decades lends support to this interpretation. Electoral cycles, changes in political administrations and shifts in policy direction have frequently been accompanied by uncertainty in monetary and exchange-rate management. In such circumstances, financial markets may respond rapidly to expectations regarding future policy decisions, thereby increasing exchange-rate fluctuations. The finding is consistent with the institutional arguments advanced by Acemoglu et al. (2003), who associated macroeconomic instability with weak institutional constraints and the absence of effective checks on political decision-making. It also supports the position of Mobosi et al. (2016), who identified institutional weaknesses and policy uncertainty as important sources of macroeconomic instability in Nigeria.

A different picture emerges when political institutions are measured using Constraints on Executive Power. The coefficient on this variable is negative and statistically significant, indicating that stronger institutional constraints on executive authority contribute to exchange-rate stability. This result suggests that when economic decisions are subject to stronger institutional oversight and accountability mechanisms, the scope for discretionary policy actions and politically motivated interventions is reduced. This finding accords with the arguments of Satyanath et al. (2004), who emphasised the stabilising role of democratic institutions in macroeconomic management, and with the evidence presented by Yevdokimov et al. (2018), who found that institutional quality plays an important role in promoting macroeconomic stability. The findings reinforce the importance of strengthening institutional checks and balances, improving transparency in economic governance and limiting political interference in exchange-rate

management. Greater operational independence for the Central Bank of Nigeria would improve policy credibility and reduce uncertainty in foreign exchange markets, while stronger legal and regulatory institutions would help reinforce investor confidence and macroeconomic stability.

The interaction term between economic institutions and Polity II is positive and statistically significant, indicating that the simultaneous expansion of market-oriented reforms and democratic participation was associated with higher exchange-rate volatility. This means that economic liberalisation undertaken within politically competitive environments may increase the sensitivity of exchange rates to political events, policy announcements and changing market expectations.

In contrast, the interaction between economic institutions and Constraints on Executive Power carries a negative and significant coefficient. This finding suggests that the stabilising benefits of economic institutions become more pronounced when they operate within a political environment characterised by effective oversight and institutional discipline. Put differently, economic reforms appear to yield better macroeconomic outcomes when supported by political institutions that reduce discretionary interventions and encourage policy consistency. This result lends support to the institutional perspective advanced by North (1990), which emphasises the role of institutions in shaping incentives and influencing economic outcomes. It also complements the findings of Mobosi et al. (2016), who argued that macroeconomic stability in Nigeria depends not only on economic policy choices but also on the institutional environment within which those policies are implemented.

The broader implication is that institutional reform should not be viewed purely as a matter of market liberalisation or regulatory adjustment. Improvements in transparency, accountability and governance are equally important if economic reforms are to translate into greater macroeconomic stability. Strengthening the rule of law, improving public sector accountability and reducing political influence in foreign exchange allocation and exchange-rate management would likely improve the effectiveness of future reforms.

The ARCH coefficients are positive and highly significant across all model specifications, confirming the presence of volatility clustering in the exchange-rate series. Episodes of heightened exchange-rate instability therefore tend to persist rather than disappear quickly, a feature commonly observed in financial time-series data.

The GARCH coefficients are also positive and significant in most specifications, indicating that exchange-rate shocks have long-lasting effects on volatility. This persistence suggests that policy shocks, oil price movements and external disturbances may continue to influence exchange-rate behaviour long after the initial event has occurred.

The asymmetric term is significant in Models (2), (3) and (5), indicating that exchange-rate volatility responds differently to positive and negative shocks. This finding justifies the choice of the EGARCH specification, which explicitly accommodates asymmetric responses and therefore provides a more realistic representation of exchange-rate dynamics than the conventional symmetric GARCH model.

The post-estimation ARCH-LM statistics indicate that the estimated models successfully captured the conditional heteroskedasticity present in the series, as there is no evidence of remaining ARCH effects in the residuals. The significant Jarque-Bera statistics, on the other hand, suggest that the residuals are not normally distributed. This outcome is not unusual in exchange-rate modelling and is, in fact, one of the reasons why GARCH-family models have become the preferred framework for analysing financial and macroeconomic volatility.

Conclusion and Recommendations

This study examined the effect of economic and political institutions on exchange-rate volatility in Nigeria over the period 1992–2022. Using the Exponential Generalised Autoregressive Conditional Heteroskedasticity (EGARCH) model, the study estimated exchange-rate volatility and investigated how different dimensions of institutional quality, both individually and jointly, influence exchange-rate behaviour. The EGARCH specification proved appropriate because it adequately captured the volatility clustering and asymmetric responses that characterise exchange-rate movements in Nigeria.

The empirical findings reveal that economic institutions exert a positive and statistically significant effect on exchange-rate volatility. Similarly, the Polity II index, which captures the degree of democracy and political participation, also exhibits a positive and significant relationship with exchange-rate volatility. These findings suggest that although institutional and market-oriented reforms are intended to improve economic efficiency and governance, they may also increase exchange-rate responsiveness to domestic and external shocks, particularly in an economy

characterised by structural rigidities, heavy import dependence and exposure to fluctuations in international oil prices.

In contrast, Constraints on Executive Power (CEP), which measures the effectiveness of institutional checks and balances, has a negative and statistically significant effect on exchange-rate volatility. This finding indicates that stronger institutional oversight, greater accountability and effective constraints on executive discretion contribute to exchange-rate stability. The interaction estimates further demonstrate that institutional quality matters not only individually but also jointly. While the interaction between economic institutions and the Polity II index increases exchange-rate volatility, the interaction between economic institutions and executive constraints reduces volatility. This suggests that economic reforms are more likely to produce stable macroeconomic outcomes when they are implemented within a political environment characterised by effective governance, institutional discipline and credible policy implementation. The findings contribute to the growing literature on institutions and macroeconomic stability by demonstrating that the impact of institutional quality on exchange-rate volatility depends on the specific dimension of institutions being considered. Unlike many previous Nigerian studies that examined political or economic institutions separately, this study jointly evaluates both dimensions and their interaction effects within a single empirical framework. The results therefore provide additional evidence that institutional arrangements play an important role in shaping exchange-rate dynamics in developing economies.

Based on these findings, the study recommends that institutional reforms should extend beyond market liberalisation to strengthening governance structures that promote accountability, transparency and policy consistency. Government should strengthen the rule of law, improve regulatory quality and reinforce institutional checks and balances to reduce discretionary policy actions that undermine exchange-rate stability. Particular attention should be given to strengthening anti-corruption institutions, improving public sector accountability and ensuring greater transparency in the formulation and implementation of macroeconomic policies.

The study further recommends that the Central Bank of Nigeria should be allowed to operate with greater operational independence in the conduct of monetary and exchange-rate policies. Strengthening the credibility of the Bank, improving communication of policy decisions and minimising politically motivated interventions in the foreign exchange market would enhance investor confidence and reduce uncertainty in exchange-rate management. In addition, stronger

coordination between monetary and fiscal authorities is essential to ensure that macroeconomic policies remain consistent and mutually reinforcing.

Finally, sustainable exchange-rate stability in Nigeria cannot be achieved through monetary and exchange-rate policy interventions alone. It requires comprehensive institutional reforms that strengthen governance, enhance policy credibility, improve transparency, reinforce accountability mechanisms and reduce political interference in economic management. Such reforms would not only contribute to a more stable exchange-rate environment but also promote investor confidence, improve macroeconomic resilience and support sustainable long-run economic growth.

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